UNFUNDED PAST SERVICE OBLIGATIONS: AN EFFICIENT MARKETS HYPOTHESIS TEST

by

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Unfunded Past Service Obligations: An Efficient Markets Hypothesis Test

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ABSTRACT

In financial statement footnotes the reported value of unfunded past service obligations has increased dramatically over the past two decades. While associated with the introduction of or the improvement to a pension plan, these obligations have been discussed in the accounting literature as representative of future wages. The question is whether these obligations represent liabilities on the part of the employer to his employees. If a liability exists, then the discussion centers on whether there is some related asset or whether there is an immediate expense.

To date empirical testing of the pension obligation as a liability has been lacking. This thesis reports on the reaction of the Canadian stock market to first reports of unfunded past service obligations.

The basis for the test is a method used by Fama, Fisher, Jensen and Roll in their 1969 article entitled, "The Adjustment of Stock Prices to New Information," in the International Economic Review (February, 1969, 1-21). This method is based upon the efficient markets hypothesis and the market model taken from the finance literature.

The hypothesis to be tested may be stated as follows: When the unfunded past service obligation first appears in a group of

companies' financial statement footnotes, there will be a reaction by the market to this information.

A market reaction to unfunded past service obligations is evident if the sample firms' rates of return change in relation to the market rate of return. This change in the relationship of the rates of return for the companies and the market is measured by the use of regression analysis. Cumulative average residuals, are then calculated based upon the coefficients determined in the regressions.

The hypothesis was tested using data from forty-five Canadian firms which had unfunded past service obligations disclosed in their footnotes. The data covers a period of twenty years commencing in 1960. The test is centered upon the year when the unfunded past service obligations first appear in the notes to a firm's financial statements. The primary measure used in this test is a plot of the cumulative average residuals for a sixty month test period.

The results showed no systematic change in the measure over the test period. This market reaction to the unfunded past service obligation information was unexpected.

Four possible reasons were offered for the apparent absence of market reaction. One suggestion is that market analysts typically discount or ignore unfunded past service obligation information. This point is supported by the results of a small survey of ten security analysts. The second reason discussed is the possibility that the market received the data prior to the

statement date. A third explanation is that the market sees the unfunded past service obligations as being offset by a lower negotiated wage. Finally, consideration is given to potential problems with the sample, the Canadian market and the method of analysis that may have made this study an insensitive test of the hypothesis.

The thesis lends some support to those who would argue that unfunded past service obligations are not liabilities. An alternative view is that they are in fact liabilities but that the Canadian market is not efficient. This latter view could be tested with a replication using U.S. data. However, the possibility exists that the obligations are liabilities associated with an asset and the market is efficient because it recognizes both the asset and liability. The implication which seems to be the most important and which arises from this thesis is that footnote information is not carefully attended to by market participants. This implication could be tested using Canadian data for other types of footnote information.

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CHAPTER I

INTRODUCTION

In 1966 the American Accounting Association, in an attempt to define accounting theory, stated that "... accounting ... [is] the process of identifying, measuring, and communicating economic information to permit informed judgements and decisions by users of the information" (American Accounting Association, 1966, 1). There are, however, many different methods of supplying "economic information" to potential users. For example, items may be reported in newspapers, in the body of a financial report or in the footnotes accompanying a set of financial statements. According to one widely espoused theory, the efficient markets hypothesis in its semi-strong form,[1] alternative methods of supplying publicly available information to potential users will have the same final result. That is, if the data represent information pertinent to the evaluation of a firm, then the information will be immediately used by actual or potential investors and reflected in the price of the shares.

Although many types of data have been used in the efficient markets hypothesis tests,[2] one type of data which has not been examined with regard to its effects in the market is unfunded past service obligations arising under pension plans. Unfunded

past service obligations[3] arise when two conditions occur together. First, a pension contract is negotiated which rewards employees for prior years of employment. The second condition which must occur is that these past service obligations are not paid immediately and therefore, remain unfunded. These increased benefits are based on the total number of years the employees have been with a firm instead of being based on the number of years of service since the inception of the pension plan.

These unfunded past service obligations are just one portion of the total pension costs and the amount of these obligations is actuarially estimated. The years each individual employee has worked for a firm is determined. While the years of past service may be determined by an actual examination of employment records, other factors are estimated. For instance, the probability of how many of those presently employed will still be with the firm at retirement age, and therefore be eligible for benefits, is estimated. Also, an estimate of the overall life expectancy is necessary. A third factor which is estimated is the expected earnings both of the employees and earnings on any pension fund assets that may exist. The employees' benefits are usually tied to their earnings. For example, the pension benefits may depend upon earnings for the last five years of an employees' working life or, the average earnings of an employee may serve as the basis for the pension. The firm's earnings may be estimated using different rate of return assumptions. An actuary must make his best estimate based upon his knowledge

of the past record of the firm and of the employees involved in the pension contract.

If a firm sets aside assets to meet past service obligations, then the past service obligations are funded.[4] In such a case, the firm would debit a pension expense account for the amount set aside and credit an asset account, possibly cash. This set of entries is made when a liability is not initially established in the firm's accounts. (See Chart I in Chapter II).

In accounting for pension expenses and funding requirements, it should be noted that the two procedures, expensing and funding, do not have to coincide. In accounting textbooks these differences in timing occupy most of the discussion (Meigs, et al., 1975, 617-620).

In Canada the unfunded past service obligation must be "charged to operations over a reasonable period of time" and these obligations may not be treated as prior period adjustments according to the CICA Handbook (Section 3460, paragraph 18). The decision of what constitutes a reasonable period depends upon management and its decisions regarding how to dispose of the actuarially estimated obligation. If management has no other rationale for choosing the period of time, then the write-off period may coincide with a period dictated by tax laws which are more specific than the Handbook recommendation.

According to both the Canadian Institute of Chartered Accountants (hereafter, CICA) and The Financial Accounting Standards Board of the U.S. (hereafter, FASB),[5] unfunded past

service obligations are not liabilities to be reported in the body of the financial statement but are to be reported in the footnotes. Moreover, the data presented in the footnotes varies considerably from one firm to another.[6]

The amount of unfunded past service obligations disclosed in the notes to the financial statements have been growing rapidly in the last 15 to 20 years. Statistics Canada has compiled data on actuarial deficiencies[7] and unfunded past service obligations and total employer pension costs for the years 1970 and 1977.

Table I

Comparison of Unfunded Past Service Obligations and Actuarial Deficiencies to Total Employer Pension Contributions

	1970*	1977**
	(in millions of dollars)	
Actuarial deficiencies and unfunded past service obligations (AD and UPSO)	$148	$729
Total (employer) private pension contributions (TPP)	508	1,998
Ratio AD and UPSO to TPP	29%	36%

* (Statistics Canada, 1974, Table T, 78).
** (Statistics Canada, 1977, Table XVIII, 48).

Two facts are evidenced in the above table. First, the increase of the ratio of unfunded past service obligations and actuarial deficiencies to total employer contributions has increased from 29% to 36%. Second, the overall increase in private pension contributions has been quite substantial (almost 400%).

Due to the changing demographic characteristics of Canada's population, concern has been expressed over our future ability to pay pension benefits. Presently fifteen percent of those over twenty years of age are in fact over 65 years of age. By the year 2030, this will double to thirty-three percent (Economic Council of Canada, 1979, 3). This means that in 2030 two people in the workforce will be supporting one retired individual.

The British Columbia Government, during the Summer of 1980, disclosed that it was concerned that there would not be enough pension funds in the provincial government plans for future retired persons.[8] This particular announcement was annoying to the service sector employees covered by the family of provincial retirement plans as the B.C. Government used this statement to argue against the continued full indexation of pensions.[9] The B.C. Government's concern with the indexation of pensions was tied to the regulations which govern provincial pension contributions. Both employers and employees have the right to attempt to persuade the B.C. Government to execute an Order in Council and thereby not meet increased contributions. If this situation were to occur as the demographics of the population change, then the employees might expect the provincial government to make-up the deficit in the pension payments.

The provincial government's concern with the pensions of public sector employees is not divorced from the growth of unfunded past service obligations in the private sector since both pensions are subject to the same changes in demographic

patterns. Also, benefits under both public and private pension plans have been improved in the past decade. In particular, the growth of unfunded past service obligations may be traced at least in part to negotiated improvements. With the higher inflation rates in the past decade many pension plans have been incremented in an attempt to ensure the future security of retired persons. This process of improvement will continue or accelerate as long as inflation continues. (Skinner, 1980, 5). Finally, as public pensions are improved, added pressure is brought upon the private sector. Whereas the public plans, through the government, can increase taxes and pension benefits, the private sector must meet increased pension demands out of earnings. Consequently, the private sector faces a burden that the public sector's actions intensify.

In the accounting literature there exists a debate concerning the proper treatment of these unfunded past service obligations. One group argues that the amount reported in the footnotes as unfunded past service obligations should not be recognized as a liability (Hicks, 1965, 84) in the body of the statement of financial position. Others (Hall and Landsittel, 1977, 25-27) argue that an unfunded past service obligation is a liability and should be recognized as such. As outlined, the accounting discussion seems to ignore the efficient markets hypothesis entirely.

If unfunded past service obligations are liabilities, then there are at least two possible ways to record them. One method

(capitalization) recognizes a liability and an asset, while the second method (expensing) recognizes a liability and an expense. In both situations the total unfunded past service obligation is recognized immediately.

Method I:

Dr. Asset	$XXX	
Cr. Past Service Obligation		$XXX

Method II:

Dr. Expense	$XXX	
Cr. Past Service Obligation		$XXX

Method I is the method recommended for handling unfunded past service obligations by the Accountants International Study Group (1977). The second method is suggested for use by Hall and Landsittel (1977).

These two methods represent two diverse economic situations. In each case, the market may react very differently and still be efficient in a semi-strong sense. Even with the existing footnote presentation, if the market sees the offsetting "entry" to the unfunded past service obligation as an asset, then there may be no reaction to the first appearance of the unfunded past service obligation in the statement footnotes. However, if the market reads the offsetting "entry" as an expense, then the market may react. As noted above, recognition of unfunded past

service obligations as a liability is not the procedure recommended by the CICA and the FASB.

This thesis will investigate whether unfunded past service obligations are interpreted by the market as liabilities offset by an expense. Six chapters will comprise the remainder of this study. The second chapter will discuss some of the pension literature. This second chapter will examine both present practice and some suggestions for changing practices in the future. The third chapter will examine the literature surrounding the efficient markets hypothesis.

The fourth chapter will be divided into three parts. The first section will outline the model to be used for testing purposes. The second portion of Chapter Four will state the hypotheses, null and alternative, to be tested. Finally, the third section will discuss the data to be used in this study. Included in the third section will be a description of the required data, where the data were collected and how the data were modified to make them usable for the proposed tests.

The fifth chapter will be concerned with the results of the tests outlined in the fourth chapter. The first section of Chapter Five will compare the estimated statistics derived from this study to the estimated statistics derived in Fama, Fisher, Jensen and Roll (1969) and Charest (1980b). The second and third portions of the chapter will present the empirical results of two types of tests.

A discussion of a survey of security analysts and four alter-

native explanations for the test results will make up Chapter Six. The survey results will be presented in the first part of the chapter.

The seventh and final chapter will offer the summary and conclusions of this study. Also, the opportunity will be used to outline several areas for further study.

Notes

1. The efficient market hypothesis is discussed in detail in Chapter Two. However, a brief statement concerned with the semi-strong form seems in order here. While the efficient markets hypothesis in general describes the market's reaction to information, semi-strong form tests focus upon publicly available information. For example, when a piece of information is published, the associated firm's stock price should change immediately depending upon whether the information is positive or negative and holding all other factors constant. Efficiency is said to exist when there are no lags between the time the information becomes public and the time when the price changes. The semi-strong form of the efficient markets hypothesis implies that the method of conveying the information to the market will not matter.

2. A few of the topics addressed in The Accounting Review and the Journal of Accounting Research include the effects of discretionary vs. nondiscretionary changes (Harrison, 1977), the information content of fully diluted earnings per share, (Rice, 1978), the reaction to accounting changes, (Abdel-Khalik and McKeown, 1978) and the effects of mergers (Hong, Kaplan and Mandelker, 1978).

3. Some accounting theorists define past and prior service costs as two separate ideas. Past service costs are defined as those unfunded costs which result from the original signing of a pension contract. Prior service costs designate those costs which arise when pension contracts are renegotiated. In this paper past and prior service costs are used synonymously with unfunded past service obligations.

   Actuarial deficiencies possibly were included in the unfunded past service obligation amounts up until October, 1973. In 1973, the CICA recommended that actuarial deficiencies be included as current pension costs (CICA Handbook, Section 3460, paragraph 22). The date of October 1973 is important to this thesis since most of the firms in the sample are centered on earlier years. Consequently, actuarial deficiencies may be included in the unfunded past service obligations in the company's footnotes. (See Appendix A). Due to this, no distinction has been made between the obligations and actuarial deficiencies.

4. The terms funded or funding are used in this text in a very specific manner. Funding (or funded) will be used to indicate an economic step to meet a pension obligation. This economic activity will be a cash payment to a trustee

or to a pensioner; alternatively, a firm may set aside assets to meet future pension obligations.

5. The CICA's pronouncements are listed in section 3460 of the Handbook. The present recommendations were primarily made between 1968 and 1973. However, as late as June, 1978, the Handbook section was under review.

The FASB has followed its predecessor's statements on this topic until recently. This pronouncement came from the APB's Opinion No. 8 (1966). In 1980, the FASB issued its Statement No. 36 concerned with amending Opinion No. 8, (FASB, 1980).

For a comparison of the CICA and the Opinion No. 8 recommendations see the Accountants International Study Group publication (1977).

6. In examining Canadian financial statements for unfunded past service obligations, a very diverse group of footnotes was found to co-exist. Some firms list the unfunded past service obligation as a present value sum, the amount to be paid out each year, and the number of years over which the funding will occur. Other firms give some, but not all of the details. (See Appendix A for further details.)

7. Actuarial deficiencies are not defined by Statistics Canada in its two publications (Statistics Canada, 1974; and Statistics Canada, 1977). Actuarial deficiencies are assumed to refer to the deficiencies in funding which arise from periodic revaluations of pension plans as outlined in the CICA Handbook, (Section 3460, paragraph 21).

8. "Empty Pension Fund Called Cruelest Hoax," The Vancouver Sun, A12, Saturday, June 21, 1980. Also, see the series of articles on pension funds in The Vancouver Sun by Odam (1980) and the article entitled "Teachers Warn They'll Strike in Pnesion Indexing Fight," The Vancouver Sun, October 4, 1980.

9. The pension plans referred to cover many workers in B.C. Some of the groups include the public school teachers, the college teachers, the municipal employees and some B.C. Government employees. Although some of those covered could be termed "public sector" employees, the pensions are not public pension programs but instead are private pensions. The only public pension programs in Canada are the Old Age Security (OAS), Canada Pension Plan (CPP) and the Quebec Pension Plan (QPP) (Economic Council of Canada, 1979, 13).

CHAPTER II

AN OVERVIEW OF THE LITERATURE ON UNFUNDED PAST SERVICE OBLIGATIONS

In general, the recent literature on pension plans has stemmed primarily from two sources. One source has been the U.S. Government. In 1974, the U.S. Government passed legislation which clearly established obligations with regards to unfunded past service obligations on the part of employers. The Employee Retirement Security Act also defined the extent of obligations under differing financial conditions such as bankruptcy (Skinner, 1980, 52). The second source of pension literature arises from the pronouncements of the accounting rule-making bodies such as the FASB and the CICA. These groups are interested not in the establishment of pension obligations but in the dissemination of information about the obligations. Consequently the informational discussions are concerned with whether unfunded past service obligations should be footnote items or stated liabilities.

In drawing from these two sources of pension literature this chapter will cover three main topics. First the present accounting treatment of unfunded past service obligations in Canada and the U.S. as well as two simplified alternative

accounting treatments will be given. Second, a discussion will outline research which has been concerned with unfunded past service obligations. Third, a few articles which studied pension funds will be examined.

Present and Alternative Accounting Treatments

The present Canadian treatment of unfunded past service obligations is outlined in the CICA Handbook, Section 3460. The treatment recommended by the Institute calls for the unfunded past service obligations to be listed in the notes to the financial statements even when these obligations are not vested. Vested unfunded past service obligations are to be reported in the non-current liabilities section of the balance sheet. Where these unfunded past service obligations are not vested the rationale for relegating these obligations to a footnote is that they are not liabilities.[1]

The U.S. treatment of unfunded past service obligations is similar to that used in Canada. The latest U.S. pronouncement, Statement No. 36, while calling for more information to be disclosed regarding pension plans, still does not recommend recognition of the unfunded past service obligation as a liability.

The U.S. accounting treatment of unfunded past service obligations was the result of a study by Hicks (1965). Hicks' did not even consider that an unfunded past service obligation might be a liability (1965, 44-57). Instead Hicks' was concerned

with whether the obligation should be written-off immediately against retained earnings or whether it should be amortized. His conclusion was that the unfunded past service obligations should be amortized systematically over a reasonable period (Hicks, 1965, 5-6). This treatment, along with the requirement that unfunded past service obligations be shown in the notes to the financial statements, appeared in the APB's Opinion No. 8 (1966, paragraph 46, subsection 5).[2]

While it is inevitable for companies both to amortize and to fund their unfunded past service obligations, an illustration may help to clarify both present practice and the proposed alternatives. In this example, interest on the unfunded past service obligations is ignored. Present practice begins at the top of Chart I with the decision not to record unfunded past service obligations when the obligations arise. Consequently except for a footnote notation, there are no entries to make. At some later point in time (below the broken line in the diagram) the unfunded past service obligation is amortized over a chosen number of periods. This occurs by debiting a pension expense account and crediting a pension liability account. When the obligation is funded (i.e., a cash payment is made) or the retired employees are paid their pensions, a journal entry is made to decrease (debit) the pension liability account and decrease (credit) the cash account. The journal entries for amortization of the obligation and for making a cash payment will coincide when the firm amortizes and funds its obligation

over the same period of time. In this case a compound journal entry will be made where a pension expense account is increased (debited) and the cash account is decreased (credited). This entry combines the boxes in Chart I designated as A and B.

The alternative approach which is not used currently is to recognize the unfunded past service obligations as either an asset or as an expense immediately upon the recognition of these obligations. Tracing the line down the "yes" side of the diagram, the pension asset or the pension expense is debited and a pension liability is credited. In the case of the pension expense an expense account is debited and a pension liability is credited. The expense recorded is the lump sum of the unfunded past service obligation and no further entries are made until the trust is paid into or the retired employees are paid.

With the use of an asset account, the asset is recognized as an expense over a period of time. The recognition of the asset as an expense may or may not coincide with the payments made to the trustee and/or the retired employees. As noted in the diagram whether the "yes" or "no" alternatives are followed, the final entry is the same.

While the FASB over the past several years has been studying the question of how to better account for pensions,[3] it has not recommended either the asset or the expense alternative. Instead, FASB Statement No. 36 calls for more detailed reporting, including: the present value of vested and unvested accumulated benefits, the interest assumption used in calcula-

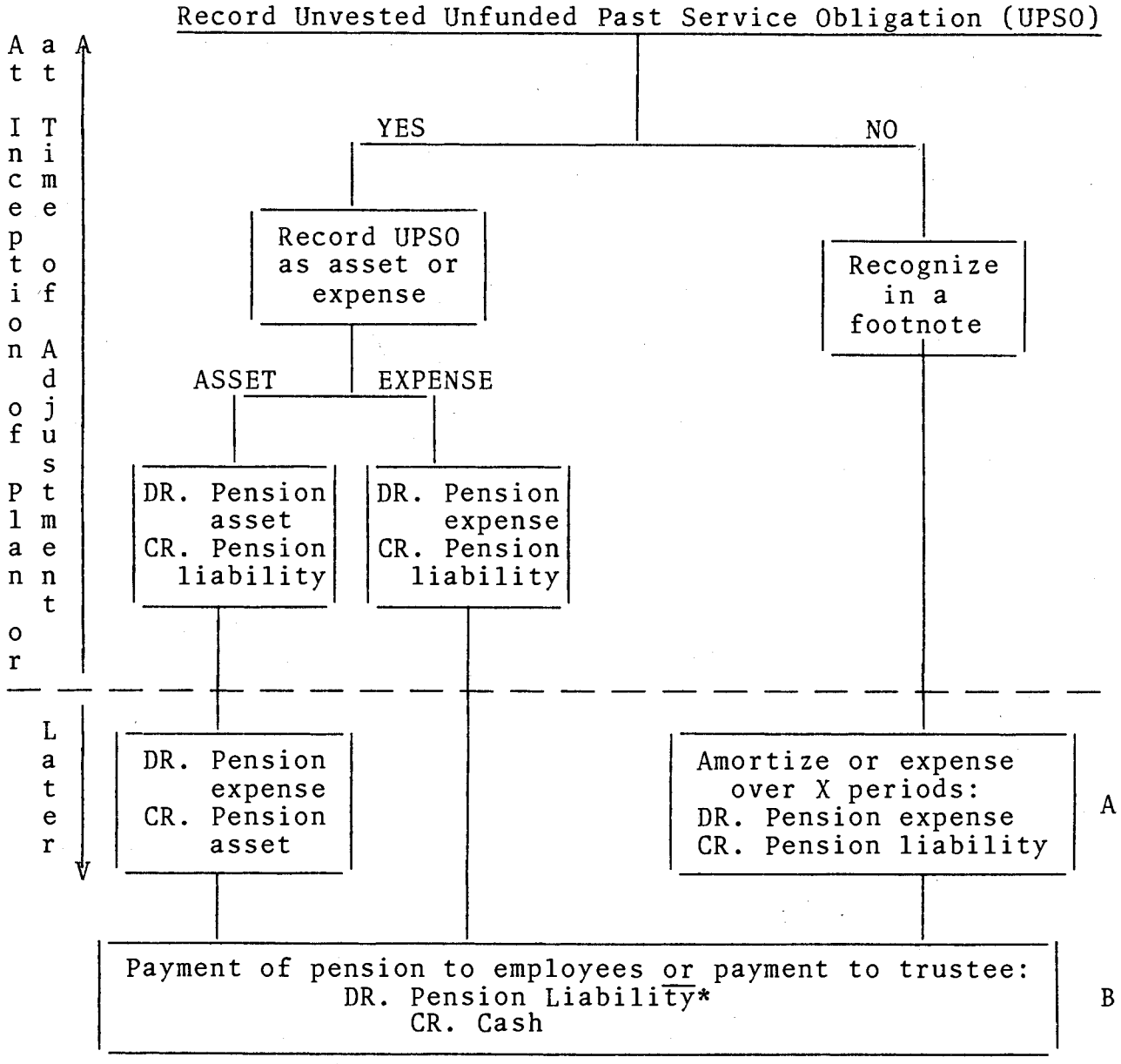


CHART I
Accounting for Unfunded Past Service Obligation

* If the firm chooses to hold or administer segregated assets within the firm (and not use an outside trustee) then
DR. Pension plan investments
CR. Cash
Later, when assets are paid out to pensioners
DR. Pension liability
CR. Pension plan investments

ting these benefits, and the valuation date. Even with these changes, the accounting for unfunded past service obligations remains the same, a footnote. A new statement to supercede or further augment Opinion No. 8 is expected sometime in 1982.

Research Recommendations Concerned with Unfunded Past Service Obligations

Three studies have been published which make specific recommendations with regard to unfunded past service obligations. Hall and Landsittel (1977) argue that unfunded past service obligations are liabilities of the same nature as that of delivering future services or fulfilling warranty obligations (Hall and Landsittel, 1977, 35). They would like to see this liability entered and offset by a lump sum pension expense.

In comparing the practices for pension fund accounting in Canada, the United Kingdom and the United States, the Accountants International Study Group (1977) examined unfunded past service obligations. In the conclusion the group stated unequivocally that these obligations are liabilities and should be recorded as a long-term liability in the balance sheet offset by an entry to a deferred expense (an asset account) (Accountants International Study Group, 1977, paragraph 48, subsection C).

Skinner (1980) presents three alternative treatments for the offsetting entry in recording unfunded past service obligations: (1) as a prior period adjustment, (2) as an expense recognized and amortized over a period of time and (3) as a form of good-

will. Although Skinner does not specifically recommend one treatment over the others, he does argue that the amount of the obligation should be separated into two parts. One component would represent a true benefit increase while the second component would be attributed to catching-up with inflation. The true increased benefit component could be written-off over time. However, Skinner did not suggest that this amount be treated as a liability (1980, 51). The inflation catch-up portion would be accounted for separately and would not be treated as a liability (Skinner, 1980, 71-81).[4]

Pension Fund Studies

The Employment Retirement Income Security Act of 1974 (ERISA)[5] has altered much of the focus of the literature. Prior to 1974 an individual glancing through the literature on pensions would have found discussions of various pension models used for actuarial purposes (Tepper and Affleck, 1974). Alternatively, one found discussions of whether the use of actuarial cost methods in determining pension expenses and liabilities led to the development of sound accounting practices. (Dewhirst, 1971).

Since 1974, much of the literature has focused upon the new requirements and the implications of the minimum funding requirements called for under ERISA. One study which dealt directly with this latter point was published in 1975 (Kreiser). A second study examined the requirements called for by ERISA.

The conclusions of the authors were that the new requirements would be beneficial to financial statement users by lending more credibility to the statements. (Deaton and Weygandt, 1975). These added legal requirements were then used to argue for a revamping of pension accounting by the accounting profession.

Although much discussion has been centered on unfunded past service obligations and pension plans in general, the conjectures are not supported by any empirical work. The pension literature tends toward arguments which are concerned with the "right way" to account for pensions and the issue of whether unfunded past service obligations are liabilities. However, the efficient markets hypothesis used in the finance literature attempts to provide evidence that the marketplace can fully comprehend (or react to) information as long as it is publically available somewhere. If the efficient markets hypothesis holds, then the unfunded past service obligations should be impounded in the stocks' returns whether the information is in a footnote or in the body of the statement. In short, if the information is available in the footnotes and the market is reacting to it then the liability debate can end. If the information is available and the market is not reacting to it, then the situation may be one where the market sees the unfunded past service obligations as liabilities which have corresponding assets. Alternatively, the market may not be reacting because the footnote information is being ignored or because the unfunded past service obligations are seen as being offset by decreased future wages.

There are at least two possible reasons for investors to ignore unfunded past service obligations. First, the market may regard the numbers being produced by actuaries and accountants as being so speculative that the information is being heavily discounted. This point is made in several of the studies discussed above (Hall and Landsittel, 1977; Skinner, 1980; and Deaton and Weygandt, 1975) especially with regard to the different methods available for use in accounting for pension funds.

The second reason, which may or may not be coupled with the first reason described above, is the possibility that investors already "suspected" that firms had these obligations before they were reported. If either or both of these reasons are true, then the market may not react to unfunded past service obligations since the market would not attach any concise or new meaning to the numbers given in the footnotes.

While this chapter has given only a brief overview of the pension fund literature, it does serve to establish a background for the remainder of the study. In view of the lack of any previous empirical test of unfunded past service obligations, the purpose here is to perform a test -- however modest. The third Chapter will review the efficient markets hypothesis literature and the primary model used in empirical tests.

Notes

1. The CICA will be publishing a study in the fall of 1980 on pension plans. The publication will be called Pension Costs and Liabilities: A Reconciliation of Accounting and Actuarial Practice by T. Ross Archibald ("Pension Plan 'Breakthrough'," CA Magazine, May, 1980).

2. The FASB has actually issued two new statements which discuss pension plans. Statement No. 35 is not discussed because it deals with the accounting and reporting for defined benefit pension plans in the pension plan statements.

3. In general in the U.S. the handling of pensions usually refers to the accounting for vested pension benefits. This is at least in part due to U.S. federal legislation.

4. One point is repeated by all three studies Hall and Landsittel (1977), the Accountants International Study Group (1977) and Skinner (1980). This point is that the methods available for use in accounting for pensions should be narrowed and made more consistent.

5. ERISA spells out provisions for plan participation, vesting of benefits, funding standards, portability of retirement benefits, and who may act as a fiduciary. The ERISA requirements differ somewhat from accounting rules. In the APB's Opinion No. 8, funding requirements were given simply as being charged against income over a reasonable period of time. ERISA requires that funding must be accomplished in thirty years.

CHAPTER III

THE EFFICIENT MARKETS HYPOTHESIS AND THE MARKET MODEL: AN OVERVIEW

This chapter will attempt to do several things. First, the efficient markets hypothesis and its three forms will be discussed. Second, a discussion of the market model and the capital asset pricing model will be detailed. Third, U.S. tests of the semi-strong efficient markets hypothesis will be outlined. Finally, eleven articles which examine the Canadian market will be reviewed.

As a preamble to the discussion of the literature, one point should be made explicit. The number of articles written about the efficient markets hypothesis and/or the models used in testing the hypothesis is very large and growing. Therefore, some criteria needed to be followed in the selection of papers for presentation. First if an article served as a clarification for the proposed test in this study, then the article was outlined. Second, if a paper represented the recent direction of research in this area, then the paper was discussed. Finally, if a study was concerned with the Canadian market, then the study was examined.

The Efficient Markets Hypothesis

The efficient markets hypothesis [EMH, hereafter] is an hypothesis based upon the concept that the capital market processes information efficiently. If the market does process information efficiently, then prices will "fully reflect" all available information. The importance of prices reflecting this information has to do with market allocation. Prices which encapsulate all information will lead investors to allocate their monies such that resources are allocated efficiently throughout the market.

The tests of the EMH have taken three forms: the weak, semi-strong and strong forms, which will be described below. However, a note of caution is required. The EMH cannot be tested by itself. In order to make the EMH testable, models must be introduced which represent forms of market equilibrium. When the hypothesis is tested using an equilibirum model, the test conducted will be a simultaneous test of the EMH and the model of market equilibrium.

The EMH has three forms (Fama, 1970, 383). The two extreme cases of market efficiency are the weak form and the strong form. The third formulation, the semi-strong form, is the form which will be used in this thesis. However, a brief discussion of the weak and strong forms will be outlined to illustrate the limits of the hypothesis.

The weak form of the EMH says that the current price of a security fully reflects all the historical price information

available about that security. Also, the price of a security is seen as an unbiased estimate of the security's future price. This is known as the random walk. The economic implication of a random walk is that when prices are charted, the prices do not appear to follow any definable pattern. This is in direct contradiction to the belief of technical analysts. A few studies which have supported the weak EMH formulation will be discussed below.[1]

The weak form EMH has been tested in several ways using data derived from the New York Stock Exchange[2] [hearafter, NYSE]. Two specific types of tests will be explained here. The first set of tests are based upon a model of market equilibrium which calls for expected returns to be positive. That is at time t-1, the market will set the price for security j such that the expected rate of return in time t will be strictly positive. This model for market equilibrium is the basis for tests which examined filter rules and the beliefs of chartists. A filter rule is a rule which states that if a stock price rises by X percent above a previous low price then the investor should buy and hold that stock until the price decreases by Y percent from a subsequent high price. A chartist then is a technical analyst who believes that new information is not quickly absorbed into the stock's price.

The three major tests which examined filter rules were written by Alexander (1961; and 1964) and Fama and Blume (1966). These empirical tests showed that when minimum trading costs

were included in the calculations of profits from the filter rules that these profits were no better than the returns from a simple strategy of buying and holding a firm's stocks.

The second set of tests were used to examine the autocorrelation terms from a series of lagged regressions. These studies were based upon a model of market equilibrium which states that expected returns are constant. The importance of this model is that information about past returns on security j are important in the prediction of the expected return of j in time t. However, the past returns are not relevant information about the deviation of the actual return on security j in time t from the expected return on j in period t. Therefore, the investor cannot use past returns to predict a future return except to assume that the future return will be constant.

The primary test of this specification of the weak EMH form was conducted by Fama (1965a). In this test the autocorrelation term was examined to see how much variance in the firm's rate of return may be explained by the firm's past rates of return. This test examines the random walk because the random walk implies that returns distributions are independent from one period to the next. If these distributions are independent, then the autocorrelation terms should be equal to zero. Fama showed that while the autocorrelation terms were non-zero, the numbers were too small to reject the hypothesis that past rates of return were not useful in predicting future rates of return (Fama, 1965a; and for an overview of this topic see Fama, 1970).[3]

The weak EMH form concentrates on past returns and past prices. The other extreme form, the strong EMH formulation, posits that all information whether publicly available or not will be impounded into the prices. The model of market equilibrium used for these tests was the Sharpe-Lintner capital asset pricing model (Sharpe, 1964; and Lintner, 1965a). This model states that the rate of return on a security will be a function of a risk-free rate plus a risk adjusted market rate.

Although several studies have tested the strong form of the EMH, Jensen's article (1969) is one of the most important. Jensen examined mutual fund performance on the basis that mutual fund managers might have access to inside information that the average investor could not be expected to know. Jensen found that mutual funds did not consistently outperform the market and concluded that the strong EMH form appeared to hold. Subsequent studies, for example Collins (1975), Jaffe (1974) and Finnerty (1976) have produced tests which did not support the strong form. Collins examined segmented reporting by product line before and after the U.S. Securities and Exchange Commission issued its requirement that this information be made public. Insiders were able to make abnormal returns before the requirement became effective. Finnerty (1976) and Jaffe (1974) studied insider trades of stock and both found that insiders appeared to be able to earn abnormal profits.[4]

Between the two extremes, the semi-strong EMH form makes a somewhat different statement about market equilibrium. In the

semi-strong form, the market is said to incorporate all publicly available information into stock prices or rates of return. To a great extent tests of the semi-strong form EMH focus on the speed with which company specific information is impounded into stock prices.[5] The tests focus on the behaviour of the cumulative average residuals generated from either the market model (the model of market equilibrium) or a combination of the market model and the capital asset pricing model. Due to the key role played by the market model in the semi-strong form tests and this thesis, it will be delineated before the semi-strong literature is reviewed.

The Market Model and the CAPM

By far the most popular method of testing for semi-strong market efficiency has been the so-called market model (Sharpe, 1963).[6] In statistical form, the market model is a simple linear regression model which suggests a particular relationship between a firm's rate of return and the rate of return on the market. The model appears as:

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \xi_{jt} \qquad (1)$$

The individual security's rate of return (R_{jt}) is a function of an intercept (α_j) plus the market rate (R_{mt}) multiplied by a measure of security j's systematic risk (β_j) plus a residual term (ξ_{jt}). It is assumed that the random disturbances, the ξ_{jt}'s, have properties that:

$$E(\xi_{jt}) = 0 \qquad (1a)$$

$$Cov(\xi_{jt}, \xi_{kt}) = 0, \quad j \neq k \qquad (1b)$$

$$Cov(\xi_{jt}, \xi_{kt}) = \delta_j \quad j=k \qquad (1c)$$

$$Cov(\xi_{jt}, R_{mt}) = 0 \qquad (1d)$$

In addition to the statistical interpretations, the market model is usually given an economic interpretation in the EMH tests. The market rate of return (R_{mt}) is said to reflect economy-wide information which becomes available at time t. This information will affect all securities in the market to some extent. The extent to which this information does affect an individual security is reflected in the systematic risk term, β_j. The disturbance term, ξ_{jt}, then is the factor in the market model which reflects information made available at time t that is specific to firm j. Or, alternatively, the residuals are studied rather than the rates of return in order to hold the effects of economy-wide information constant. Basically, then, the market model provides the model of market equilibrium for many semi-strong form tests.

A second model often referred to in the finance literature is the capital asset pricing model [CAPM, hereafter]. The CAPM was originally introduced by Sharpe (1964) and Lintner (1965a) and added to by Mossin (1966). The CAPM and the market model are said to be related when bivariate normality is assumed between the securities' rates of return and returns on the market (Fama, 1973, 1184-1185. Also see Fama, 1968).

There are several assumptions which set a background for the CAPM. These assumptions are:

1. Investors are risk averse and expected utility of wealth maximizers.
2. Investors have homogeneous expentations over joint normal distributions of rates of return and all investors are price takers. (Or alternatively all investors have quadratic utility.)
3. A risk-free rate exists, lending and borrowing at this rate is unlimited.
4. While there are a finite number of assets, the assets are perfectly divisible. Also, all assets are marketable.
5. Markets are frictionless and information is costless. Information is available to all investors simultaneously.
6. There are no transaction costs, no taxes and no restrictions on short selling.

Perhaps the key result to emerge from the CAPM[7] is an ex ante trade off between risk and return. The tradeoff, known as the Security Market Line (SML), is given by

$$E(R_j) = R_f + [E(R_m) - R_f]ß_j. \qquad (2)$$

In equation (2) $E(R_j)$ is the expected return on asset j. R_f is the risk-free rate of return. $E(R_m)$ is the expected return on the market portfolio. $ß_j \equiv Cov(R_j,R_m)/\delta_m^2$ is the systematic risk of security j.

If there is no riskfree borrowing or lending, the ex ante SML, extended by Black (1972, 450), is

$$E(R_j) = E(R_z) + [E(R_m) - E(R_z)]ß_j \qquad (3)$$

where the terms in this equation are defined as in (2) except that $E(R_z)$ represents the rate of return on a minimum variance portfolio which has a ß equal to zero. This portfolio lies on the mean-variance frontier but on the inefficient portion.

Recently, the zero-beta CAPM has been used as the model of market equilibrium in some semi-strong from tests. These test made by Charest (1978a; and 1978b) will be discussed below in the review of the literature. But the basic idea is that instead of studying the residuals generated from the market model, i.e.,

$$\xi_{jt} = R_{jt} - \hat{\alpha}_j - \hat{ß}_j R_{mt} \qquad (4)$$

he studied the residuals generated from the empirical analogue of the zero-beta CAPM, i.e.

$$\xi_{jt} = R_{jt} - \hat{\gamma}_{0t} - \hat{\gamma}_{1t} \cdot ß_j, \qquad (5)$$

where Fama and MacBeth (1973, 1974) show that $\hat{\gamma}_{0t}$ and $\hat{\gamma}_{1t}$ are estimates of R_{zt} and $(R_{mt}-R_{zt})$ respectively.

The next two sections will outline articles which tested the semi-strong EMH form primarily by the use of the market model. The first section will outline U.S. studies while the final section will outline Canadian market tests. A few articles mentioned do not utilize the market model. Where the model used is different, the reader will be alerted to this fact.

U.S. Market Studies

The seminal article in the semi-strong literature was written by Fama, Fisher, Jensen and Roll (1969). The test employed the CAPM to determine whether the U.S. market reacted to stock split information. Also, the researchers examined whether the possibility existed for investors to earn excess returns by investing in stocks after the stock split date. This study indicated that the stock split information was impounded into the security price prior to the date of the split. Consequently, it was concluded that there were no excess returns accruing to those who purchased the stocks subsequent to the stock split date (Fama, et al., 1969, 202). To reiterate, the paper's key contribution was to introduce the residual analysis as a means of studying market efficiency.

The information effects of dividends, earnings, accounting changes and mergers[8] have been examined using methods similar to Fama, et al. (1969). Foster and Vickrey (1978) tested the market's reaction to stock dividend announcements. This study indicated that the U.S. market did anticipate the declaration of stock dividends and that there was a slight chance for investors to make positive abnormal returns (Foster and Vickrey, 1978, 366).

A number of studies have examined the information content of earnings. A seminal article Ball and Brown (1968), using an average performance index, found that accounting income numbers were apparently anticipated by the market prior to their public

release (Ball and Brown, 1968, 174). A second study by Basu (1978) used the Ball and Brown article as a starting point. Basu examined whether an "association existed between accounting earnings numbers and security prices" (1978, 600). He found that the earnings yields of common stocks influenced the relationship between the accounting income numbers and security prices (Basu, 1978, 617).

Quarterly earnings reports were studied by Joy, Litzenberger and McEnally (1977). The authors showed that by watching quarterly earnings reports, an investor could make abnormal returns particularly when favourable reports were used (Joy, et al., 1977, 222). This conclusion was based upon the fact that the information contained in the quarterly earnings report was not immediately impounded into the security's prices.[9]

Two recent studies examined market reactions to accounting changes (Abdel-khalik and McKeown, 1978; and Harrison, 1977).[10] The Abdel-khalik and McKeown article used the combination of switches to LIFO and the projected earnings per share to determine whether the market reacted differentially to the changes (Abdel-khalik and McKeown, 1978, 852). A differential reaction was found to occur in the market when the expected earnings per share increased or decreased after the change. Harrison (1977), also, took accounting changes and tested for a difference in the market reaction. The market was shown to be reacting differently to those changes which were at management's discretion as opposed to those changes which were not (Harrison,

1977, 105).

Mergers and their alternative accounting treatments were the subject of a paper by Hong, Kaplan and Mandelker (1978). This paper examined two accounting treatments of mergers, pooling and purchase. The popular belief used to be that the pooling of interests method would lead to an increase in stock prices. This belief may have influenced the APB to disallow the pooling of interests in mergers. Hong, et al. (1978), however, found that those firms using the purchase method of accounting for mergers had larger price increases than those companies which had used the pooling of interest treatment.[11] This study is relevant because it highlights an important point pertaining to market efficiency with respect to information. If information exists in alternative forms, the market will not react differentially to those forms where the underlying economic meanings are the same. Where accounting changes signal economic changes in the firm, then the market will react.

As noted earlier, more recent studies have focused on the zero-beta form of the CAPM as the model of market equilibrium. For example Charest (1978a and 1978b) used this formulation. Charest's studies had interesting results which contrasted with an earlier study which used the market model (Fama, Fisher, Jensen and Roll, 1969). In the stock split study (1978b) Charest found that the U.S. market appeared to be fairly efficient although for a short three-month period after the split date abnormal returns were not equal to zero. In the dividend study

(1978a) Charest found that abnormal returns could be made using dividend changes as indicators as to hold (or not hold) those securities where the dividends were altered.

Canadian Market Studies

While the body of literature based upon markets[12] other than the U.S. is small, at least eleven articles have been written using Canadian data. This group of eleven articles falls into two general areas of study. One group used Canadian data to test for the market coming to equilibrium while the other group specifically examined Canadian data for reaction to information. Not all of the articles referred to employ the market model for testing. Since the number of articles using Canadian data is small, all of the studies will be briefly mentioned. The Canadian market data used was almost exclusively taken from the Toronto Stock Exchange (TSE, hereafter).

Charest performed two tests using the market model as his model of equilibrium, (1980a; and 1980b). In one article he tested the market's reaction to splitting stocks while in the other he examined the Canadian market's reaction to dividend changes. Charest's results indicated that splitting stocks had large, negative abnormal returns. This result was not expected and even Charest was puzzled by his findings (1980b, 23). In the dividend-changes paper, Charest found that the Canadian market appeared to contain inefficiencies since abnormal returns could have been made using dividend changes to indicate whether to

hold or sell a particular stock (1980a). These two articles may serve to indicate the inefficiency of the Canadian market. Alternatively however, these articles may serve as a caution for those using U.S.-oriented testing techniques on the Canadian market. At this stage there is not enough evidence to determine which of these points is true.

Three of the studies which use Canadian data were tests of the Canadian market's efficiency. Two of the tests are based upon the concept of "thinly traded" securities (Fowler, Rorke and Riding, 1977; and Fowler, Rorke and Jog, 1979). A market characterized by "thinly traded" securities is one in which the number of stocks traded is small and/or the stocks are traded infrequently or irregularly. In Fowler, Rorke and Riding (1977) a market model test using Canadian data was made in order to discover whether the use of the market model on "thinly traded" market data would result in significant measurement errors in variables. A large number of buyers and sellers in a market is assumed when using the EMH (re: buyers and price-takers). In a "thinly traded" market, the number of buyers and sellers is small. In the case of the "thinly traded" market the measured rate of return will not capture the true rate of return of traded securities. The findings supported the idea that significant errors in measurement did result from the use of data from a "thinly traded" market. The second test using Canadian data aimed to test for ß (the measure of a firm's systematic risk with the market) stability. While this study indicated that

"thinly traded" stocks appeared to have ß's which were more stable than the more frequently traded securities, the authors found that this result was spurious (Fowler, Rorke and Jog, 1979, 7-8).[13]

The third paper which used Canadian market data was also a test of market efficiency, Dipchand and Roberts(1976) set out to examine the relative risk characteristics of a sample of Canadian firms. Their test also served to examine whether increasing the number of different firms' securities in a portfolio led to a decline in the non-systematic risk of the portfolio. The systematic risk characteristic was found to be strongly correlated with the market index (e.g., TSE Industrial Index) (Dipchand and Roberts, 1976, 5). Also, the amount of non-systematic risk associated with a portfolio decreased as the number of firms was increased (Dipchand and Roberts, 1976, 12).

Belkaoui examined issues concerning systematic risk in two other papers. In one paper Belkaoui found that the systematic risk of common stocks was correlated with financial leverage (1976, 8). Belkaoui specifically states that the betas determine financial leverage. However, his test does not lag the measurement of financial leverage after the measure of beta. In fact the design of the test does not appear to meet even superficial requirements of determining causality. In a second article, Belkaoui (1977) found using a factor analysis approach that accounting based risk measures were reflected in the systematic risk of fifty-five companies.

An insider trading test, strong EMH form, was performed in part using Canadian data (Baesel and Stein, 1979).The test was to see whether bank managers could utilize information not publicly available to increase their earned rates of return in the market. Bank managers were found to earn greater positive returns than either other insiders or informed buyers. However, the conclusion was not that the Canadian market was necessarily inefficient. Instead the authors concluded that excess returns may have existed because of inefficiencies in the informational market (Baesal and Stein, 1979, 568).

A second study which performed a strong form EMH test as well as a semi-strong form test was carried out by Kryzanowski (1978). He used TSE trading suspensions as indications of stock manipulation. Using thirty-four companies which released important information during a trading suspension, he tested whether the market reacted to the new information. What Kryzanowski observed was that the market did not appear to incorporate the signal that the stocks were being manipulated into the security's price. This lack of reaction was shown to exist before the suspension (the strong form test) and also to exist subsequent to the suspension (the semi-strong form test). Kryzanowski argued that these EMH tests should not only be used to determine a market's efficiency but also should be utilized to indicate inefficient market practices. Such inefficient practices might then be rectified (Kryzanowski, 1978, 367).

The final two articles which used Canadian market data did

not rely upon the market model. One study used a multiple regression model (Tinic and West, 1974) while the other used a calculated index measure (Close, 1975). Tinic and West tested to see whether the TSE had higher prices for marketability services as opposed to the NYSE and the over-the-counter market in the U.S. They observed that the higher prices for services on the TSE were in part due to the use of agents in the market (Tinic and West, 1974, 743). Close's market index was an attempt to examine large block trades and their effect upon the TSE and the Montreal Stock Exchange. He found that the volume of stocks which experienced large block trades increased after such a trade but the price only increased following a buy transaction that involved a large block trade (Close, 1975, 51-52, 56).

This chapter has presented an overview of a vast body of literature including the EMH and its three forms, the market model and the CAPM, also studies which tested the semi-strong form of the EMH have been reviewed. Some articles have necessarily been neglected. Most of the articles presented in the U.S. market section represented studies which measured market reactions to accounting data. While the results were somewhat mixed, the semi-strong EMH form was not disproved by those results.

If some caution is called for, it appears to be associated with the use of the market model and Canadian data together. The Canadian studies presented in the final section of the chapter were not fully supportive of the semi-strong EMH nor do the

studies indicate how the Canadian market arrives at equilibrium. Many of the Canadian studies have not been published and as indicated some seem to have methodological problems. Consequently, the market model will be used for the purposes of this thesis but the points made concerned with the use of this model in conjunction with the Canadian market should be kept in mind. The next chapter will briefly outline the technical aspects of using the market model, the hypotheses for testing and the data collection procedures.

Notes

1. Cheng and Deets, (1971, 11) question whether successive price changes are independent. This represents a questioning of the validity of the weak form EMH. Despite such criticisms, the EMH in its weak form is basically accepted.

2. The NYSE information comes primaily from the CRSP tape which is a computer tape put together by the Center for Research in Security Prices at the University of Chicago. The first mention of this tape appears to be Fisher and Lorie (1964).

3. While the weak form EMH explanation belongs to the common domain, the explanation incorporating models of equilibrium which state returns are positive or returns are constant used here is derived primarily from the work of Fama (1976).

4. The results in a paper by Collins (1975, 156) are not unambiguous. The segment earnings not reported to the public appear to have allowed insiders to make abnormal returns for two years, 1968 and 1969. However, when data for 1970 are included, it is unclear as to whether insiders could make abnormal returns on the basis of the unreported segment earnings information.

   Also mutual funds studies have been mentioned as providing support to the strong form of the EMH. If mutual funds have access to insider information, then the studies concerned with their performance suggest that the EMH holds in the strong form since on average the funds did not outperform the market (for example see Jensen, 1968; and Williamson, 1972). However, the unanswered question is whether mutual funds receive inside information on a consistent basis (Dyckman, Downes and Magee, 1975, 32).

5. Although almost all semi-strong EMH tests have dealt with firm specific information, at least two exceptions exist. One study examined margin constraints (Grube, Joy and Panton, 1979) while a second study examined discount rates (Waud, 1970).

6. Also see Lintner (1965b) for a similar model and its derivation.

7. Black, Jensen and Scholes (1972) tested the CAPM as well as Fama and MacBeth (1973), Blume and Friend (1970 and 1973) and Miller and Scholes (1972).

8. A different test was performed by Beaver, Kettler and Scholes (1970). This study focused upon accounting risk measures and the relationship between these measures and the market risk measure (β_j). Their conclusion was that accounting risk measures could be sued to rank portfolios with essentially the same results as using the market risk measure (Beaver, Kettler and Scholes, 1970, 679).

9. Griffin (1977) performed a weak form EMH test that also indicated that the market does not respond efficiently to the quarterly earnings report. Griffins conclusion was based upon his result that his sample's prices violated the random walk (1977, 82).

10. Two earlier papers examined changes in depreciation methods which resulted in higher reported accounting incomes but which did not alter future cash flows (Comiskey, 1971; and Archibald, 1972). While Comiskey (1971, 281) does not use a market model formulation similar to Fama, et al., (1969), Archibald (1972, 25-26) does. Both studies indicated that the market was efficient in a semi-strong sense. The evidence illustrated that an increase in accounting income numbers did not cause a corresponding increase in the firms' rates of returns. A change in form then did not signal any economic differences.

    A third study which also examined accounting change was conducted by Ball (1972). Ball examined several types of accounting technique changes and did not limit his study only to changes in depreciation policies. As in the two studies discussed above, the accounting changes did not confuse the market in its pricing of securities.

11. For a comprehensive survey of some of the earlier literature in this area see Gonedes and Dopuch (1973).

12. Two other articles which do not use U.S. data are sometimes referred to in the literature. In Deakin, et al. (1974) the Tokyo market was studied while in Dimson (1979) the London market was examined.

13. Fowler, Rorke, and Jog (1979) seem to be begging the question in their study. In deciding whether the "thinly traded" stocks are more stable than "fat" stocks, they adjust the betas of the "thinly traded" stock by a minimum variance measure.

CHAPTER IV

THE MODEL, THE HYPOTHESIS AND THE DATA

The market model will be used as the basis for the tests to be performed in this study. A discussion of the model will be given in the first part of this chapter.

The second portion of the chapter will focus upon the hypothesis to be tested in this study. The null and alternative hypotheses will be described along with the possible outcomes which might be expected from the tests.

While most EMH tests have been designed around the U.S. market, the data used in the present investigation are derived from the Canadian market. The third section of this chapter will outline the data collection procedures, the decisions faced while collecting the data and the use of the Laval returns tape.[1]

The Model

In 1969, Fama, Fisher, Jensen and Roll used the market model in a series of tests to examine whether the U.S. stock market reacted to the announcements of stock splits. As stated in the third chapter the market model was first outlined by Sharpe (1964), and Lintner (1965a and 1965b).

The market model is a single parameter equation which gives the relationship between a firm's rate of return, its systematic risk and the market rate of return. The standard form of the equation appears as equation (1) in Chapter III and is reproduced here for convenience.

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \xi_{jt} \qquad (1)$$

where:

R_{jt}	is the return on firm j in time period t.
R_{mt}	is the return on the market in time t.
α_j	is the intercept of the equation for firm j.
β_j	is the slope of the regression line. It is also the $\frac{Cov(R_{jt},R_{mt})}{Var(R_{mt})}$.
ξ_{jt}	is the residual, or unexplained, variance in firm j's return in the t-th time period.

In this study the coefficients, α_j and β_j, are estimated by using all the data except for a period of fifteen months before the date of interest and fifteen months after that date.[2] This procedure follows Fama, et al., (1969, 190) who delete fifteen months prior to the stock split date and fifteen months after the split date.

It should be noted that estimates of α_j and β_j might be affected by the inclusion of the thirty months. For example, when studying an event such as the first appearance of a footnote mentioning an unfunded past service obligation, there is the possibility that the information contained in the footnote became public at an earlier date. The pension contract, its signing and its resulting unfunded past service obligation

might have been described in newspapers. Alternatively, the public may not have gained access to the published financial statements for up to six months after their release. In both instances described, the dissemination of the information and the reaction to the information may extend over a lengthy period.

After the regression coefficients are estimated for a specific firm, residuals are computed using the following equation.

$$\xi_{jt} = R_{jt} - [\hat{\alpha}_j + \hat{\beta}_j R_{mt}] \qquad (6)$$

These ξ_{jt}'s are then computed for a centered sixty month period around the event (see Chart II). Computation of these residuals is the first step in obtaining a series of plots. The plots will be used in the determination of the market's reaction to the unfunded past service obligation.

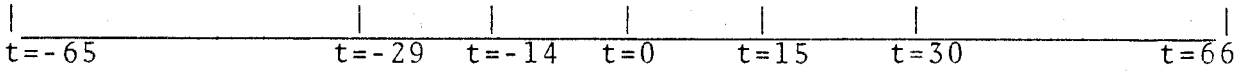
The second step is the calculation of the average residuals for the entire sample of firms. The average residuals are defined as:

$$\xi_m = \frac{\sum_{j=1}^{N=M} \xi_{jm}}{N_m} \qquad (7)$$

The ξ_{jm} is the residual for firm j in month m. The sample size for month m is represented by N_m. By summing the residuals for all firms for one month and then dividing by the number of firms in the sample, the average residual is calculated.

Chart II

A Timeline Reference for the 102 Month Regression



The period deleted in calculating the

$\hat{\alpha}_j$'s and $\hat{\beta}_j$'s

The sixty month test period over which the cumulative average residuals for the sample are calculated.[a]

The total time period used for each stock's ß estimates is equal to 132 months less the thirty months (t=-14 to t=15) deleted for regression purposes.[b]

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a The time period is sixty months where t=0 represents the end of a period. Also, t=0 is the end of the financial year.

b The dates vary between stocks.

In depicting the market's reaction to new information, the third step is to calculate the cumulative average residual (Fama, et al., 1969, 193). The cumulative average residual is defined to be:

$$E_m = \sum_{K=-29}^{M} \xi_m \qquad (8)$$

In this study, the number of months used is sixty. The cumulative average residuals (E_m) will be plotted and these will result in the graphs needed for examination.

The market model and the residual calculations described above are based on the basic linear equation (1). The form used in the literature and the form reported to give the "best" results computationally is the logarithmic version (Fama, et al., 1969, 189; Charest, 1980a, 4; and Charest, 1980b, 6). The reason that these are the "best" results is due to the distribution of returns which is closer to log normal than to linear normal. The residual calculation of the logarithmic equation appears as:

$$\xi_{jt} = [\ln(1+R_{jt})] - [\hat{\alpha}_j + \hat{\beta}_j \ln(1+R_{mt})] \qquad (9)$$

Two other definitions of the residuals will also be used in the tests.

$$\xi_{jt} = [\ln(1+R_{jt})] - [\ln(1+R_{mt})] \qquad (10)$$

$$\xi_{jt} = [R_{jt}] - [R_{mt}] \qquad (11)$$

Both equations (10) and (11) were used by Charest (1980b, 5) in his studies of the Canadian market.[3] It should be observed that (10) and (11) are based upon the assumption that the mean value will equal zero and that the mean ß value for a sample will equal one. The four forms of the residual computation, (6), (9), (10) and (11), will be used as checks to ensure that one formulation does not miss a reaction which might be extracted by a different form.

The Hypothesis

Once the cumulative average residuals are calculated, they are plotted on a graph. The plots are examined for patterns which illustrate whether or not the market reacted to specific information. The testing convention has historically been an examination of the plots which result from the calculation of the cumulative average residuals (e.g., Fama, et al., 1969; and Charest, 1980b).

Knowledge of how the tests are to be conducted is background to the hypotheses to be tested. The null hypothesis (H_o) and the alternative (H_a) are stated as:

H_o: When unfunded past service obligations are introduced (or first appear) in footnotes to a group of firms' financial statements, then there will be no noticeable change in that group's rate of return. This will be marked by the absence of change in the cumulative average residuals.

H_a: When unfunded past service obligations are introduced (or first appear) in footnotes to a group of firms' financial statements, then there will be a noticeable decrease in the group's rate of return. This change will be evidenced by a significant alteration in the pattern of the cumulative average residuals.

If the semi-strong EMH holds and the market regards the unfunded past service obligations as liabilities offset by expenses, then H_o should be rejected. Alternatively, if the market is not counting the unfunded past service obligations as liabilities offset by expenses, then H_a will be disconfirmed. (H_o will not be rejected.)

The evidence will consist of cumulative average residual plots similar to those depicted in Figures I and II which illustrate polar cases.

If H_o is rejected and the alternative hypothesis is supported, then one would anticipate that the residuals plot for an experimental group of firms would bear some resemblance to Figure I. In other words, the cumulative residuals will randomly fluctuate around the zero point on the vertical axis prior to time t=0, which represents the time period when the unfunded past service obligations first appear in the footnotes to the financial reports. After t=0, if H_a is supported, then the cumulative average residuals will fall. This decrease will stop at some point, and the cumulative average residuals will thereafter fluctuate around this lower value.

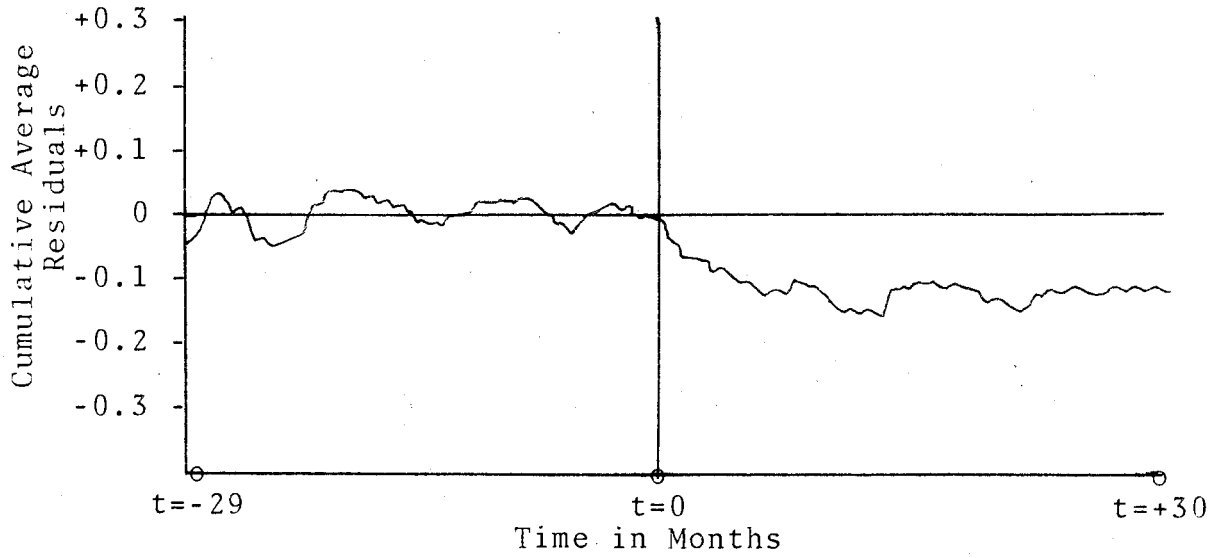


Figure I: Illustration I

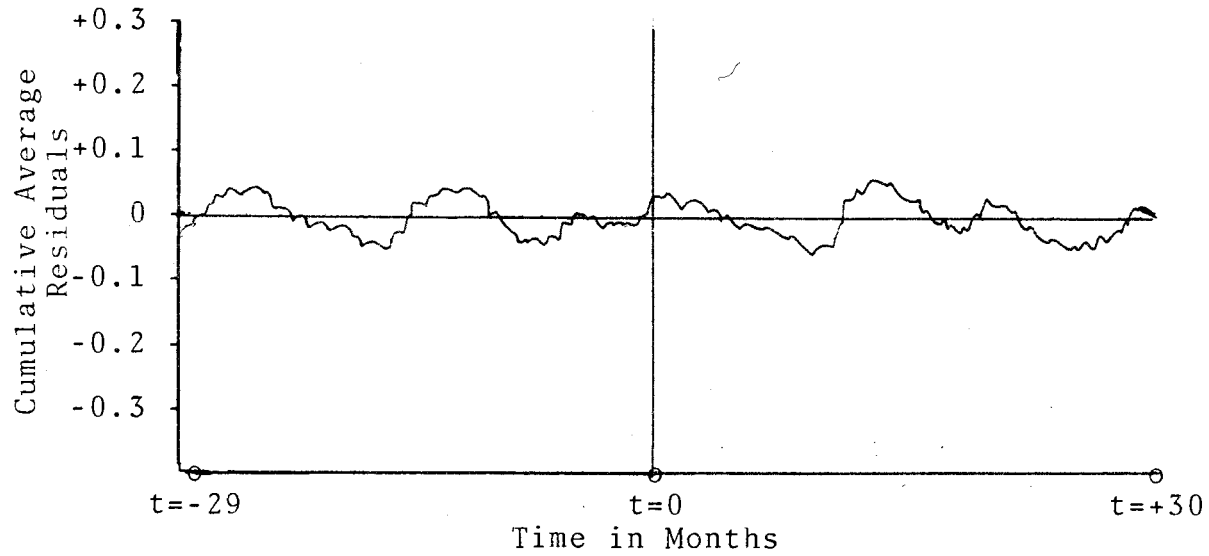


Figure II: Illustration II

In the empirical literature testing the EMH by means of the market model, the cumulative average residuals are interpreted as "...measures of the average percent abnormal returns [which are] experienced by the sample stocks over a number of months relative to information event month zero" [Charest, 1978a, 269]. A decline in cumulative average residuals is consistent

with a market reaction to the new information regarding unfunded past service obligations.

The plot may not look exactly like Figure I even if the market does react to the obligations as mentioned. If the market has more timely sources of information than the annual reports, then the residuals will begin to fall prior to t=0 if H_a is supported.[4]

A second use of the resulting diagram (Figure I) is to examine the length of time it takes the market to react to the new data. The number of months from the beginning of the pattern of decline to a stabilization of the plot is an indication of how long it takes the market to adjust. The quicker the market adjusts, the more efficient the market is thought to be.

If, however, the unfunded past service obligations are not read as liabilities offset by expenses, then H_o will not be rejected. Figure II depicts such a situation. Since most of the semi-strong tests of the EMH have been shown to support that form, it will be inferred that the market does not see unfunded past service obligations as liabilities offset by expenses.

Some decision rule is required if the plots do not appear as in Figures I and II. For example, if the cumulative average residual plot does decline near t=0 but begins to increase several months later, then the plot will have to be examined to establish whether similar declines occur elsewhere in the plot. Perhaps such a decline in the plots occurs every twelve or

fifteen months. If the declines are of a similar magnitude, then the plots will be seen as picking-up some specific piece of cyclical information. One such piece of information could be the reported annual earnings of the firms. With regards to a non-polar result, the primary point is that the plot will have to be examined carefully.

Consideration of the article by Fama, et al., (1969) led to the decision to employ the model described above. However, the article is also useful as an indicator of secondary tests to run. In their study the authors divided their sample into two groups. One sub-sample had dividend increases after the stock split, the other half of the sample was characterized by dividend decreases (Fama, et al., 1969, 201). This particular example is not directly applicable to the unfunded past service obligation study. However, the idea of dividing the sample into sub-groups is useful.

Several sub-samples will be set-up in order to study the market's reaction to the footnotes which mention the unfunded past service obligation. Four sets of sub-samples are proposed for use. First, the sample will be divided into two halves, firms where the unfunded past service obligation is greater (less) than some percentage of net income after taxes. The second partition will be formed by taking the sample of forty-five and dividing it into two equal groups based upon the ratios of the unfunded past service obligations to the firms' retained earnings. The third partition will be formed on the

basis of the size of the unfunded past service obligations relative to the firms' total assets. The fourth and final partition will be formed on the basis of net income growth. Three groups will be established for this third test, those firms where income increased by more than five percent, those companies where income decreased by more than five percent, and those firms where income either increased by less than five percent or did not increase by more than five percent in the year from t=-12 to t=0.

The purpose of forming sub-groups is to examine the data in several possible ways. In using the four different forms of the residual calculation, the purpose is to inspect the reaction in the market and to avoid missing any subtle reaction. This reasoning holds true for the partitioning of the sample as well.

The Data

In order to compute the residuals as described above, a potential sample had to be selected and the necessary data had to be collected. The residuals are calculated using the firms' rate of return (R_{jt}). The rate of return is defined as:

$$R_{jt} = \frac{P_{jt} + D_{jt} - P_{jt-1}}{P_{jt-1}} \qquad (12)$$

Equation (12) states that firm j's rate of return in period t is the current price (P_{jt}) plus any dividends paid (D_{jt}) in period t minus the preceding period's price all divided by the

preceding period's price (P_{jt-1}). The dividends referred to may be either cash or stock dividends.[5]

While equation (12) seems quite straightforward, it must be adjusted by two other capital changes as well. These adjustments are for (a) stock splits and (b) the issuance of stock rights.

It was decided to collect monthly data for eleven years. This provided five years of monthly returns on either side of the year where the unfunded past service obligation first appeared in the footnotes.

To locate a suitable sample, the recent financial statements of Canadian companies were reviewed. The primary focus of attention was the footnotes where an unfunded past service obligation was listed.

This search process yielded 70 companies for use with an unfunded past service obligation disclosed in the footnotes. For these 70 firms, past statements were examined to pin-point the first appearance of this footnote.

Other information was also obtained from the financial statements. This information included the amount of total assets, net income before and after taxes and the amount of retained earnings. Eleven years of statements were required.

Due to the unavailability of this financial data, several firms were eliminated from the sample. Several firms were not public corporations for the full eleven years. Several firms were subsidiaries of other companies in the sample and these

had to be deleted to avoid double-counting.

Several more firms were eliminated from the sample because they were not listed on the Toronto Stock Exchange (TSE, hereafter) for the required length of time. One company, Great Lakes Paper, Ltd., was not listed on the TSE for the full eleven years. To keep this firm in the sample, two Montreal Stock Exchange prices were used. This is the only exception to the rule that the companies had to be listed on the TSE.

After beginning with a possible 70 firms for inclusion in the sample, the group was reduced to 45 companies. The names of the firms, the dates used and the total asset sizes for both the beginning and ending years are listed in Appendix B. Appendix C lists the companies by industry. This serves to illustrate that the sample was spread among several industries and not heavily concentrated in one or two industries.

The price data were collected from The Globe and Mail for the last trading day of each month for the 132 month period. The price noted was the closing price. As exhibited in Appendix B, the eleven year span differs from company to company. Therefore, The Globe and Mail was used for the period starting in July, 1960 and ending in June, 1980.

Since an individual firm's stocks may not trade on every day, a closing price did not always exist for each firm. When a trade did not occur on the last trading day of the month, the bid and ask prices were collected. These two amounts were then added together and divided by two to yield a proxy for the

missing closing price.[6]

In a few cases even bid and ask prices were missing. When this situation occurred, the missing price was noted. For the month where the price was missing, the rate of return was calculated by using the month immediately prior and the month immediately following. A two-period rate of return was then calculated. The geometric mean was taken of the two period rate in order to obtain a proxy for both the month missing the price and for the succeeding month.[7]

Some companies have listed on their balance sheets more than one class of common stock. Where more than one class of stock exists, a decision must be made as to the class of stock to be used in the research. Although most companies in the sample only listed one type of common stock, there were three firms which had two classes of common stock throughout the eleven year period. Seven companies[8] began the eleven year period with only one class of common stock, but during that time the stock was split into two classes. Where different classes of common stock existed, criteria had to be adopted to facilitate the making of consistent decisions as to the appropriate class to include in the sample.

The criteria used in this study were the same as those used by the creators of the Laval tape (Morgan and Turgeon, 1978). The four rules are: (1) Stock classes which are 100% controlled by an identified group were excluded. (2) If a class of shares are preferred to as to dividends or claims upon liquidation,

then these shares were not used. (3) If a choice still existed between tax paid and non-tax paid shares, the non-tax paid class was chosen. (4) If two classes of stock were still available for inclusion in the sample, the class with the vote was used.

The dividend data were collected from The Financial Post Dividend Record for the years 1960 through 1979. For the first six months of 1980, The Globe and Mail was used to locate the ex-dividend date and the amount of the dividends to be paid. The ex-dividend date was the date used to determine the month in which the dividend was used in the rate of return calculation.

The issuance date of stock rights was obtained from the companies' financial statements. The rights' prices were also from The Globe and Mail. The price used in the computation was the first closing price after the rights were issued.[9]

Once the data were collected, the tape was programmed using a set of PL/1 programs.[10] These programs calculated the rates of return and were used in a checking process between the tape for this study and the Laval returns tape. After the rates of return were computed, then regressions were run for individual firms. These regressions resulted in the estimates of the alphas and betas required for the residual calculations. The regressions were run using a packaged program, the Econometric Software Program (ESP). (Econometric Software Program User's Manual, Synergy, Inc.).

After the data had been collected and computations partially completed, a copy of the stock returns tape produced by Laval University was acquired. The Laval tape is different in some respects from the tape compiled for this study. For example, the price data contained in the Laval tape came from The Toronto Stock Exchange Review. This means that the Laval tape's returns are not always based upon the closing price of the last trading day of the month. The closing price quoted in The Review may be the closing price of any day within the month as long as this price represents a trade. This results in the Laval tape having fewer bid and ask prices used as proxies for closing prices. The Review's policy on the listing of the closing price means that the Laval tape has a different number of missing prices.

There is one other difference between the Laval tape and the tape compiled for this thesis. The Laval tape's creators used a different price for rights issued. When the rights first traded, the closing price used on the Laval tape was taken from The Review. Thus, only by accident would the rights' prices used in the Laval tape be equivalent to those used in the tape used in this thesis.

One point was consistent between the two tapes. The prices used for the rate of return calculations represented the same classes of shares.

For this study, the Laval tape was used as a check on the accuracy of the compiled rates of return.[11] A PL/1 program

was written which compared all monthly returns which occurred on both tapes. Where the returns differed by more than 0.001, these numbers were listed-off separately by the computer.

These inconsistent returns were inspected for the use of bid and ask prices first. The tape compiled for this study was examined and whenever a bid and ask proxy was found, this was noted. Next, The Toronto Stock Exchange Review was checked to see whether a closing price was given. Where the compiled tape used a bid-ask price equivalent and The Review gave a closing price, the prices were almost always found to be different.

The described checking procedure did not account for all of the differences between the two sets of returns. Consequently, where a difference still existed, the prices collected from The Globe and Mail were verified by returning to the newspaper and ensuring that the prices were recorded accurately. Where The Globe and Mail prices noted differed from The Review's recorded price, The Globe and Mail price was used.[12]

After going through these checking procedures, there were still some differences unaccounted for between the two sets of returns. For instance, where the prices quoted by The Globe and Mail and The Review were the same, then the dividends were re-examined. This was an attempt to ensure that the dividends on the compiled tape were recorded in the appropriate month. Where differences still existed after this procedure, only undetected errors could explain the remaining differences.

The Laval tape was used in a second way for this study. The

tests were re-run using the Laval data. The Laval tape begins in January, 1963 and ends in December, 1978. To use the Laval data, the time period for residual calculations was shortened from sixty months to forty-eight months. (See Exhibit B). The results of the tests using both the Laval data and the compiled tape will be described in detail in the following chapter.

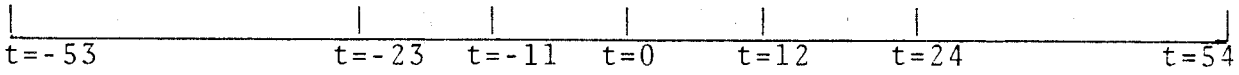
In equation (1) the market rate of return, R_{mt}, is used. Two measures were used as proxies for the market rate, the TSE 300 Index adjusted for dividends[13] and a market rate computed using the Laval tape.[14] These two market measures are different. The TSE 300 Index is a value weighted index which means that the number of outstanding shares of a stock are used in calculating the index.[15] The Laval market rate is an equally weighted index. This means that all the stocks are given a weight equal to one.

The types of stocks used in calculating the two indices also differ. Whereas the Laval market rate is composed of common stocks, the TSE 300 Index incorporates the returns of both common and preferred shares. The returns used in the sample in this study are all based on common stocks as detailed previously.

The Laval market rate would appear to be more compatible with the compiled tape due to the exclusive use of common stocks and due to the equal weighting of the returns which compose it.[16] However, if a sixty month test period were used employing the Laval market rate, then the sample size would

Chart III

A Timeline Reference for the 84 Month Regression



The period deleted in calculating the $\hat{\alpha}_j$'s and $\hat{\beta}_j$'s

The forty-eight month test period over which the cumulative average residuals for the sample are calculated.[a]

The total time period used for each stock's β estimates is equal to 108 months less the twenty-four months (t=-11 to t=12) deleted from the regressions.[b]

---

a The time period is forty-eight months where t=0 represents the end of a period. Also, t=0 is the end of the financial year.

b The dates vary between stocks.

have decreased to only twenty-eight firms. Therefore, in order to use the Laval market rate and maximize the sample size, the regressions were run using eighty-four months instead of one hundred and two months and the residuals were calculated using a forty-eight month period instead of a sixty month period as outlined above. (See Chart III.)

This chapter has presented a brief overview of the model to be used, the hypothesis to be tested and the data used in the tests. This study extends the previous studies by applying the EMH to unfunded past service obligations and their first appearance in the statement notes. A thorough search of abstract titles for unpublished Ph.D. dissertations did not yield any projects on the subject of unfunded past service obligations.

A major contribution of this thesis is the body of data collected. The data collected for this research are original (see Appendix D) and differ somewhat from the subset derived from the Laval returns tape. For example, the time span covered is longer and as noted in the chapter, certain items were handled differently. Also, the major source for price data differs between the two tapes.

The following chapter will outline the results obtained from using the model described in the first section of this chapter. Plots of the residuals and other tables will be presented to enhance the discussion.

Notes

1. The Laval returns tape is a computer tape which was created and composed by researchers at Laval University. Its originators were Professors Ieuan Morgan and Gilles Turgeon (1978). There is more than one tape; however, due to the cost only the rates of return tape was purchased. Professor Guy Charest of Laval University made the tape available quickly and answered many questions about the tape.

2. The regressions run in order to estimate the α_j's and β_j's use different periods in the regressions. For example, Charest (1980a and 1980b) uses sixty months before the period he wishes to examine in his regressions. Charest, however, does not follow this as a hard-and-fast rule. He uses sixty months which for some firms was composed of months prior to and after the examination period.

   In another article the authors (Larcker, et al., 1980, 268) note that the time period used for estimating the α_j's and β_j's is usually a period prior to the date researchers wish to begin their examination. However, they also note that the estimation period may also include months after the examination date.

3. Charest (1980b, 5) also uses one other equation. This equation looks just like equation (2) except that the alpha and beta are time subscripted as $_{jt}$ and β_{jt}. These are moving estimates of α_j and β_j. However, Charest in an appendix to his article (1980a, 26) notes that this particular method created a negative bias in the residuals. Consequently, this equation was not used in this study.

4. The reaction of the residuals as pictured in Figure I may be described as follows. If we assume that increasing a firm's liabilities will decrease its price, the P_{jt} will decrease. This decrease, ceterus paribus, will cause R_{jt} to fall. If the market is relatively stable, R_{mt} will not change. Also, α_j and β_j are not time subscripted and therefore should not decrease. This means that only the ξ_{jt}'s will decrease.

5. The stock dividends were converted to a dollar value by locating the closing price for the stock on the exdividend date or for the first day it traded after the exdividend

date. Thus, the stock dividend could be treated like a cash dividend in the calculations.

6. Out of a total of 5,985 prices, 840 prices were bid-ask proxies or approximately 14%. In most cases there were not very many bid-ask proxies used per firm. However, six firms had fifty or more of these calculated proxies.

7. There were only twenty-two missing prices out of the 5,985 prices collected.

8. Three companies began the period with more than one type of common stock listed in their financial statements. These firms were Steinberg's, Simpsons-Sears and Woodward's. Only Class A for each of these companies was listed on the TSE. All three Class A shares were non-voting.

   Federal Pioneer, Ltd. was one of the seven companies which began the period of study with only one class of common stock listed in its financial statements. Unlike the other six firms, which also split one class of common stock into two classes, Federal Pioneer's Class A shares were the only class traded on the TSE after division.

9. The market value of the stock rights were treated in the calculations as a dividend.

10. Messrs. Frederick Shen and Stephen Spector are owed many thanks for their kind aid in writing the required programs for this study.

11. This idea was suggested by Professor John Herzog.

12. Since the daily newspaper is the source most investors use when they are following stock prices, it was assumed that The Globe and Mail prices better portrayed the information an investor used. In general, investors probably do not wait for The Review to be published once a month in order to ascertain how well their stocks are performing.

13. The TSE 300 Index, adjusted for dividends, was supplied independently by two sources. First, A.G. Becker, Ltd. was asked for the figures and these were given freely. Second, Professor Guy Charest of Laval University made his own TSE 300 indices available to this researcher. Thanks are owed to both sources for this information.

14. The Laval market index was compiled using the rates from the Laval returns tape. These market rates were freely supplied by Professor Guy Charest of Laval University.

15. It is necessary to provide a caution to the reader at this point. The TSE 300 Index is not a value weighted index as usually referred to in the finance literature.

The TSE 300 Index is adjusted for major blocks of stock (20% or greater) where an identifiable individual or group may be distinguished. These control blocks are then subtracted from the total number of shares outstanding before the shares are multiplied by the price. This procedure decreases the amount of weight a company is given in the TSE 300 Index.

Two examples from this study's sample would be Rio Algom Mines, Ltd. and Acklands, Ltd. One company with an identifiable major shareholder would be Rio Algom Mines, Ltd. which is controlled by Rio Tinto Mines, Ltd. A company which has a control block owned by an identifiable group is Acklands, Ltd. Both of these companies would have their outstanding number of shares decreased before being included in the Index.

16. If portfolios had been formed using the firms in this sample, then the share prices would have been weighted by the number of outstanding shares. However, because of the small sample size (N=45), portfolios were not formed.

In the tests using cumulative average residuals, the prices are not weighted by the number of shares. This probably is overlooked because the researchers are using standardized variables. That is, rates of return are being used and a ten percent rate of return is a ten percent rate of return whether the company is very large or very small. Being based upon the rates of return, the ξ_{jt}'s have an expected value of zero which corresponds to the mean of a standardized variable in statistics.

CHAPTER V

PRESENTATION OF THE TEST RESULTS

This chapter is concerned with a discussion of the actual tests. The tests will be described in three sections. The first section will describe the results of the regressions.

The cumulative average residuals will be presented in the second section. Plots for both the sixty month and the forty-eight month test periods will be given as illustrations of the results. The plots will include some of those which resulted from partitioning of the sample as described in Chapter Four.

The third portion of the chapter will present a set of tables based upon average rates of return. The average rates of return for the sample and the average rates of return for the market will be listed. This procedure is based upon one used by Charest (1980b, 11-12). The exhibits will represent a sixty month test period and a forty-eight month test period.

Examination of the Regression Results

As outlined in the previous chapter, the primary reason for running the regressions was to calculate the estimates of the α_j's and β_j's for each firm in the sample. The distributions

of these estimates, $\hat{\alpha}_j$ and $\hat{\beta}_j$, are of interest. Table II presents statistics concerning the summarization of the estimated alphas. Likewise Table III represents a similar summarization for the estimated betas. In order to better understand these two tables a few comments and comparisons are necessary. The comparisons will be made using two articles, Fama, et al. (1969) and Charest (1980b). Most of the specific comparisons will be made for the log form [Equation (9)] of the regressions.

Two common statistics used in describing a distribution are the mean and the median. In both Fama, et al. (1969, 190) and Charest (1980b, 10) the mean of the estimated alphas is 0.000 while the median is 0.001. The sample sizes are respectively 940 and 152. In this project the sample sizes used are forty-five or thirty-six. Despite the large difference in sample sizes between this project and the other two samples, the mean and the median of the alphas are not very different. For this sample the mean and median both vary between 0.003 and -0.004 depending on the sample size, the length of time and the form of the equation.

The form of the equation which appears to have comparable alphas to the two previous studies and which qualifies for comparison is the log form equation based on 102 months. The mean and the median alphas for this equation are 0.001. The log form based upon 132 months does not qualify as a comparison equation because it was not used for residual calculations. The

TABLE II

Summary of Relevant Statistics for the ALPHAS by Equation

EQUATION	Mean	Median	Standard Deviation	Minimum Value	Maximum Value	Skewness[3]
Linear Regression (132 months)[1]	.003	.002	.005	-.009	.017	.552
Log Regression (132 months)[1]	.0005	.0002	.005	-.012	.015	.346
Linear Regression (102 months)[1]	.003	.003	.006	-.083	.019	-.792
Log Regression (102 months)[1]	.001	.001	.006	-.012	.015	.244
Linear Regression (84 months - Market measure: TSE)[2]	.001	.001	.006	-.018	.013	-.595
Log Regression (84 months - Market measure: TSE)[2]	-.002	-.002	.006	-.022	.012	-.717
Linear Regression (84 months - Market measure: LAVAL)[2]	-.001	-.001	.001	-.023	.010	-1.335
Log Regression (84 months - Market measure: LAVAL)[2]	-.004	-.004	.001	-.027	.006	-1.295

1. Market measure: TSE, sample size N=45.
2. Sample size N=36.
3. The measure of skewness used in the SPSS program is given as:

$$\frac{\{[\sum_{i=1}^{N} X_i^3 - 3\bar{X}(\sum_{i=1}^{N} X_i^2) + 3\bar{X}^2(\sum_{i=1}^{N} X_i)] / N\} - \bar{X}^3}{\{[(\sum_{i=1}^{N} X_i^2) - N\bar{X}^2] / (N-1)\}^{3/2}}$$

(Nie, et al., 1975, 185).

132 month regression statistics are recapitulated for comparisons with the 102 and 84 month equations.

Using the 132 month equations for comparisons, the estimated α_j's means are the same for both the 132 month and 102 month linear regressions. Both Fama (1970, 403-404) and Charest (1980b) state that the mean value of the alphas should be close to zero when the regressions are run without the test period included. When the regressions are re-run with the test period included, and if the null hypothesis, H_o, is false then the α_j and $ß_j$ estimates should be different. Table II indicates only a small difference between the means and the medians for the 132 month regressions and the 102 month regressions.

For the alphas the minimum and maximum values are given as -0.06 and 0.04 in Fama, et al. (1969) and -0.034 and 0.024 in Charest (1980b). The minimum and maximum values for this study compare favourably with these earlier estimates. For instance, for the 102 month log regression, the minimum value is -0.012 and the maximum value is 0.015. In this case, the smaller difference between in the extreme values is probably due to the smaller sample size of forty-five.

The Fama, et al., study cites two other statistics concerned with the estimated alphas. The standard deviation is listed as 0.007 and the skewness is given as "slightly left" (1969, 190). Examination of all the equations run for this study, shows that the standard deviation ranges from 0.006 to

0.001. However, the skewness measure varies more widely than the standard deviation. For example, the 102 month log regression is slightly skewed to the right while the 84 month log regression run using the Laval market rate is skewed to the left.

A t-statistic[1] has been calculated using the Fama, et al., information and the 102 month log regression statistics, the mean and standard deviation. The calculated t-value is -1.118. The alphas appear to be from the same population at a 95% confidence level.

An inspection of Table III offers the pertinent statistics with regards to the sample $ß_j$'s. According to Charest (1980b, 11) the mean of the $ß_j$'s should be close to one.[2] Charest's sample mean and median are 1.018 and 0.959. Fama, et al. (1969, 190) give the mean and median of the $ß_j$'s as 0.984 and 0.880. As listed in Table III the mean and the median are 0.897 and 0.934, respectively for the 102 month log regression. These statistics compare well to the statistics cited in the other two studies.

For the $ß_j$'s the minimum and maximum values are closer to those reported by Fama, et al. (1969) than to those reported by Charest (1980b). The Fama, et al., article lists the extreme values as -0.10 and 1.95. Charest's minimum and maximum values for the $ß_j$'s are -0.443 and 0.959. Using the 102 month log regression, the minimum is 0.314 and the maximum is 1.498.

TABLE III

Summary of Relevant Statistics for the BETAS by Equation

EQUATION	Mean	Median	Standard Deviation	Minimum Value	Maximum Value	Skewness[6]
Linear Regression (132 months)[1]	.886	.928	.272	.330	1.465	-.149
Log Regression (132 months)[1]	.878	.902	.272	.347	1.415	-.185
Linear Regression (102 months)[1]	.897	.934	.279	.326	1.484	-.226
Log Regression (102 months)[1,3]	.889	.937	.276	.314	1.498	-.228
Linear Regression (84 months - Market measure: TSE)[2]	.878	.913	.285	.226	1.395	-.403
Log Regression (84 months - Market measure: TSE)[2,4]	.875	.902	.285	.233	1.383	-.408
Linear Regression (84 months - Market Measure: LAVAL)[2]	.771	.756	.256	.200	1.293	-.151
Log Regression (84 months - Market measure: LAVAL)[2,5]	.773	.776	.253	.213	1.253	-.217

1. Market measure: TSE, sample size N=45.
2. Sample size N=36.
3. Mean R^2 for the 45 equations was .2617.
4. Mean R^2 for the 36 equations was .2538.
5. Mean R^2 for the 36 equations was .2318.
6. For the definition of skewness see note 3 on Table II (Nie, et al., 1975, 185).

While all the skewness measures listed in Table III are slightly skewed to the left, the distribution described in Fama, et al., is slightly skewed to the right. The standard deviation for the β_j's is 0.305 for the Fama, et al., sample whereas the standard deviation varies from 0.253 to 0.285 for the sample used in this study.

As in the case of the alphas, the mean betas and standard deviations from Fama, et al., and this study are used to calculate t-values. The mean and standard deviation used from the present study came from the 102 month log regression equation. The calculated t-value is -0.1181. It appears that the betas are from the same population at a 95% confidence level.

One final regression statistic is noted at the bottom of Table III. This statistic is the mean R^2's for three of the log regressions. The forty-five firm, 102 month log regression has a mean R^2 of 0.2617. Charest (1980b, 10) cites a mean R^2 for sixty-two regressions of 0.175. Neither Charest's nor the mean R^2 cited for this study reach the value given in Fama, et al. The mean R^2 for the U.S. study is approximately 0.399 (Fama, et al., 1969, 190).[3]

Two basic conclusions may be drawn from Tables II and III. First, the mean $\hat{\alpha}$ is close to zero and the mean $\hat{\beta}$ is close to one. Second, despite the smaller sample size used in this study, the relevant statistics are comparable with those quoted from the two other research projects (Fama, et al., 1969; and Charest, 1980b).[4]

Examination of the Cumulative Average Residuals

This section illustrates the results of running the various formulations of the model as detailed in the preceding chapter. Although partitions were run for all four forms, (6), (9), (10) and (11), only representative plots are given. In general, the plots drawn are for the forty-five firms, sixty month log forms. However, two plots, Figures III and IV, illustrate the thirty-six firm sub-sample (see Chart III, Chapter IV).

The first two graphs show the cumulative average residuals plotted over time. As mentioned in conjunction with Figure I in Chapter Four, the cumulative average residuals tend to cluster around the horizontal axis prior to t=0 (see Figures III and IV). However, after t=0 the graphs do not look like Figure I where the cumulative average residuals fall and then level-off at a new lower level. In addition the pattern in Figure III and IV does not resemble Figure II's random pattern. Instead in Figures III and IV, there is a definite downward trend in the cumulative average residuals after t=0.

An explanation for this overall downward trend is related to Figure XIII. That figure which depicts the cumulative average residuals for fourteen firms that had a decrease in income of more than five percent from t=-12 to t=0. These residuals are apparently the cause of the trend in the full sample diagrams.

As explained in Chapter Four, when a situation arises where the cumulative average residuals do not resemble the two

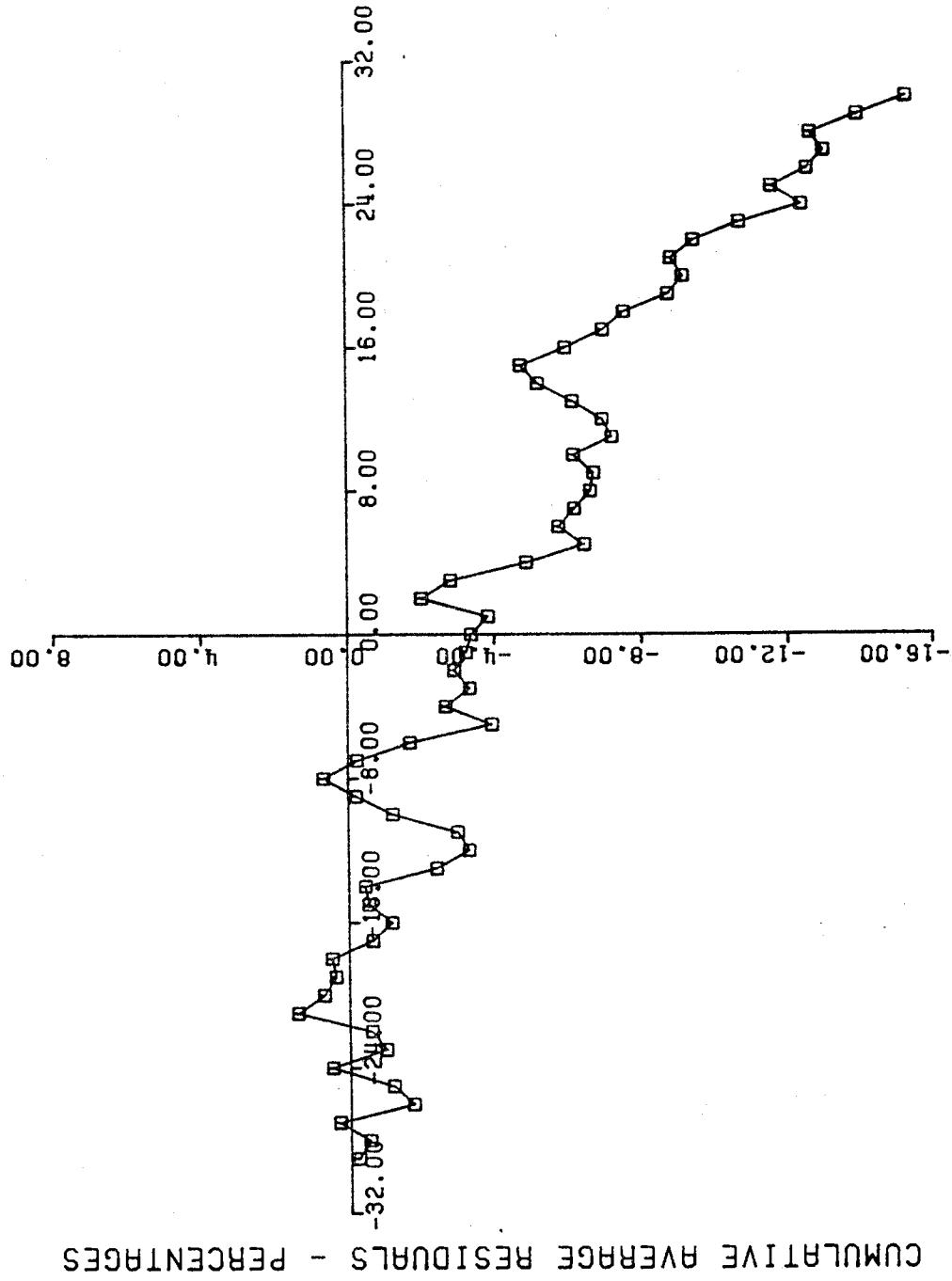


FIGURE III - Cumulative (Monthly) Average Residuals for Forty-five Firms - Log Equation (9) Using the TSE Index as the Market Rate

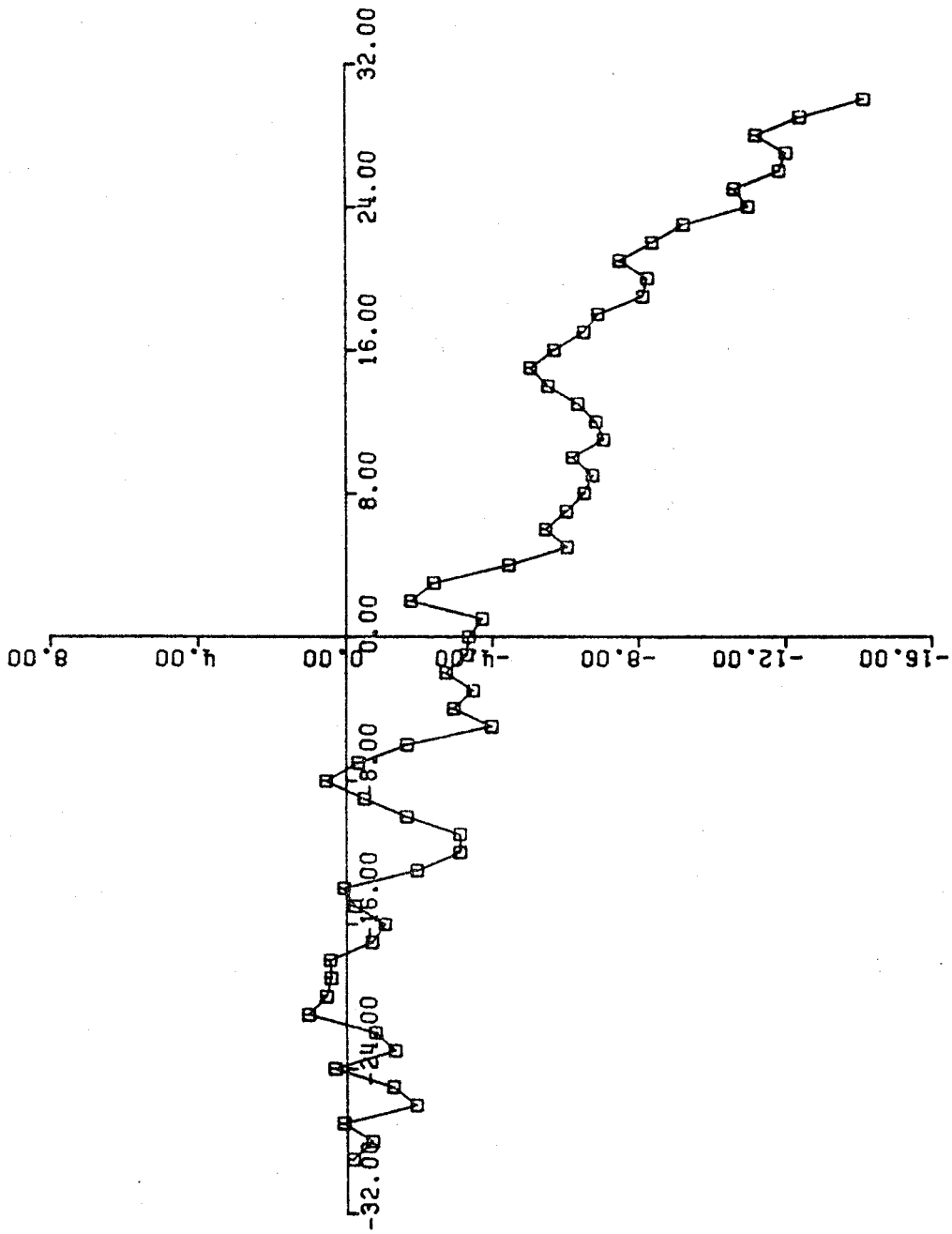


FIGURE IV - Cumulative (Monthly) Average Residuals for Thirty-six Firms - Log Equation(10) Using the TSE Index as the Market Rate

extreme cases (Figures I and II), then attention must be given to the specifics of the pattern.

The primary focus of attention should be around t=0. As noted earlier, the market may begin to react to the unfunded past service obligation three or four months prior to (or after) the statement date. In both Figures III and IV, there is a lack of reaction prior to the statement date. This lack of reaction is characterized by the cumulative average residuals' values being similar for the four months preceding t=0.

A change in the pattern does occur between t=+1 and t=+2 where a fairly large increase in the cumulative average residual occurs. This increase in the value is followed by a decrease between periods t=+2 to t=+5. One might see this as the reaction of the market to the unfunded past service obligation. Upon closer inspection this is apparently not the situation.

Examining the two plots from t=-29 to t=+30, a pattern becomes apparent. If t=+2 is used as a starting point, count backward twelve months. Next, count forward twelve months from t=+2. In both instances, t=-9 and t=+14, the cumulative average residual is balanced near a peak and just prior to a fall in the pattern. What appears to be a possible reaction to the unfunded past service obligation at t=+2, upon closer examination and comparison is an annual cycle.[5]

Although a bit more erratic, this cycle is also seen in the forty-eight month time period tests. Two figures have been

reproduced to illustrate the similarity of the plots for the two samples. Figure V represents the cumulative average residuals plotted for thirty-six firms where the market rate was the TSE rate. Figure VI shows a similar plot using the Laval market rate of return.

Also, the cycle is seen in almost all of the figures duplicated here for the partitions of the data set. The degree of the reaction varies from figure to figure but this apparent cyclical pattern is there. Note that the pattern appears to be associated with the publication of the financial statements. (See Figures VII through XII).

The next six plots represent the sample partitioned as suggested in Chapter Four. (See Appendix E). A cautionary point must be made. The cumulative average residual plots scales differ from figure to figure. Due to this difference in scale, the figures are not directly comparable.

In Figure VII, twenty-three firms' cumulative average residuals are plotted. The scale goes from a plus sixteen percent to a minus thirty-two percent. This sub-group portrays the residuals for the "low" ratio firms. The ratio is based upon the unfunded past service obligation (UPSO) as a percentage of retained earnings (RE).[6] For inclusion in the "low" ratio group, the percentage could not exceed 4.5 percent. If the ratio exceeded 4.5 percent, the firm was classified as a "high" ratio firm. These firms' residuals are plotted in Figure VIII. There are eight of the fourteen decreasing income firms

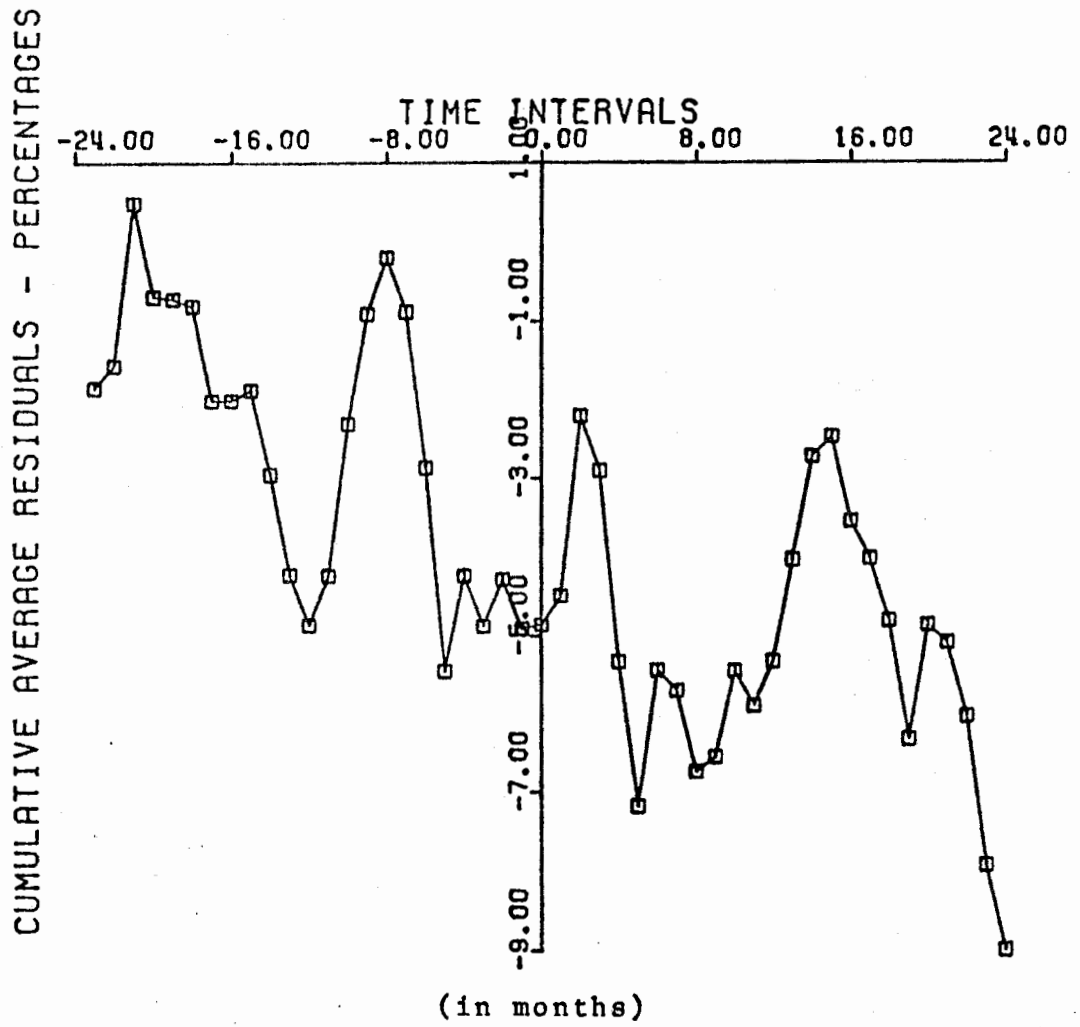


FIGURE V - Cumulative (Monthly) Average Residuals for Thirty-six Firms - Log Equation (9) Using the TSE Index as the Market Rate

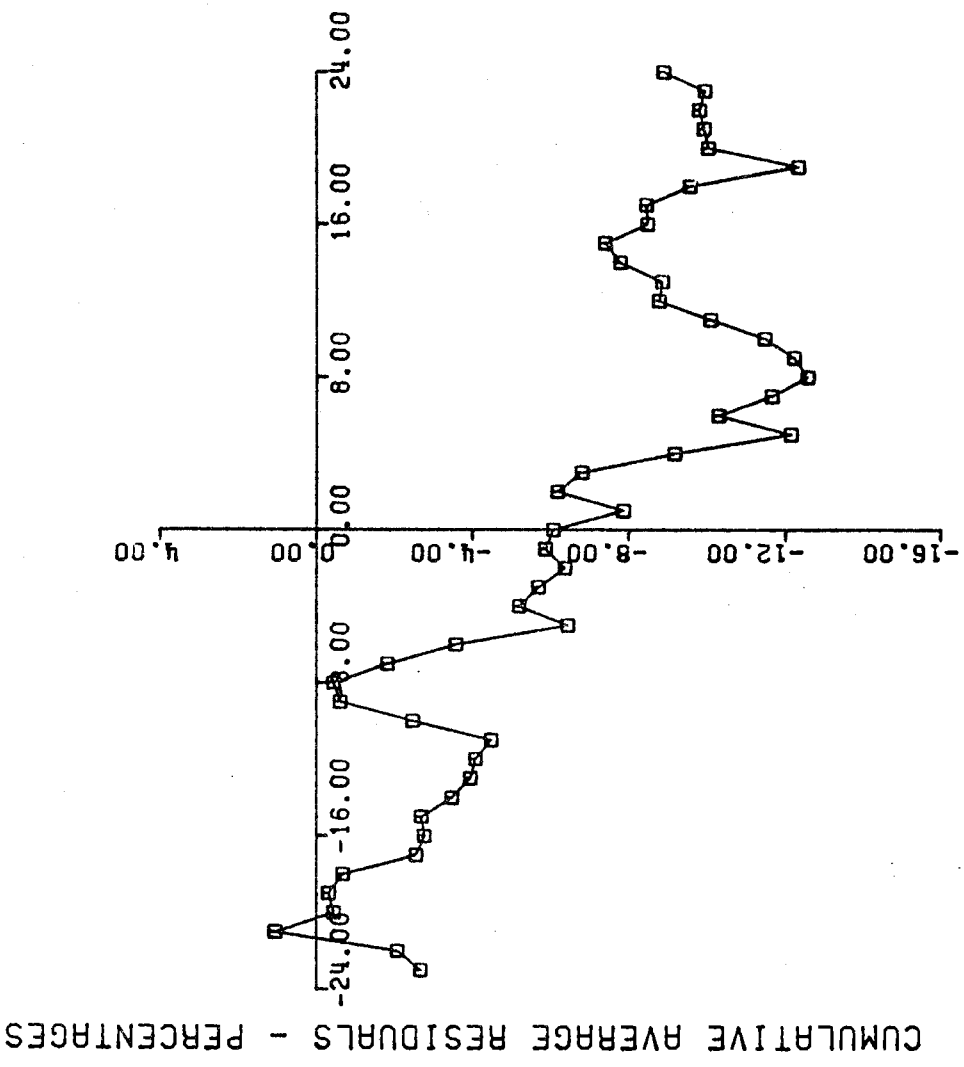


FIGURE VI - Cumulative (Monthly) Average Residuals for Thirty-six Firms - Log Equation (9) Using the Laval Index as the Market Rate

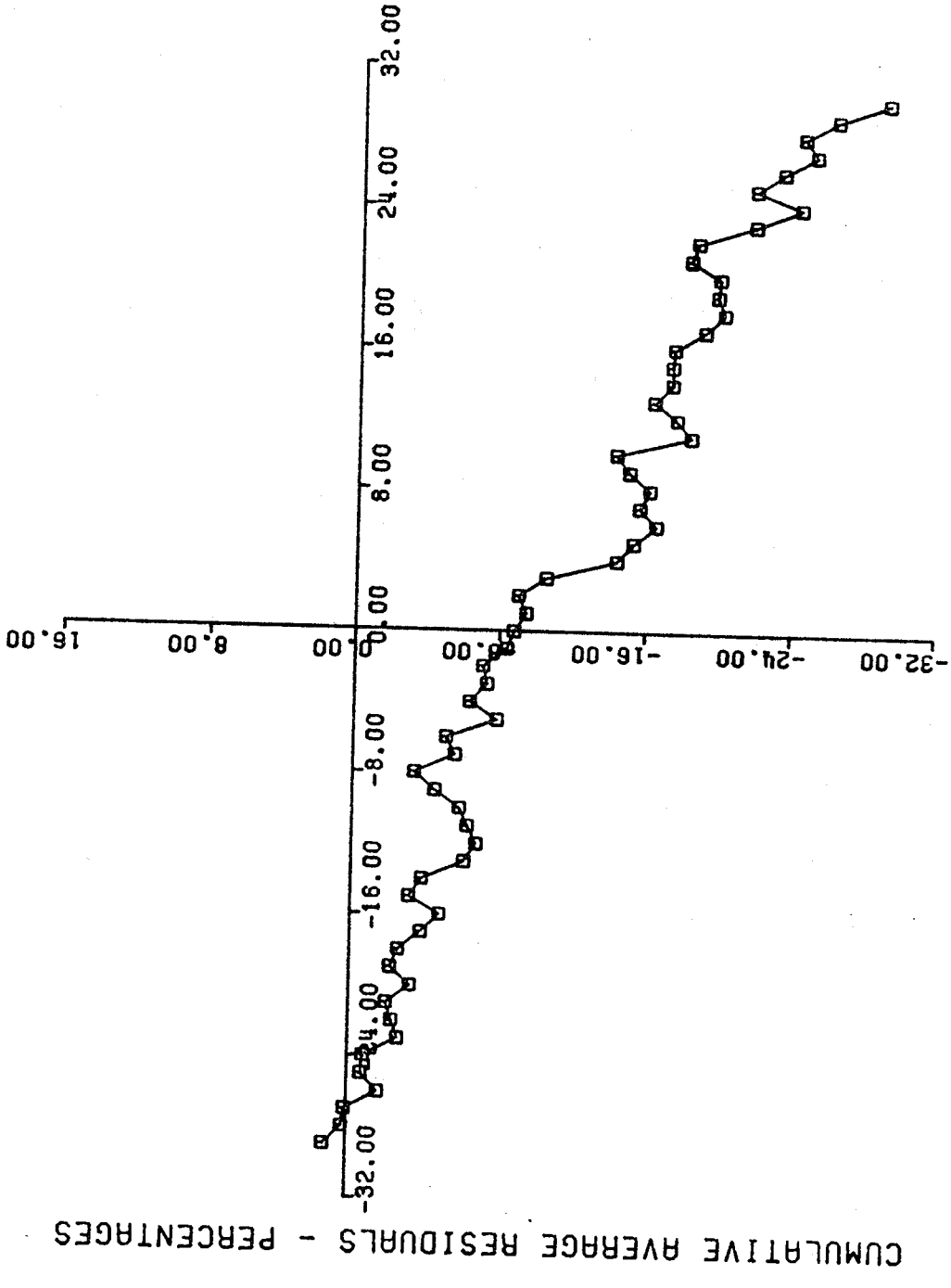


FIGURE VII - Cumulative (Monthly) Average Residuals for twenty-three Firms with a Low UPSO/RE Ratio - Log Equation Using the TSE Index as the Market Rate

in the group of twenty-three. Obviously, as can be seen in Figure VII, this group of eight firms has a powerful influence on the overall trend of the residuals since the pattern decreases over time. Figure VIII in comparison appears more erratic. However, these high ratio firms' residuals vary between plus ten percent and minus two percent. Given the scale differences between Figures VII and VIII, the cumulative average residuals of the "risker" group of twenty-two actually show less overall reaction.

The same type of downward pattern in the cumulative average residuals is seen in Figure IX. In Figures IX and X the basis for the partition is the unfunded past service obligation (UPSO) as a percent of total assets (TA). The cutoff percentage used to split the group was 1.3 percent. Of the twenty-three firms pictured in Figure IX, six of those companies had a decrease in net income of greater than five percent between t=-12 and t=0. Figure IX like Figure VII evidences a pattern which results from the inclusion of these six firms. Figure X which depicts the "high" ratio firms appears more erratic in comparison to Figure IX. As in the case of Figures IX and X, the scales are very different with the "erratic" pattern in X being emphasized by a stretched scale for the cumulative average residuals.

The figures formed by using unfunded past service obligations as a percentage of net income after tax (NIAT) as a basis have approximately the same scale (see Figures XI and

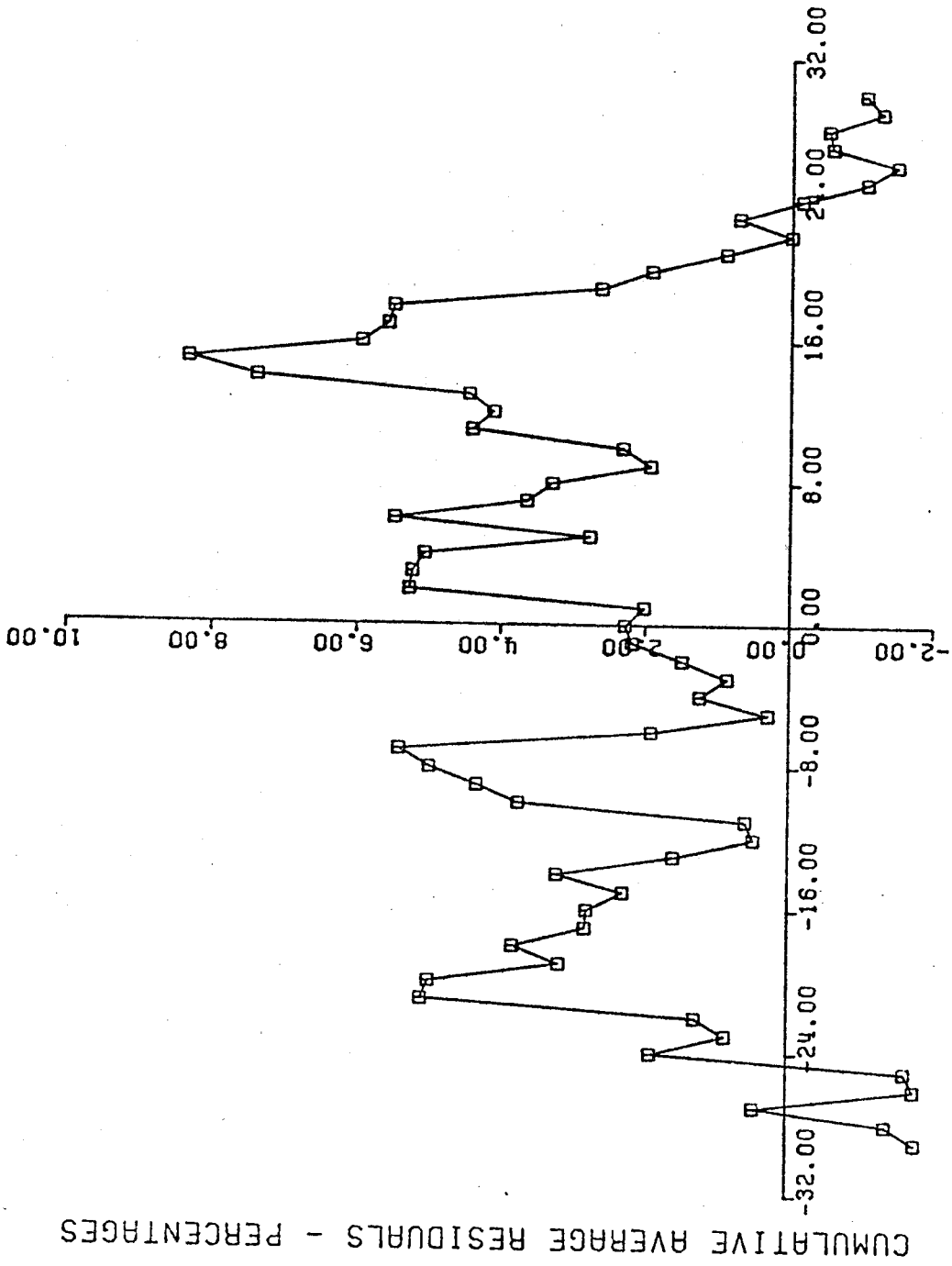


FIGURE VIII - Cumulative (Monthly) Average Residuals for Twenty-two Firms with a High UPSO/RE Ratio - Log Equation (9) Using the TSE Index as the Market Rate

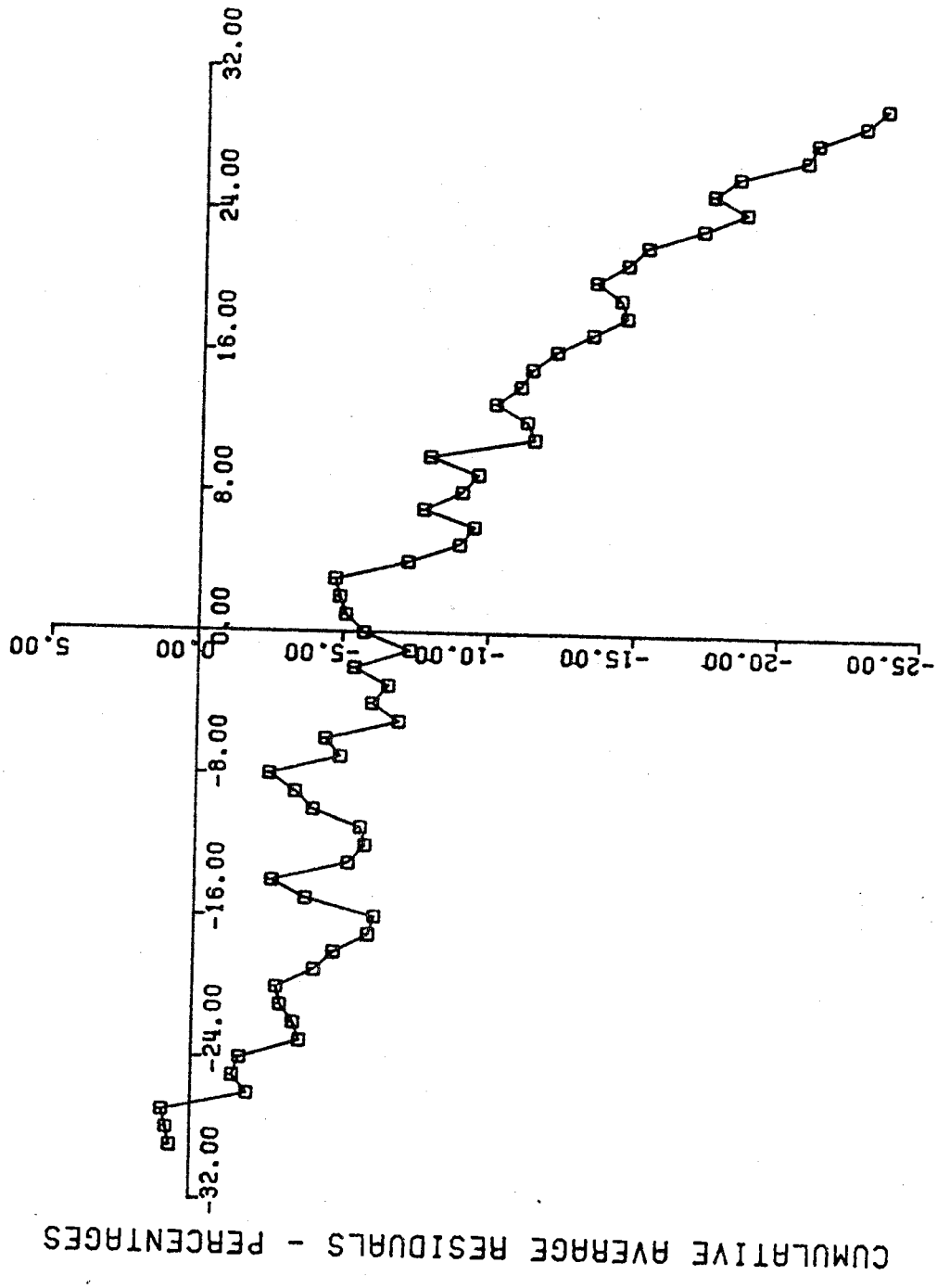


FIGURE IX - Cumulative (Monthly) Average Residuals for Twenty-three Firms with a Low UPSO/TA Ratio - Log Equation (9) Using the TSE Index as the Market Rate

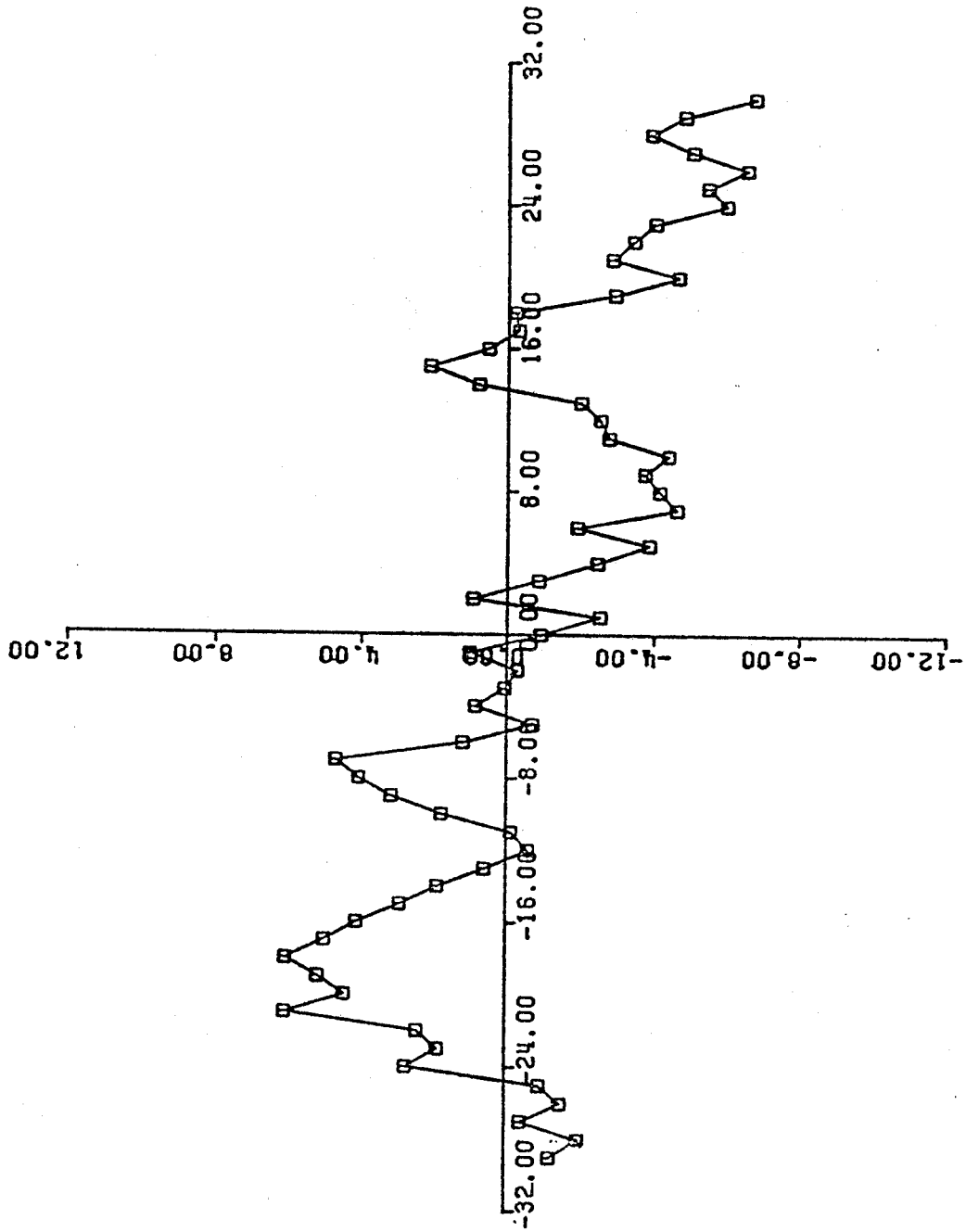


FIGURE X - Cumulative (Monthly) Average Residuals for Twenty-two Firms with a High UPSO/TA Ratio - Log Equation (9) Using the TSE Index as the Market Rate

XII). The cutoff percentage used was twenty-one percent. Of the fourteen income decreasing firms listed in Appendix F, six are included in the twenty-three firm partition shown in Figure XI. Both Figures XI and XII show an overall downward trend in the cumulative average residuals.

As in Figures III through VI, the last six figures show decreases near t=0. Again as stated before, similar decreases are seen at other points in time. The magnitude of these decreases at t=0 are no larger than other decreases and therefore, cannot be used to infer a market reaction to the unfunded past service obligations.[7]

The last five plots reproduced represent the partitioning of the data set by a so-called naive rule. Based upon a similar naive rule which employed historical information (Ball and Brown, 1968, 161), this rule looks at whether the income for the year which ended t=0 differed in comparison with the previous fiscal year (t=-12).[8]

The rule employed states that if income increased by more than five percent at time t=0 over time t=-12, then the firm becomes part of this sub-group. The decreases in income group relates to a decrease of more than five percent. Those companies which had income increases of less than five percent but whose income did not decrease by as much as five percent composes the third group. (See Appendix F for the companies in each group.)

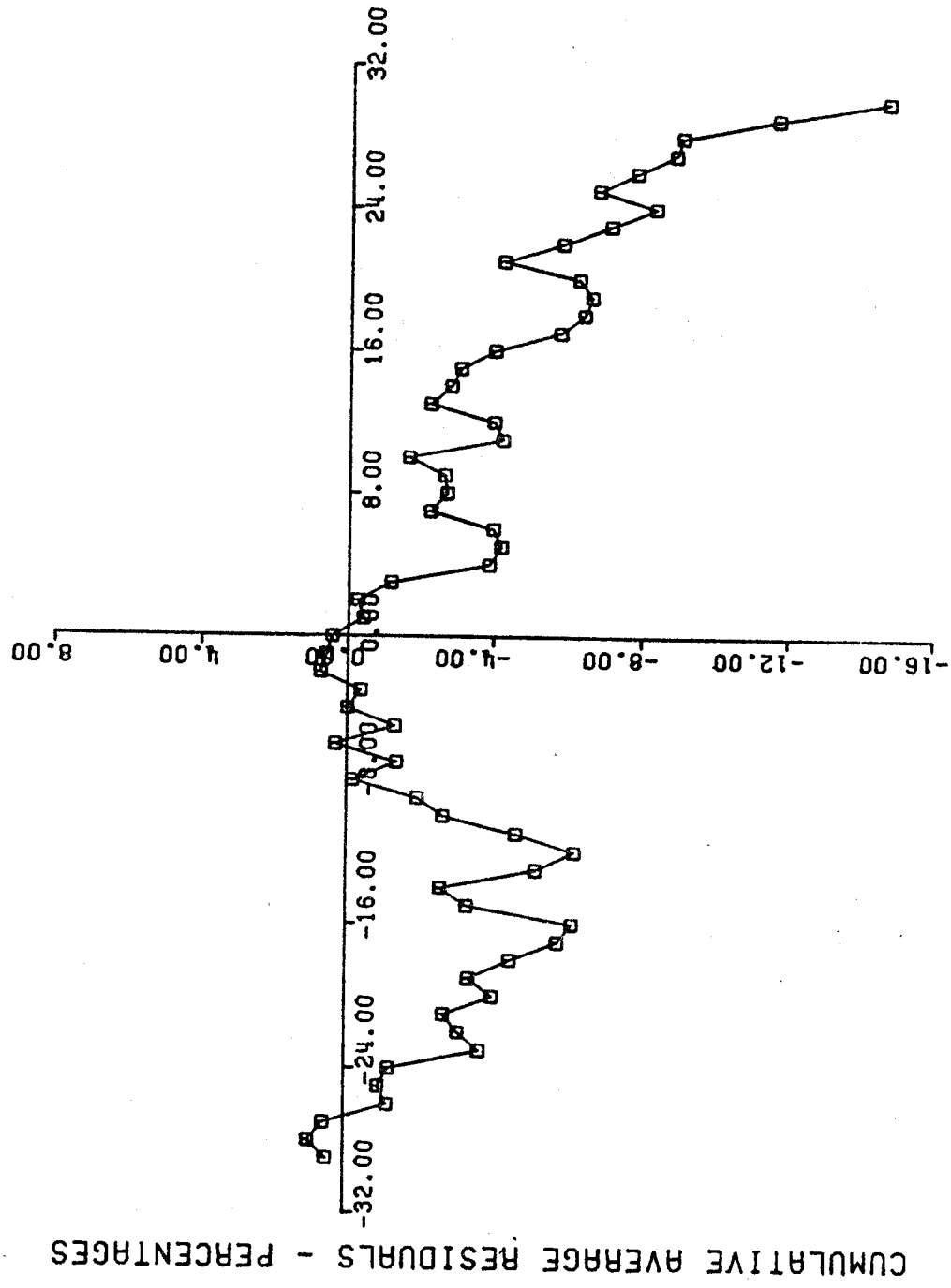


FIGURE XI - Cumulative (Monthly) Average Residuals for Twenty-three Firms with a Low UPSO/NIAT Ratio - Log Equation (9) Using the TSE Index as the Market Rate

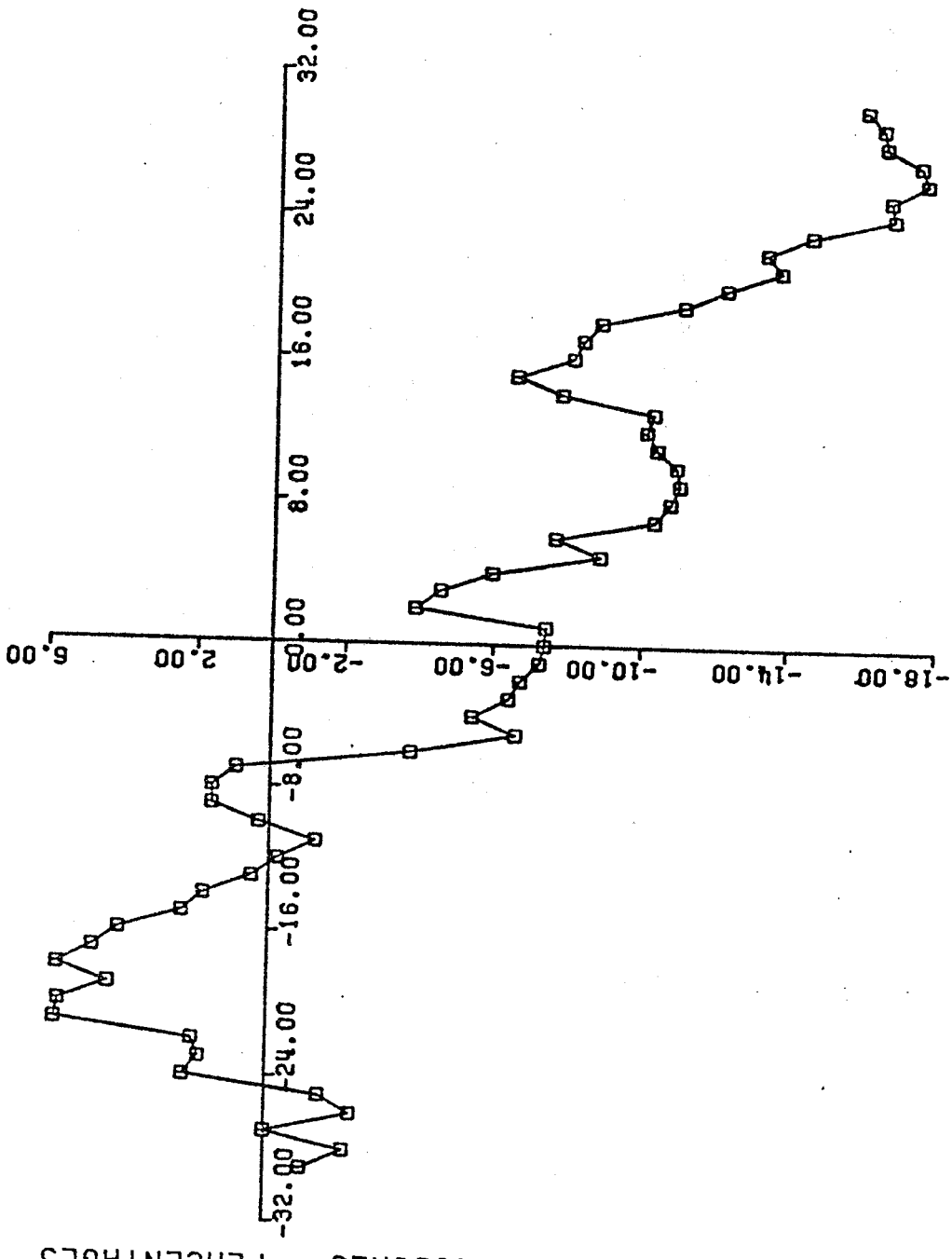


FIGURE XII - Cumulative (Monthly) Average Residuals for Twenty-two Firms with a High UPSO/NIAT Ratio - Log Equation (9) Using the TSE Index as the Market Rate

The cumulative average residuals for these three groups are pictured in Figures XIII, XIV and XV. These plots are for the log form as in equation (9). In Figure XIII the cumulative average residuals are plotted for the income decrease group. Figure XIV depicts the companies which had either increases or decreases in income which were less than a five percent change. Figure XV shows the income increase group. The three plots are consistent up to t=0 with at least one previous study based on the market's reaction to an unexpected increase (decrease) in income (Ball and Brown, 1968).

The income increase group builds from negative cumulative average residuals up to t=0 and then levels-off for a period of time between t=+2 and t=+16. The income decrease group has an opposite pattern. In Figure XIII prior to t=0, the cumulative average residuals fall. After t=0, the residual pattern fluctuates at a new lower percentage. Finally Figure XIV shows an erratic pattern for the cumulative average residuals for the group where income neither increased by more than five percent nor decreased by more than five percent.

Figure XVI represents the combination of the two subsamples depicted in Figures XIV and XV into one group. This combination serves to illustrate that the "erratic" behaviour of the cumulative average residuals shown in Figure XIV wash out when the two partitions are combined into one sample. Figure XVII shows the scale differences inherent in Figures XVI and XIII. The dashed line, which represents the combined group, is almost

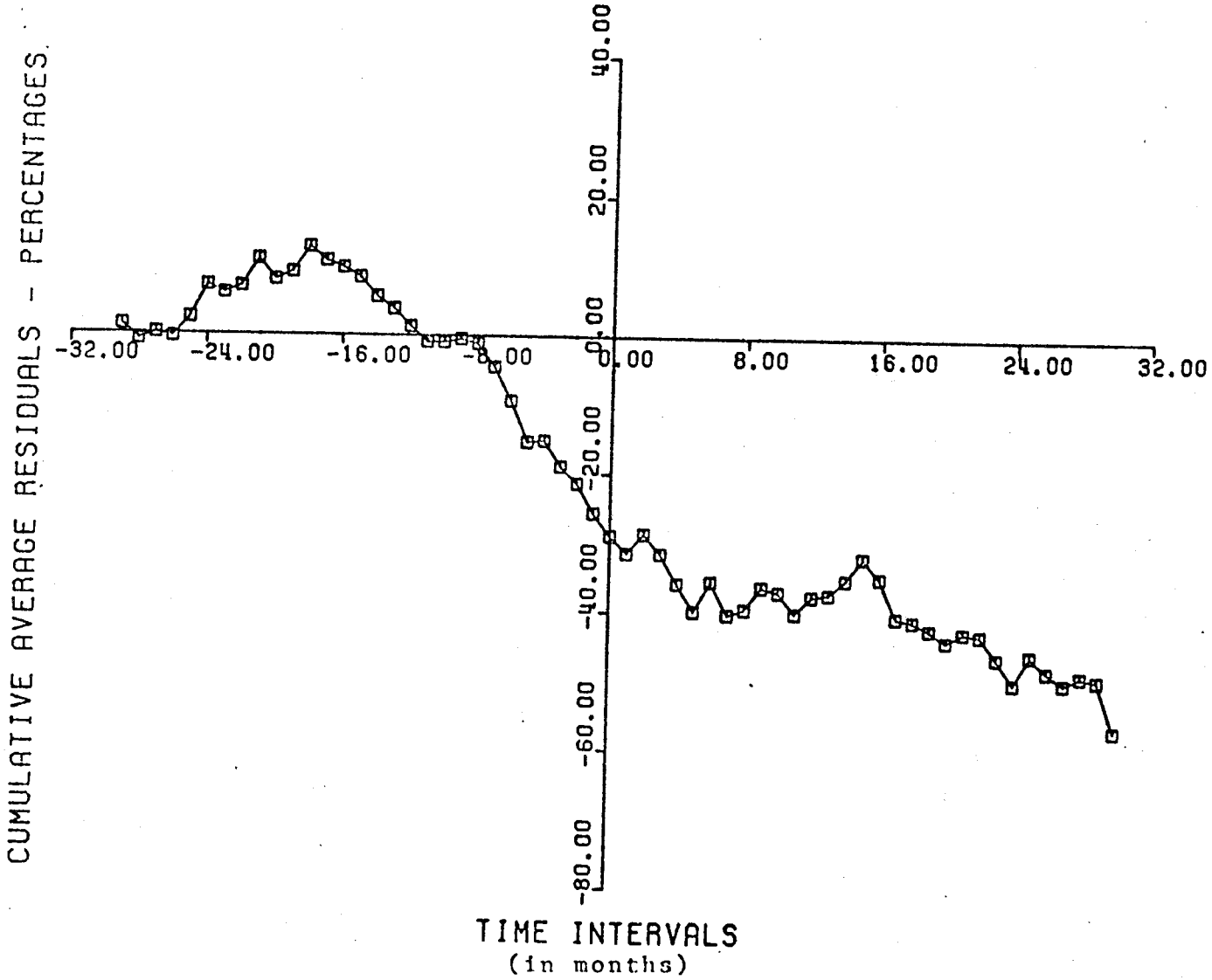


FIGURE XIII - Cumulative (Monthly) Average Residuals for Fourteen Firms with a Decrease in Income of More than Five Percent - Log Equation (9) Using the TSE Index as the Market Rate

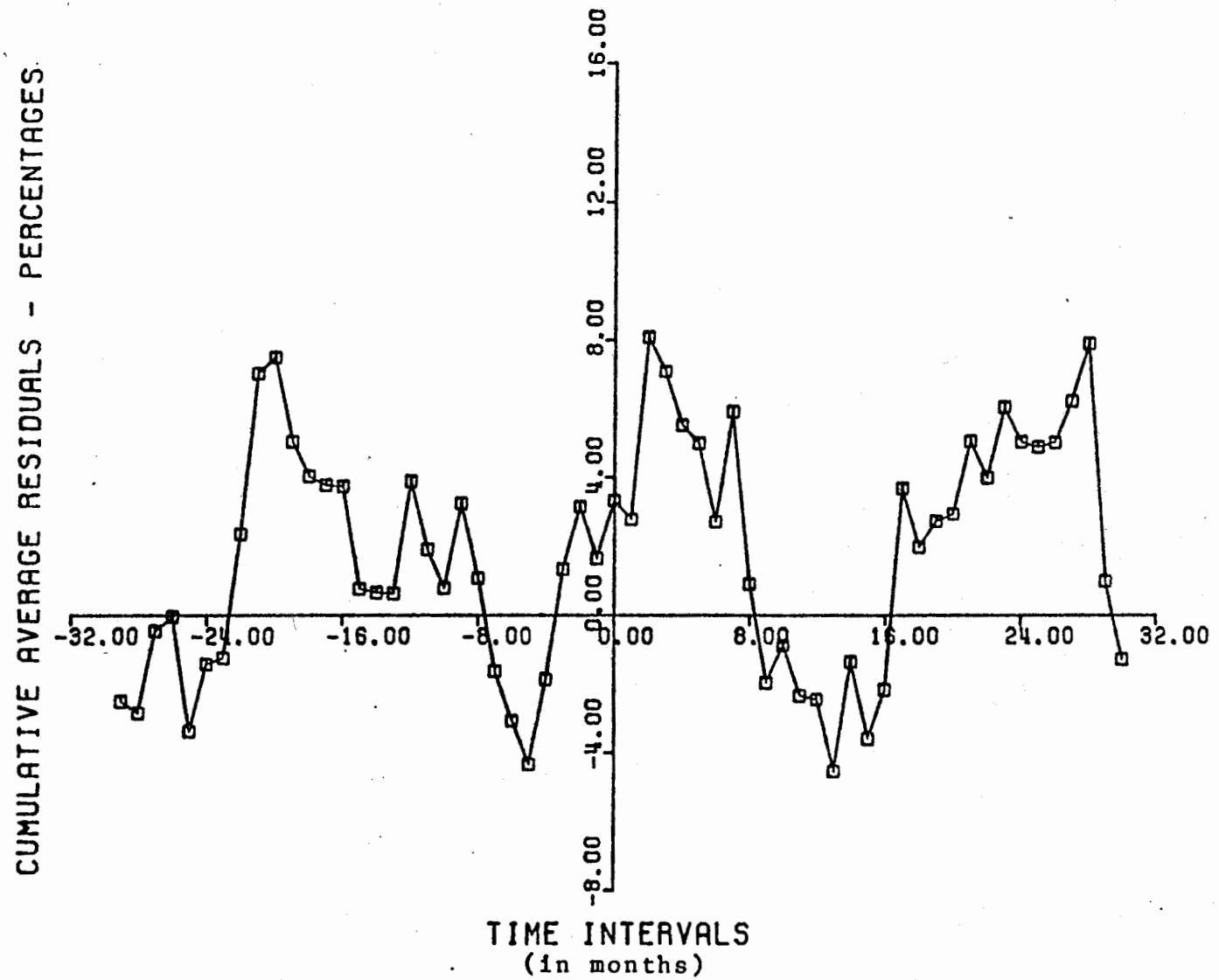


FIGURE XIV - Cumulative (Monthly) Average Residuals for Seven Firms with Either an Increase or a Decrease in Income of Less Than Five Percent - Log Equation (9) Using the TSE Index as the Market Rate

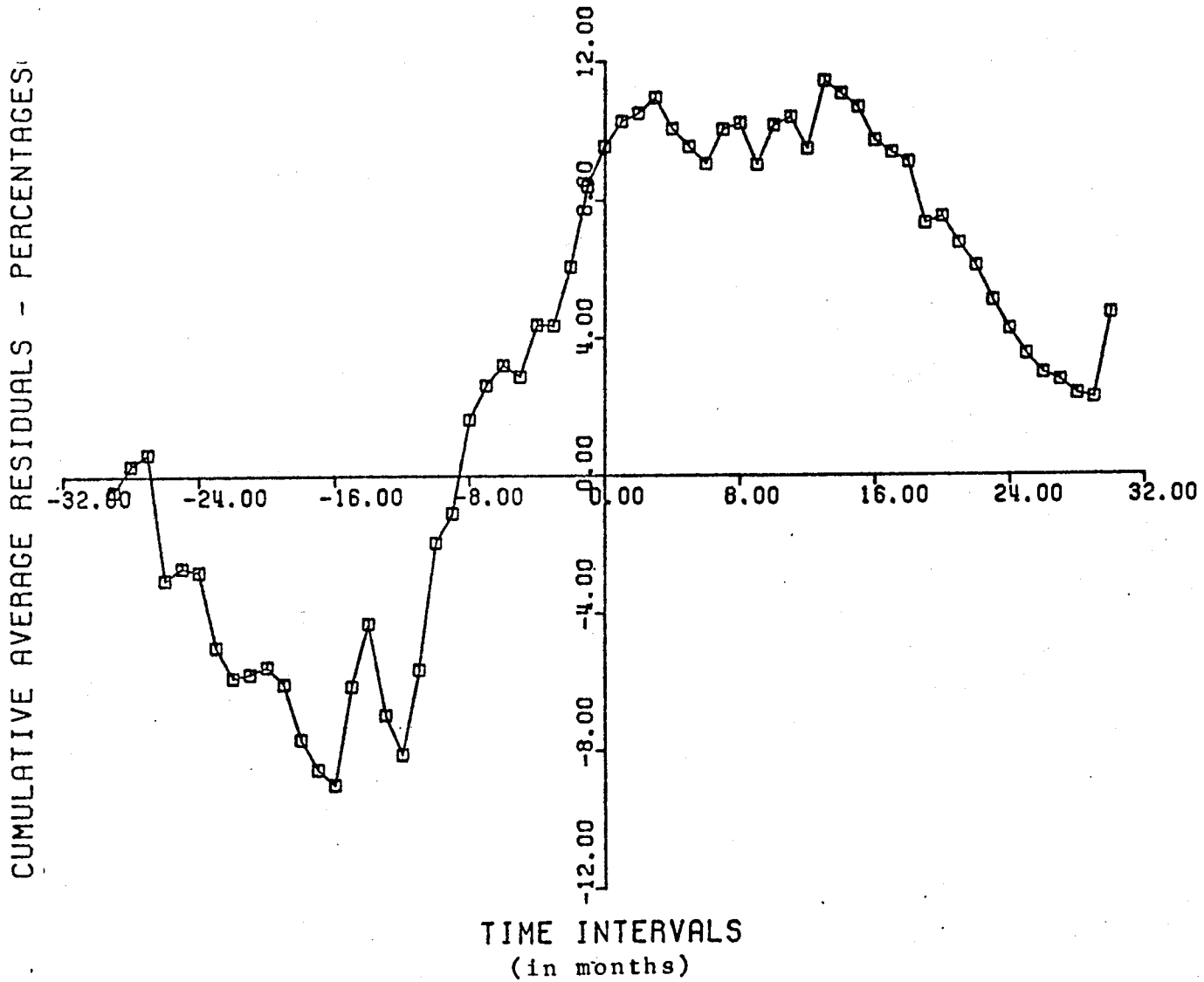


FIGURE XV - Cumulative (Monthly) Average Residuals for Twenty-four Firms with an Increase in Income of More Than Five Percent - Log Equation (9) Using the TSE Index as the Market Rate

flat in comparison to the plot for the income decreasing group.

From the plots which resulted from the tests, there appears to be a denial of the alternative hypothesis, H_a, which states that the market reacts to the first appearance of the unfunded past service obligation footnote. The plots seem to point to the acceptance of the null hypothesis, H_o.

In conjunction with this acceptance of H_o, one point needs to be strongly emphasized. The evidence rests in part upon the sample partitions based upon income changes between t=-12 and t=0 (see Figures XIII, XIV and XV). The downward trend seen in Figure XIII, which was a reaction to a decrease in income, has pulled the other cumulative average residuals down. However, this does not adequately explain why the plot in Figure XIII is downward past t=+12.

In examining the fourteen decreasing income companies' residuals, at least nine firms had large negative residuals from t=+12 to t=+30. These negative residuals did not correspond to the same months from firm to firm. Therefore, as some companies' residuals became positive, others were negative. In relation to the positive residuals, the negative residuals also tended to be large. It appears that once the downward trend began, the negative residuals tended to swamp the positive residuals.[9]

A final analysis of the market's reaction or lack of reaction to the unfunded past service obligation is to compare average rates of return. The third section of this chapter

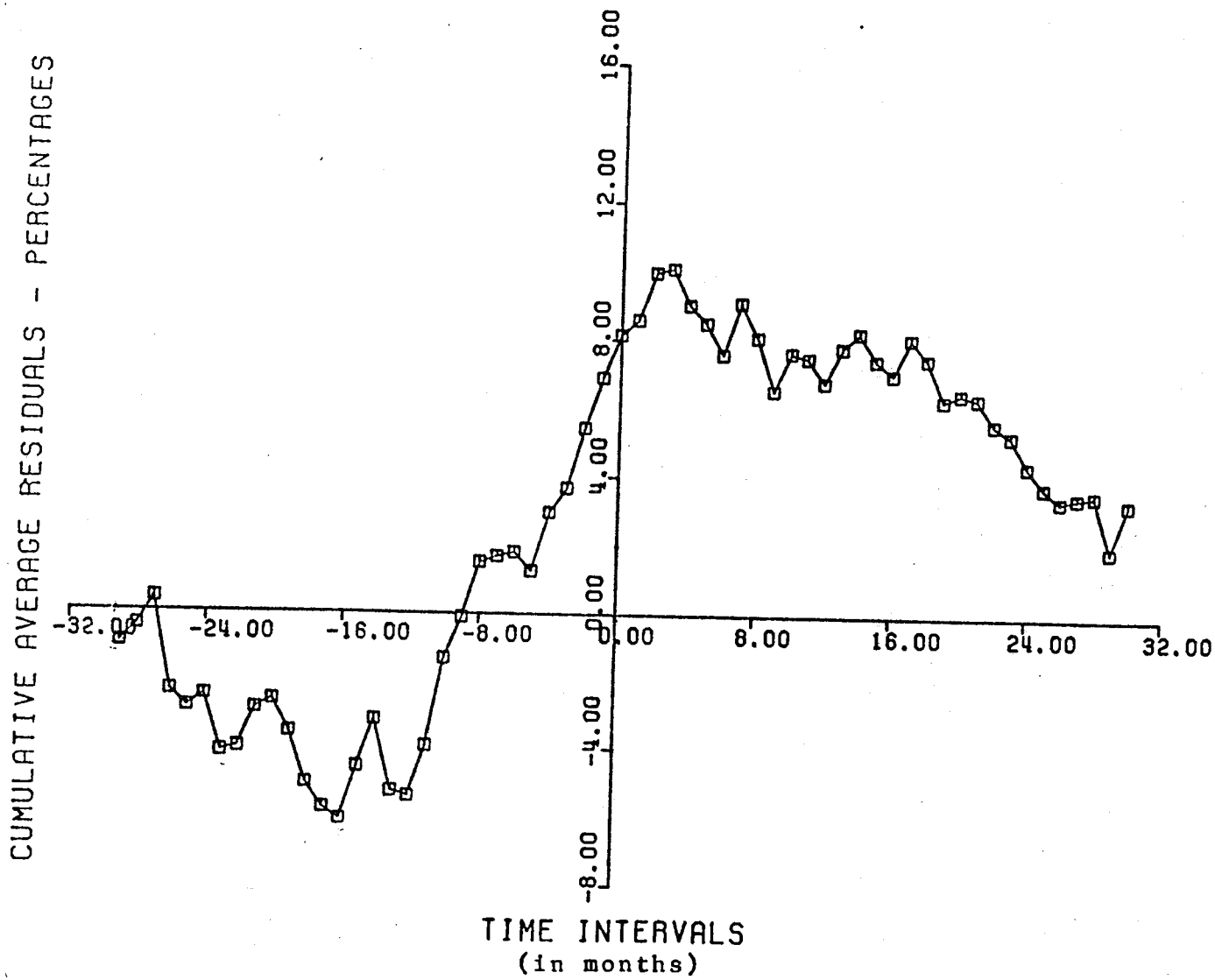


FIGURE XVI - Cumulative (Monthly) Average Residuals from Figures XIV and XV Combined into One Plot (Thirty-one firms)

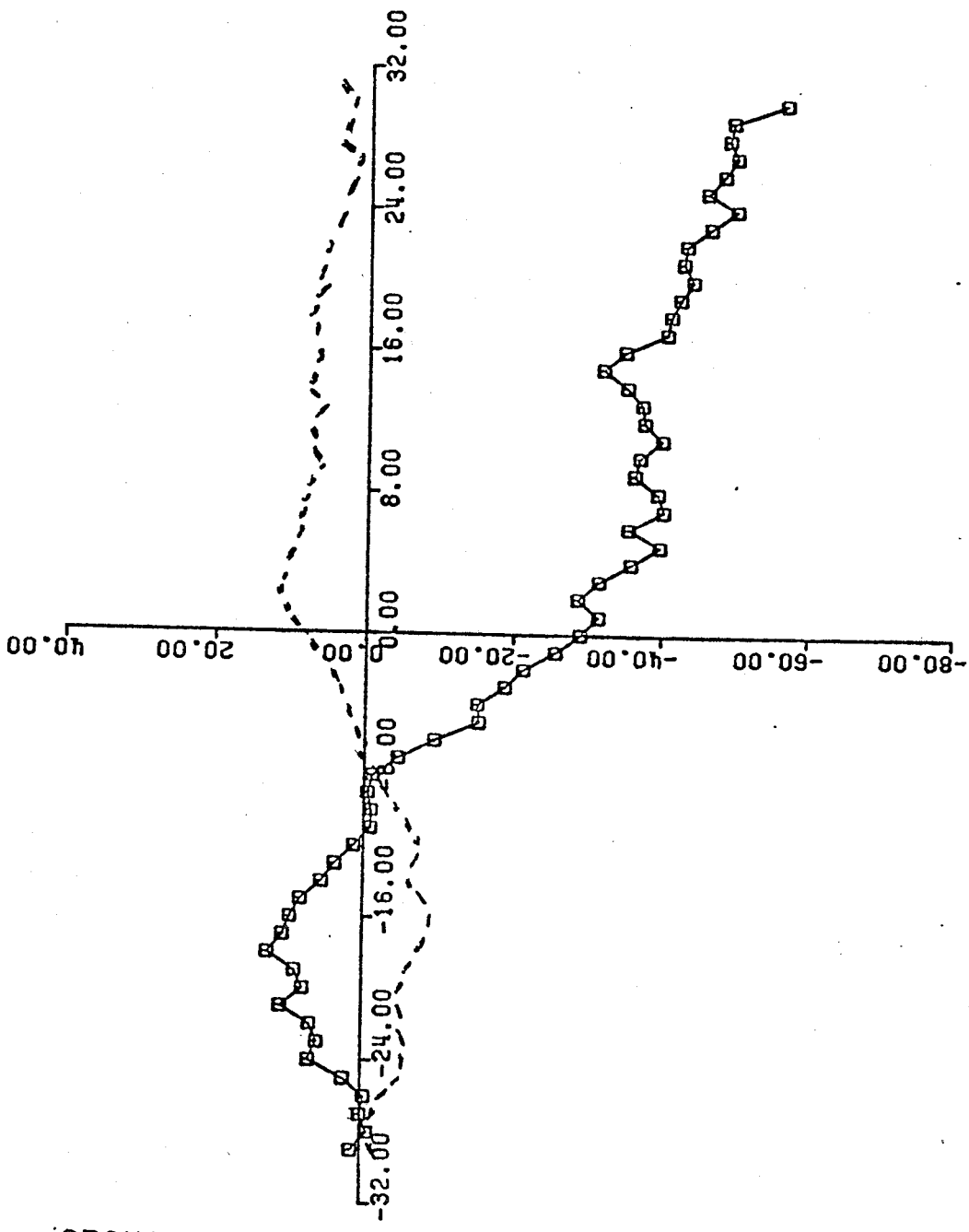


FIGURE XVII - Cumulative (Monthly) Average Residuals from Figure XVI (- - -)
Superimposed onto Figure XIII (□-□—□)

examines and compares two sets of average rates of return.

Average Performance Indicators

Charest (1980b, 11) calculates and shows the results of an average rate of return for his sample and a parallel cumulative market measure. First, the calculation of these measures will be described. Second, three tables indicating the results will be discussed.

For the sample of forty-five firms the average performance is defined as:[10]

$$AP_t = \frac{1}{N_t} \sum_{j=1}^{j=N_t} R_{jt} \qquad (13)$$

The average performance (AP_t) is simply the sum of all the rates of return (R_{jt}) divided by the number in the sample for any month t. The cumulative average performance for the sample then is simply a summation over the months:

$$CAP_t = \sum_{l=t_1}^{l=t} AP_t. \qquad (14)$$

The parallel average market performance is given as:

$$PMP_t = \frac{1}{N_t} \sum_{j=1}^{j=N_t} R_{mt,j} \qquad (15)$$

where PMP_t represents the parallel market performance, N_t is the number of firms in the sample and $R_{mt,j}$ is the market rate of return that occurs in month t simultaneously to a specific firm j's month t. In other words, since month t is a

different month for different firms, then month t also has a sum of different market rates which compose the parallel market return.

The cumulative parallel market performance is as follows:

$$CPMP_t = \sum_{l=t_1}^{l=t} PMP_t. \qquad (16)$$

Equation (16) simply represents a summation of the calculated parallel market performance (PMP_t) from months -29 to +30.

The results of the above procedure are shown in Tables IV, V and VI. Tables IV and V illustrate the forty-five firm sample over a sixty month period. Table VI shows the smaller thirty-six firm sample along with two cumulative parallel market performance measures.

In Charest (1980b, 11-12) the results indicate that the positive information regarding stock splits was incorporated into the cumulative average performance measures. The evidence offered by Charest is shown by the average performance measures for the sample increasing more than the cumulative parallel market performance. In Charest the differences between these two measures (CAP_t-$CPMP_t$) increase up to month t=0 and then the increasing pattern diminishes. This pattern is similar to Charest's cumulative average residual plot as well.

In this study, if the market is reacting to the unfunded past service obligations, then one might expect to see no definite pattern of increase (or decrease) prior to t=0 in the differences. However, after t=0, a decrease might be expected

Table IV

Cumulative Average Performance (CAP)
of the Sample (N=45) vs.
Cumulative Parallel Market Performance (CPMP)

Month	CAP %	TSE CPMP %	CAP-CPMP %	Month	CAP %	TSE CPMP %	CAP-CPMP %
-29	0.6	0.3	0.3	1	24.9	22.0	2.9
-28	2.0	2.2	-0.2	2	27.0	22.0	5.0
-27	4.7	4.0	0.7	3	26.7	22.0	4.7
-26	3.9	5.0	-1.1	4	26.3	23.4	2.9
-25	5.7	6.0	-0.3	5	24.6	23.3	1.3
-24	8.3	7.0	1.3	6	27.8	25.4	2.4
-23	9.0	8.9	0.1	7	29.4	27.4	2.0
-22	9.4	8.8	0.6	8	30.6	28.8	1.8
-21	12.8	10.2	2.6	9	32.2	30.3	1.9
-20	11.6	9.5	2.1	10	33.2	30.2	3.0
-19	10.0	7.3	2.7	11	34.9	32.3	2.6
-18	9.3	6.4	2.9	12	37.2	34.2	3.0
-17	8.9	6.9	2.0	13	39.8	36.2	3.6
-16	8.0	6.4	1.6	14	40.9	36.2	4.7
-15	9.7	6.8	2.9	15	42.2	36.8	5.4
-14	9.7	6.2	3.5	16	40.9	36.2	4.7
-13	8.6	6.8	1.8	17	39.2	35.3	3.9
-12	10.6	9.6	1.0	18	38.4	34.5	3.9
-11	14.6	13.6	1.0	19	38.4	35.5	2.9
-10	17.6	14.9	2.7	20	38.7	35.3	3.4
-9	19.9	15.8	4.1	21	39.3	35.1	4.2
-8	21.1	15.9	5.2	22	40.9	38.0	2.9
-7	19.2	14.6	4.6	23	40.7	37.7	3.0
-6	18.8	15.3	3.5	24	39.6	38.3	1.3
-5	17.7	16.7	1.0	25	43.6	41.3	2.3
-4	19.3	17.0	2.3	26	43.5	42.6	0.9
-3	18.6	16.8	1.8	27	42.8	42.2	0.6
-2	17.7	14.9	2.8	28	41.3	39.3	2.0
-1	19.7	16.9	2.8	29	38.3	37.3	1.0
0	22.4	19.2	3.2	30	36.7	37.0	-0.3

in the difference between the cumulative average performance measure and the cumulative parallel market measure.

In Table IV an apparent anomaly exists. While Figure III had a downward trend, the difference between the sample's cumulative average performance is almost always greater than the cumulative parallel market performance. However one should note two points. First, the diagram in Figure III is based upon logarithms while Table IV is not. A second point, which does not explain the difference, is that the corresponding linear plot to Figure III (not reproduced in the thesis) also had a downward trend and was very similar to Figure III.

A simple test was made using the average α_j and β_j from the linear 102 month regression along with the average R_{jt}'s and R_{mt}'s used to make the calculations in Table IV. The R_{jt}'s and R_{mt}'s were substituted into an equation with the noted average α_j and β_j. This calculation resulted in average sample residuals ξ_t's. These average residuals were then cumulated. The cumulated ξ_t's very closely approximated the plot given in Figure III. The meaning of this situation is not quite clear except that the use of the α_j's and β_j's, while close to zero and one, are not exactly equal to the expected values.[11] Thus, the resultant cumulative average residuals have a downward trend.

As a second check, the rates of return for the firms and for the market were put into logarithms for the sixty month time period. These rates of return were then averaged as

Table V

Cumulative Average Performance (CAP) Based upon Log $(1+R_{jt})$'s for the Sample (N=45) vs. Cumulative Parallel Market Performance (CPMP) Based upon Log $(1+R_{mt})$'s

Month	CAP %	TSE CPMP %	CAP-CPMP %	Month	CAP %	TSE CPMP %	CAP-CPMP %
-29	0.5	0.3	0.2	1	16.3	19.6	-3.3
-28	1.7	2.1	-0.4	2	18.1	19.6	-1.5
-27	4.1	3.8	0.3	3	17.5	19.5	-2.0
-26	3.2	4.8	-1.6	4	16.7	20.7	-4.0
-25	4.8	5.7	-0.9	5	14.8	20.6	-5.8
-24	7.0	6.7	0.3	6	17.5	22.6	-5.1
-23	7.5	8.4	-0.9	7	18.7	24.5	-5.8
-22	7.8	8.4	-0.6	8	19.7	25.9	-6.2
-21	10.8	9.7	1.1	9	20.8	27.3	-6.5
-20	9.4	8.9	0.5	10	21.5	27.1	-5.6
-19	7.3	6.6	0.7	11	22.5	29.1	-6.6
-18	6.4	5.7	0.7	12	24.6	31.0	-6.4
-17	5.8	6.1	-0.3	13	26.8	33.0	-6.2
-16	4.7	5.5	-0.8	14	27.7	32.8	-5.1
-15	6.0	5.8	0.2	15	28.8	33.4	-4.6
-14	5.5	5.1	0.4	16	27.1	32.6	-5.5
-13	4.2	5.7	-1.5	17	25.1	31.6	-6.5
-12	5.7	8.4	-2.7	18	24.0	30.7	-6.7
-11	9.4	12.2	-2.8	19	23.7	31.6	-7.9
-10	12.1	13.4	-1.3	20	23.6	31.2	-7.6
-9	14.2	14.4	-0.2	21	23.8	31.0	-7.2
-8	15.2	14.4	0.8	22	25.1	33.7	-8.6
-7	13.0	13.0	0.0	23	24.5	33.3	-8.8
-6	12.4	13.6	-1.2	24	23.1	33.8	-10.7
-5	11.2	15.0	-3.8	25	26.5	36.5	-10.0
-4	12.5	15.2	-2.7	26	26.3	37.9	-11.6
-3	11.7	14.9	-3.2	27	25.3	37.4	-12.1
-2	10.4	12.9	-2.5	28	23.4	34.3	-10.9
-1	11.9	14.8	-2.9	29	20.0	32.1	-12.1
0	14.2	17.0	-2.8	30	17.8	31.7	-13.9

indicated previously. The results of this procedure are given in Table V.

In Table V the cumulative average performance is almost without exception less than the cumulative parallel market performance beginning at t=-6. While month -29 in Table V has a comparison of 0.5 to 0.3, month -16 has a comparison of 4.7 to 5.5 and month 0 offers a comparison of 14.2 to 17.0. In the differences between the CAP_t's and $CPMP_t$'s, the trend is for the differences to decrease continually in Table V after t=0. Table V's differences column, if plotted, would look much like Figure III.

Table VI provides a cumulative average performance measure for the sample and for two market measures. In comparisons of the sample measure to the TSE and Laval measures, the sample measure has a lower value which is similar to the case in Table V. This explains why the predominant trend in the residual plots were forever decreasing over time (e.g., see Figures III and IV). In this smaller sample (N=36), the differences in the cumulative average rates of return and the cumulative parallel market performance are larger and are mostly negative when compared to the differences between the CAP_t and $CPMP_t$ in Table IV. Also of interest in Table VI is the wider difference between the sample and the Laval market rate. Although the rates for both the TSE market measure and the Laval market rate are increasing, the equal weighted Laval rate is growing more quickly over time than either the TSE average market measure or

Table VI
Cumulative Average Performance (CAP)
of the Sample (N=36) for 48 months vs.
Cumulative Parallel Market Performance for
Two Market measures (CPMP)

Month	CAP %	TSE CPMP %	CAP-TSE CPMP %	LAVAL CPMP %	CAP-LAVAL CPMP %	Month	CAP %	TSE CPMP %	CAP-TSE CPMP %	LAVAL CPMP %	CAP-LAVAL CPMP %
-23	-0.2	1.3	-1.5	3.1	-3.3	1	13.6	17.2	-3.6	32.5	-18.9
-22	-0.1	1.3	-1.4	3.2	-3.3	2	15.5	16.6	-1.1	32.8	-17.3
-21	3.4	3.1	0.3	4.1	-0.7	3	14.5	16.1	-1.6	32.4	-17.9
-20	1.0	2.0	1.0	3.9	-2.9	4	13.4	17.3	-3.9	34.1	-20.7
-19	-0.8	-0.5	-0.3	1.2	-2.0	5	11.5	17.5	-6.0	35.9	-24.4
-18	-1.3	-0.9	-0.4	1.4	-2.7	6	15.5	19.5	-4.0	38.6	-23.1
-17	-2.3	-0.8	-1.5	2.7	-5.0	7	17.1	21.7	-4.6	42.6	-25.5
-16	-3.4	-1.7	-1.7	2.0	-5.4	8	18.2	23.7	-5.5	45.0	-26.8
-15	-2.9	-1.8	-1.1	2.2	-5.1	9	20.2	25.7	-5.5	47.5	-27.3
-14	-5.3	-3.4	-1.9	0.3	-5.6	10	22.6	26.6	-4.0	49.5	-26.9
-13	-5.4	-2.4	-3.0	0.9	-6.3	11	24.8	28.8	-4.0	50.0	-25.2
-12	-3.1	0.8	-3.9	-4.3	-7.4	12	27.5	31.1	-3.6	52.0	-24.3
-11	1.2	4.9	-3.7	10.8	-9.6	13	30.4	33.0	-2.6	56.5	-26.1
-10	4.5	6.6	-2.1	12.9	-8.4	14	31.8	32.9	-1.1	57.0	-25.1
-9	7.6	8.0	-0.4	14.4	-6.8	15	32.9	33.6	-0.5	58.2	-25.3
-8	8.8	8.6	0.2	16.1	-7.3	16	30.0	31.6	-1.6	56.4	-26.4
-7	7.6	8.1	-0.5	16.5	-8.9	17	28.5	30.5	-2.0	55.1	-26.6
-6	7.2	9.5	-2.3	18.3	-11.1	18	26.0	28.8	-2.8	53.7	-27.7
-5	6.0	11.2	-5.2	21.0	-15.0	19	25.7	29.9	-4.2	56.6	-30.9
-4	8.5	12.8	-4.3	23.0	-14.5	20	27.3	29.3	-2.0	55.1	-27.8
-3	8.5	13.5	-5.0	23.9	-15.4	21	26.4	28.5	-2.1	54.1	-27.7
-2	6.4	10.3	-4.1	22.1	-15.7	22	28.0	32.2	-4.2	57.2	-29.2
-1	8.7	12.9	-4.2	23.9	-15.2	23	26.9	31.9	-5.0	55.3	-28.4
0	11.6	15.6	-4.0	27.6	-16.0	24	25.7	32.8	-6.1	52.9	-27.2

the sample average measure. Other than this overall decreasing pattern in the differences, no other trend is evidenced in Table VI. Thus, the implication is that the market is not reading and reacting to the first mention of unfunded past service obligations in the statement footnotes.

One point should be examined before proceeding on to the next chapter. A control group might have added to the richness of this thesis. However, there were at least two problems with producing a control group. First, the "best" control group would have contained firms which did not have pension funds at all. Given the large number of small private pension funds in Canada, this sample probably did not exist. Second, a control group could have been formed which had pension plans but no unfunded past service obligations. Whether this second control sample would have proved useful probably would depend upon whether the market reads the offsetting entry to the unfunded past service obligation as an asset or as an expense. If the market is using these obligations at all, it would appear from the figures produced above that the market is reading the obligations' offsetting entry as assets. Therefore, a control sample probably would not have added much to the results of the tests.

There is at least one other major difficulty that arises with the use of a control group in a study similar to this one. Since t=0 is not a unique date, a conceptual basis would be needed to aid in the selection of the control group and for the

years to be covered. The time-period-definition task alone might be accomplished. However, when the time-period problem is coupled with the sample problems outlined in the previous paragraph, the task of gathering a suitable control sample might become impossible.

This chapter has presented the results of the regressions, the cumulative average residual tests and finally, average performance measures for both the sample and the market. The results of the last two sections have been unexpected.

The sixth chapter will present several possible reasons for the unexpected results found in the tests. Included in the sixth chapter will be the details of a small survey of security analysts.

Notes

1. The t-statistic was calculated for both the alphas and the betas by application of the following formula. The formula compares statistics from two samples to test whether the two samples are derived from the same population.

$$t\text{-value} = \frac{\bar{X}_1 - \bar{X}_2}{\left(\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}\right)^{1/2}}$$

$\bar{X}_1$ and $\bar{X}_2$ are the sample means of the coefficients.

S_1^2 and S_2^2 are the variances (standard deviations squared) for the estimated coefficients.

n_1 and n_2 are the numbers of observation in each sample.

2. The average beta is expected to be equal to one because of the basic theoretical assumptions made about beta. Betas which are equal to one are said to vary directly with the market rate. Aggressive securities will usually have betas greater than one and will gain more than the market in good periods but will lose more than the market in a bad period. These aggressive stocks are riskier than those securities whose betas equal one. Securities whose betas are less than one will gain less than the market rate in a good period but will also lose less than the market rate in a bad period. These stocks are the least risky of the three groups.

   If a sample of firms is chosen which includes betas which are greater than, equal to and less than one, then the expected mean beta value will be one overall.

3. The statistic given in Fama, et al. (1969) is the mean r_j which is 0.632.

4. One statistic missing in Charest (1980b) and Fama, et al. (1969) is the Durbin-Watson statistic. These statistics for the 102-month regression for the 45 firm sample ranged from 1.75 to 2.5600. Given the number of observations for each firm, this indicates that positive serial correlation for the ε_{jt}'s did not exist. However at a five percent significance level, approximately seven firms fall in the inconclusive or negative serial correlation range. Negative serial correlation is more in line with previous results and statements (Larcker, 1980, 272).

5. A cycle would not be consistent with the EMH if it occurred regularly throughout time. The "appearance" of the cycle is probably due only to the aggregation of the fourteen firms depicted in Figure XIII that had income decreases greater than 5% between t=-12 and t=0. Again, the pattern is being dominated by the very large, negative cumulative average residuals of these firms.

6. The two groups have different means and medians for their respective unfunded past service obligations (UPSO) and retained earnings (RE).

Groups	UPSO Mean in (000)'s	UPSO Median in (000)'s	RE Mean in (000)'s	RE Median in (000)'s
1. 22 high ratio firms	$3,173	$23,092	$40,996	$93,666
2. 23 low ratio firms	898	2,043	42,147	66,144
3. 22 less C.P. Ltd.	3,600	7,304	45,936	61,103

The differences in the means of the two groups is partially explained by the numbers associated with Canadian Pacific Limited (C.P. Ltd.). When C.P. Ltd. is deleted, the means of the retained earnings are fairly close. The means of the unfunded past service obligations although closer in magnitude are still quite different. In percentages the group of 22 firms without C.P. Ltd. has a ratio of 12% (UPSO/RE) compared to 3.1% for the low ratio group.

7. Not reproduced here are two plots which represented a different partitioning of the sample. The sample was divided between those firms that were "large percentage" companies and those which were not. To be a member of the large percentage group, a firm had to have an unfunded past service obligation greater than 4.5 percent of retained earnings, 1.3 percent of total assets and 21 percent of net income after taxes.

The cumulative average residuals were plotted for the two groups described. The results were consistent with those pictured and therefore, were not duplicated here.

8. The sample was also partitioned on a rule which might be termed "more sophisticated." First an average income was calculated for the five years ending t=-12. Based upon an average of those five years, the year ending at t=0 was examined to see whether net income increased or decreased over this average. The results have not been pictured here

because of the similiarity to the "naive" plots already shown.

9. When the nine firms which had more than eight negative residuals in their last fifteen (t=+15 to t=+30) were deleted from the sample of forty-five, the plot (not reproduced here) changed. The trend began to climb toward zero at the end of the plot.

10. Equations (13) through (16) are those used by Charest (1980b, 6-7). Even the notation used is that employed by Charest. Geometric means have been suggested as more appropriate for these calculations. However, the arithmetic means are the calculations actually made in the literature.

11. A plot of equation (11), where the residuals were equal to the R_{jt}'s less the R_{mt}'s, produced a plot which closely reflected the results given in Table IV. The plot of equation (11) did not support the alternative hypothesis, H_a. The overall pattern was very similar to the "cycle" seen in Figure III but without the constant downward trend.

CHAPTER VI

POSSIBLE EXPLANATIONS OF THE TEST RESULTS

The results presented in Chapter V seem contrary to the EMH. The hypothesis leads one to think that all information, especially publicly available information, is immediately impounded into the market prices of securities. However, the tests show that some available footnote information, the unfunded past service obligation, appears to be disregarded or it is observed, but not viewed as "bad news."

This chapter will attempt to rationalize that apparent contradiction. It will be divided into two parts. The first portion will discuss a survey of ten security analysts.[1] The survey is used as a means to gauge how important the investors' advisors view unfunded past service obligations. The second part of this chapter will be used to present four alternative explanations of the unexpected results presented in the preceding chapter.

A Survey of Security Analysts

Vancouver, Canada, serves as the home office for only a few security firms. Consequently, there are only a few security analysts available to discuss financial statements. Those

analysts who were available were phoned and an appointment was made for an interview. During the interview, the analysts were asked to answer a few questions. (The survey questions are reproduced along with summarized answers in Appendix G.)

The purpose of the survey was portrayed as being only a discussion of the use of financial statements by security analysts. It was feared that any further explanation might bias the answers. The survey questions are primarily concerned with footnotes and the individuals' surveyed probably realized this very quickly. However, the topic of unfunded past service obligations was not introduced by the interviewer until the fifth question.

Question five was not the only opportunity the analysts were given to introduce unfunded past service obligations. In the third and fourth questions, those interviewed were asked to list the footnotes which attracted their attention in (3) in general and in (4) with regard to accounting policies. Only one individual mentioned unfunded past service obligations in answering the third question. This was the only voluntary mention of unfunded past service obligations by those interviewed.

In the fifth question, those surveyed were asked to rank the five footnote topics in the order of the amount of time the analysts' spent on each topic. A top ranking for one topic meant that the analyst spent the most time on that subject in comparison to the other four.

The five subjects ranked by those surveyed were inven-

tories, contingent liabilities, depreciation policies, pension plans and foreign currency translation. All of the subjects except pension plans were ranked number one or two on someone's ranking. The highest pension plans were ranked was third. However, of the ten surveyed four ranked pension plans as fourth and the remaining five ranked pension plans as fifth in importance of the amount of time spent upon it. It should be mentioned that one person stated that if the unfunded past service obligation was extremely large, then pension plans would be ranked higher.

In Question 6 those surveyed were asked what they specifically looked for in three of the five footnote topics. The three subjects were randomly chosen from the list except for the pension plan topic. Each person surveyed was queried about pension plans. Three of those interviewed stated they did not look at this footnote. The remaining seven stated they specifically looked at the size of the unfunded past service obligation. Several of the seven remarked that they were interested in the size of the unfunded past service obligation as compared to the net income. This last statement was independently tested as shown in Figures XI and XII in Chapter Five. As noted in the preceding chapter the test did not produce positive results.

Since the number surveyed was small, ten, and because the survey was quite informal, the survey results are only an indicator of how advisors view unfunded past service obligation footnotes. For the ten surveyed, the indication is reasonably

clear. Pension plans and unfunded past service obligations are not given as much attention as other footnote topics.

Many investors rely upon their security analysts to determine good investments and the proportion of their investment portfolio to invest in a given security. If the investors' advisors do not use unfunded past service obligations in their decision-making, then this may be one explanation of why the test outlined in Chapter Five had unexpected results.

Alternative Explanations of the Test Results

Four explanations will be given in this section as possible reasons for the unexpected test results as described in Chapter Five.[2] The first explanation will involve an argument about the market ignoring the unfunded past service obligations. The second alternative will discuss the possibility of the market receiving the data prior to the statement date. If this second alternative holds, then the dates when the market actually receives the information may be random and not related to the date of first appearance on the financial statement. The third explanation offers a justification that depends upon the concept of present values. Finally, the potential problems that may exist with the sample and/or the Canadian market will be sketched.

The first possible explanation of the negative results is quite simple. The investors in the market may be ignoring the existence of unfunded past service obligations. This would

account for the cumulative average residuals failing to form a plot which would have supported the alternative hypothesis of a noticeable decrease in the cumulative average residuals. (See Figure I). The possibility that the market is ignoring this information is supported in part by the survey of the ten security analysts. If the analysts do not trust the quality of information they receive, then the analysts will be passing this impression along to the investors they advise. There are three possible problems which have to do with the quality of the information provided.

First, from a perusal of the literature, it is clear that actuarial methods are not very well understood (Trowbridge and Farr, 1976; Skinner, 1980; and Hall and Landsittel, 1977). Not only are the methods not understood but the assumptions employed in arriving at valuations are usually not available to the reader of financial statements.[3]

Second, the lack of detail in the actuarial assumptions is not the only case of sparse information. Decision-makers may find it difficult to determine exactly how unfunded past service obligations are being accounted for by a firm especially since the information presented varies across firms.

The final problem discussed in the literature is the latitude of choosing between acceptable methods. Skinner (1980) argues for less flexibility in these choices. If this calls attention to unfunded past service obligations then perhaps the market will react.

Alternatively, the market may be incorporating the information concerned with unfunded past service obligations before the statement date. This situation could occur as a result of information being printed in newspapers or by being distributed via other public sources. In conjunction with the above, the market may even anticipate such obligations in a firm. This might occur if other firms in a given industry already have published their unfunded past service obligations. Thus, the market might adjust the rates of return for a firm prior to the appearance of this unfunded past service obligation in the financial statement notes.

If this situation occurs, then there may not exist a known date useful for testing. For instance, one company's pension plan may be re-negotiated six months prior to the statement date while a second firm's plan may be re-negotiated ten months prior to the statement date. This situation would make it almost impossible to choose a point in time (a t=0) in order to synchronize the data for testing purposes. This would be true whether the market receives specific information about individual firms or whether the information is more general and relates to the industry.[4]

Also as noted in Chapter Four, the t=0 in this test cannot be assigned to a specific year. Occasionally in accounting, a specific date becomes important due to a requirement which affects many firms' statements and takes effect on a stated date. In the case of unfunded past service obligations the

requirement became effective in Canada as of December, 1968. This requirement, however, did not affect a large group of firms simultaneously. Of the forty-five firms in the test sample, nineteen listed their unfunded past service obligations on or before December, 1968. The remaining twenty-six firms' compliance to the requirement spans the years from 1969 to 1974. (For further details see Appendix E). From this discussion the important point to emerge is the differences in the timing of the specified notes appearance. A test using this information would be difficult to formulate for the relatively small Canadian market.

A third explanation is that pension plans may be offered in lieu of increases in direct cash wages.[5] Therefore when the negotiations are completed, it may be that the present value of the unfunded past service obligation may just equal the difference in the lower wage negotiated and a higher wage that might have been demanded otherwise.

The fourth explanation of the unexpected results has to do with the sample used in this thesis. The sample size is modest, forty-five companies. It may be that the sample is too small and therefore, the design of the test is unreliable. If this is the situation, then a larger sample might still show evidence that the market uses the unfunded past service obligation information.

The sample size may not be the only problem. The unexpected results may be due to the Canadian market. The literature on

the Canadian market points out several anomalies to market efficiency. The Canadian market is characterized as being "thinly traded" and not very large (Fowler, et al., 1977; and Fowler, et al., 1979). As noted in Chapter Three, "thinly traded" means that a specific stock may trade only infrequently or that the number of shares traded may be small. While some of the companies in the sample were traded almost every day and in sizeable numbers, e.g. Abitibi and Noranda Mines, most of the firms were less frequently traded. Also, the Canadian stock market is much smaller than its counterpart in the U.S. Thus far the semi-strong version of the EMH has been generally supported in the U.S. Consequently, the characteristics of the data may cause questionable results. However for the purposes of this study, the Canadian market was assumed to be efficient.

In connection with the use of Canadian market data, the results may have been partially due to the use of the market model. If a model works well in a U.S. context, this does not imply it will work for all other markets. Perhaps the Canadian market cannot be approximated by a simple linear regression model. Alternatively, the market model may not be sensitive enough to small markets such as the Canadian stock market. This point was made in Chapter Three in discussing Charest's results which were puzzling (Charest, 1980a; and 1980b). Finally, in the Canadian context, it may be that neither an equally weighted nor a value-weighted index is an appropriate approximation for the market rate of return. This means that

researchers may need to try different market measures in their tests. This discussion implies that further tests of the Canadian market may need to be conducted using radically different models and market proxies.

Four alternative explanations have been outlined in an attempt to explain the unexpected results given in Chapter Four. The order of presentation is not meant to imply a ranking of the importance of the four alternatives. Also, it may be that the actual explanation is a combination of two or more of the possible explanations.

One further point may be made concerning empirical tests. The "state-of-the-art" is continually changing. Whereas the test which was made for this study was reasonable now, tomorrow better testing methods may be made available for researchers. As recently as June, 1980, an article offering a new testing method was published (Larcker, et al., 1980). This particular article performed tests based upon hypothetical data, but it did introduce a new method of testing which may someday supplant the cumulative average residuals test.[6]

The final chapter of this study will present a brief summary of all the preceding chapters. Also, a few possible extensions of this study will be suggested for future investigation.

Notes

1. The survey, reproduced in Appendix G, was suggested by Professor John Herzog. Professor Daniel McDonald aided in the refinement of the questions.

2. The design of this thesis did not utilize a control sample for purposes of comparisons. If Abdel-khalik and Ajinkya (1979, 83) are correct, then a control sample may not enhance a study where the results do not apparently support the theory. Also, Chapter Five outlined the problems with collecting and using a control sample.

3. This is being rectified at least in part by the FASB's latest statements, Statement No. 35 and Statement No. 36. (Statement No. 35 is primarily concerned with the accounting for pension funds in the plan's statements. Statement No. 36 offers intermediate steps for accounting for pension plans on the employer's financial statements.) Canadian policy and possible recommendations concerning actuarial assumptions will not be known until sometime in the autumn of 1980.

4. As stated in note three of Chapter One, actuarial deficiencies due to revaluations might be included in the financial statement notes until October, 1973. Consequently, a second set of dates would be introduced when the revaluations are also included.

5. Professor Daniel McDonald suggested this idea.

6. One point that Larcker, et al. (1980, 270-271) stresses is that with their data, the cumulative average residuals are always shown to increase up to time t=0. This pattern in their study occurs whether the ß's are stationary or non-stationary. Also, the pattern was not altered whether the information was positive, negative or nonexistent. In Figures III through XV reproduced in Chapter IV, this pattern was not evidence. As in the case of all new models, more tests will need to be made using the Larcker, et al., model before it will supercede the more established cumulative average residuals model.

CHAPTER VII

A SUMMARY, CONCLUSIONS AND IMPLICATIONS FOR FURTHER STUDY

With regard to pension plans the Canadian experience has been different from that of the U.S.[1] Included in the differences is the fact that the Canadian government has not established rules as stringent as those of ERISA[2] in the U.S.

However, potential future pension payments are growing at an alarming rate. Inflation has caused unions and other groups to bargain more determinedly for indexing of plans.[3] The overall economic well-being of the 1960's and most of the 1970's have allowed for benefit increments in many areas of society. These increased benefits coupled with the changing demographics of Canada suggested for example by Premier Bill Bennett of B.C., that an empty pension fund upon retirement would be "... the cruelest hoax of all" ("Empty Pension Fund Called Cruelest Hoax," The Vancouver Sun, June 4, 1980, A12).

One part of total pension benefits is the unfunded past service obligations. This study has made an attempt to examine whether the market reacts to the first appearance of unfunded past service obligations in the footnotes to financial statements. In this chapter, the following sections will discuss a summary of this thesis and some conclusions and implications for further study.

A Summarization

Working from the premise that the EMH used in conjunction with the market model provided the researcher with a framework for testing the stock market's reactions to many types of accounting data, a test of unfunded past service obligations was designed. The thesis was composed of five major chapters.

The second chapter focused upon present accounting practices and the literature involved with unfunded past service obligations. Although much of the literature was found to be a comprehensive discussion of the accounting problems concerned with pensions, there were only two articles which even attempted to use empirical data. Of these empirically oriented papers, neither tested nor discussed unfunded past service obligations.

In the third chapter, the literature concerned with tests of the EMH was discussed. The first section of the chapter outlined the EMH. The second section discussed the market model and its links to the Sharpe-Lintner CAPM. Several U.S. studies which examined the EMH were briefly reviewed in this context. In the fourth and final section eleven Canadian studies were briefly addressed in order to indicate the nature of the research being conducted using Canadian data.

The literature surveyed in the second and third chapters led directly into the fourth chapter. The fourth chapter outlined the test to be used to examine the market's reaction to the first footnote appearance of unfunded past service obligations. The discussion of the model was followed by the presentation of

the null and alternative hypotheses to be tested. The null hypothesis, H_o, stated that if the market did not react to the unfunded past service obligations of a sample of firms, then there would be no significant change in the plotted patterns of cumulative average residuals. The alternative hypothesis stated that there would be a detectable market reaction. After presentation of the hypotheses, the data to be used in the tests were discussed in detail. The sources for the data were outlined along with the procedures for utilizing the collected data and comparing these with the sample derived from the Laval returns tape.

The results of the tests outlined in Chapter Four composed the body of Chapter Five. Cumulative average residual plots were given in an attempt to illustrate the market's reaction. The market did not react in a significantly different pattern when the unfunded past service obligations first appeared in the notes to the financial statements. Therefore, the null hypothesis, H_o, could not be rejected. As supporting evidence to the plots, statistics were presented which indicated that the estimated regression coefficients, α_j's and β_j's, were similar to those found in other studies. This gives one some confidence that the results are not due to the use of faulty data or test designs. Also as a check on the final results, average rates of return were calculated for the market and the sample of firms. In two of three cases the parallel performance of the market was, almost without exception, greater than the

average sample rate of return. This fact is reflected in the downward trend of the cumulative average residuals seen in the plots. There is no explanation for this phenomenon unless firms with pension plans containing unfunded past service obligations are perceived to be (a) less risky over the entire time period or (b) have less promising investment potential.

Since H_o could not be rejected, this would appear to suggest that the market was not using a piece of publicly available information. Four reasons were briefly presented. First, the market may have ignored the unfunded past service obligations. Second, the market may have incorporated the unfunded past service obligation information before the statement date and at different points in time for each firm. The third explanation relied upon the discounting of future cash outflows as an alternative reason for the reaction. If the market reads an unfunded past service obligation as equal to a saving in wages over the future years, then the market would not react to the footnote. Finally, the fourth explanation critically examined the sample and the model used in the study. It may have been that the sample size was too small or that the "thinly traded" Canadian market coupled with the market model, may have caused the tests to be unreliable.

As partial confirmation of the market's lack of reaction to the unfunded past service obligation footnotes, a series of interviews with a small sample of ten security analysts was discussed. Almost without exception, the analysts did not introduce

pension plans or unfunded past service obligations as a footnote that they thought was important. The survey while small did lend some credibility to the test results presented in the thesis.

The one clear point derived from the first six chapters is that using the sample (see Appendix B) chosen, along with the model outlined in the fourth chapter H_o could not be rejected. Several conclusions may be made about this type of study. The next section will present these conclusions along with several implications for further study.

Conclusions and Implications

As stated above the null hypothesis of "no market reaction" could not be rejected. However, a caution is in order before attempting to draw any strong conclusions. The sample size was small and the data came from a "thinly traded" market. Hasty conclusions should not be drawn and making conservative judgments is important.

One safe conclusion to make is that given the sample and the model, the market does not appear to attend to the first footnote appearance of unfunded past service obligations. There may be many reasons for this lack of attention. For example, using Appendix A as a guideline, those individuals investing in the market may not understand the terminology. The terms vary not only between companies but sometimes between years for the same firm.

If one were to ask whether unfunded past service obligations were liabilities offset by an expense, the answer which comes out of this test would be "no." However, the answer is ambiguous for several reasons. Having used Canadian data, perhaps the lack of reaction is due to the data. Comments made by the analysts surveyed suggest that Canada had not experienced any defaults in its pension plans and consequently, unfunded past service obligations may not be seen as potential economic threats. One implication then is to replicate this study for the larger U.S. market. Such a study perhaps could be centered around the introduction of ERISA in 1974. ERISA would represent a focal point where the investing public's attention turned to pension plans in general and unfunded past service obligations in particular.[4]

The final implication of this study may be that the EMH does not hold with respect to the TSE and information in the footnotes to Canadian financial statements. A further examination of footnotes could be done, for example, by locating a sample of companies where court cases were settled against the firms. Then using an earlier appearance of a contingent liability which related to the settlement, a test similar to that presented in this study could be performed. The test would be used first, to check whether the market reacted to the contingency and second, when the reaction occurred. The reaction period would need to span a period of time from the appearance of the contingency in the footnotes until some point after the settlement date.

Finally, no single empirical study is ever the proof or the invalidation of an hypothesis. While the market does not appear to read unfunded past service obligation as liabilities, this study needs to be replicated and perhaps even re-examined using a different model (Larcker, 1980). After several tests, then a more definitive conclusion might be forthcoming.

Notes

1. In the U.S. some companies have found it difficult to meet their pension payments. For example, the well-known case of the United States Steel Company in the early 1960's is often cited as an example of the manipulation that pensions may be subjected to by a company.

2. ERISA was outlined briefly in Chapter Three, Note 6.

3. For example, see The Vancouver Sun, October 4, 1980, ("Teachers Warn They'll Strike in Pension Index," A18) which outlines the proposed change which would see pension indexing held to eight percent in B.C. Government pension plans. In particular, the teachers are upset and are reacting militantly to such a suggestion.

4. Even the date for ERISA may not be useful for testing purposes. If the investing public's attention focused upon unfunded past service obligations at this time, then the test might work. However, if the investors attention was not attracted to these obligations until the latest FASB pronouncements, Statements No. 35 and No. 36, then a test centered upon a 1974 date associated with ERISA would yield little or no results. Once again, the problem with when the market could be expected to react is questionable.

APPENDIX A

Footnotes from Forty-five Firms' Financial Reports Introducing Unfunded Past Service Obligations

The following footnotes have been reproduced for the convenience of the reader. The date listed after the firm's name indicates the set of financial statements in which the footnote appeared. Page numbers are listed for those reports which had page numbers. The content and the terminology varies from one note to another. This variance across firms may tend to confuse some readers of financial reports.

For example, thirty of the firms referred to the unfunded past service obligation as a "liability." Even amongst this group, the phrases employed are not identical. Of the remaining fifteen firms, ten referred to the "unfunded or past service obligation." Five firms referred to "unfunded past service costs" while one firm used the phrase "unfunded portion of past service benefits."

Several other differences exist in the wording of the footnotes. One interesting difference is whether the firms planned to "fund" or to "amortize" their unfunded past service obligations. Twenty-four of the forty-five companies stated that their unfunded past service obligations would be funded. Nine of the forty-five firms stated intentions to amortize the amount without any mention of how or when funding would occur. These

firms may be paying their employees directly from future earnings. The remaining twelve firms in the sample gave the impression that their unfunded past service obligations would be both funded and amortized over a period of time. This conclusion is based upon the footnotes which stated that the amounts in question would be paid and charged to income. (See Chapter III, Chart I for an indication of the alternative accounting treatments.) In total, thirty-six firms in the sample appear to be combining the entries to fund and amortize the unfunded past service obligations. This probably indicates that the companies are making a compund entry (ignoring interest payments) which is a debit to the pension expense account and a credit to the cash account.

Another point of interest is the number of firms which listed exact amount to be accounted for each year. Nineteen firms listed an exact dollar value. Four firms stated that the amount to be used would be equal annual installments. The remaining twenty-two firms in the sample did not list an amount.

The number of years over which payments were to be made or amortized was inconsistent as well. Where firms listed differing payments to be made over a series of years of varying lengths, the series of years given with the ending date closest to the statement date is used in the table. The two categories of sixteen to twenty years and twenty-one to twenty-five years hold the majority of firms with thirty-four of the total forty-five.

Table A-1

Years of Payment or Amortizing the Unfunded Pension Obligation

Number of Years	Number of Firms
26-30	2
21-25	11
16-20	23
11-15	3
6-10	1
1-5	1
Number of years not given	4
Total number of firms	45

Only one firm mentioned vested benefits. This was Moore Corporation (1972) where the footnote states that all of the vested benefits were fully funded.

Section 3460 of the CICA Handbook states that the present value of vested unfunded past service obligations "... should be recognized in the accounts as a deferred charge offset by a liability" (CICA Handbook, Section 3460, paragraph .20). However the Handbook does not state whether the unvested portion of the unfunded past service obligations must be given as a present value. Only two companies, Falconbridge Nickel Mines, Ltd., and Cassiar Asbestos, Ltd. specifically noted that the amount listed was a present-value. There were, however, twenty-eight firms which referred to the amount as having been determined by an actuarial method, thus implying the sum was a present-value. Fourteen other firms simply referred to an "estimated" value while one firm, Great Lakes Paper, Ltd., stated that the amount given was the one determined by its underwriters.

Sixteen of the forty-five footnotes refer to dates other than the statement's date as the date of the improvement of pension benefits or as the date of the actuarial estimate. These dates were noted when determining where the introduction of unfunded past service obligations first appeared. For example, MacLaren Power and Paper, Ltd., (1974) states that its pension benefits for past service were increased in 1973 and that there was an unfunded pension liability as of December 31, 1973 of $1,655,000. However, this information was not given in the 1973 financial reports of MacLaren Power and Paper.

In summary, the footnotes are reproduced with a few comments. The primary focus of the comments is whether funding and amortization policies are mentioned. Major information gaps not commented upon are usually due to the lack of a list of the actuarial assumptions made in arriving at the numbers. As noted by Skinner (1980, 30) a change of one-quarter of one percent will have a six to seven percent impact on the calculated number. The footnotes follow immediately.

Selected Direct Quotations from the Statement Notes

Abitibi Paper Company Limited, December 31, 1966

8. The amount charged to earnings in 1966 in respect of employees' pension plans includes payments on account of past service costs resulting from retroactive improvement of benefits instituted in 1963. These past service costs are being funded over a period not exceeding 20 years. Based on the most recent independent actuarial report, the single-sum liability for unfunded pension benefits is estimated at $3,500,000 at December 31, 1966.

Comment: Abitibi will be funding its unfunded past service obligation to a trustee. No amount is listed for the yearly funding. Amortization policy is not mentioned.

Acklands, November 30, 1974, (p. 27)

9. PENSION PLAN

In 1974 the company changed its pension plan and provided further past service benefits. This has given rise to an unfunded past service liability of approximately $1,700,000 which will be paid and charged to income over a nineteen year period.

Comment: Acklands will pay and charge its unfunded past service obligation. While this implies that the amount will be funded and amortized, there is no distinction made as

to when each will occur. No amount is listed for the paying and charging of the unfunded past service obligations.

Algoma Central Railway, December 31, 1972

12. Commencing October 1, 1972 the Company upgraded the benefits payable under its pension plans. As a result the Company has incurred an unfunded past service pension liability. The amount of this liability, still to be actuarially computed, is expected to be approximately $1,350,000. The liability may be funded over the next twenty years at an annual amount estimated to be $118,000. The Company will charge to operations each year the amount paid to meet the unfunded liability.

Comment: Algoma Central Railway states that the company may fund and charge to operations the same amount ($118,000) over the next twenty years.

Asbestos Corporation Limited, December 31, 1972

12. Contingent and unfunded liabilities:

In 1972 the Company improved the retirement benefits under its pension plan for hourly employees. It is estimated that the resulting unfunded past service liability as at December 31, 1972 is approximately $1,000,000. The Company intends to pay the amount of the unfunded liability and to charge operations over a period which will be determined

after the completion of an actuarial study but which will not extend beyond the period permitted by applicable legislation.

Comment: Asbestos Corporation seems to be stating that funding and amortization of the unfunded past service obligations will occur simultaneously. This, however, is not clear. Also, no amount is given for the funding and amortization of the obligation. Asbestos Corporation does introduce a different idea into its footnote. The legal period for write-off of the unfunded past service obligation is referred to explicitly.

Bridge and Tank Company of Canada Limited, December 31, 1967

8. Contingent liabilities and commitments:

The unfunded liability for past service costs under the companies' pension plans is approximately $845,000 at December 31, 1967 based on actuarial studies made as at December 31, 1966. The liability of $845,000 is being funded in the amount of $58,333, including interest, annually to December 31, 1989.

Comment: The footnote states specifically how the unfunded past service obligation will be funded. Amortization of the obligation is not mentioned. Notice that unlike Asbestos Corporation, no mention is made of the legal period of amortizing the obligation.

British Columbia Forest Products Limited, December 31, 1967

5. Pensions - An actuarial evaluation in 1967 of the Company's pension plan indicates an unfunded liability of $1,500,000 for past service at December 31, 1966. It is intended to fund this liability by charging additional pension contributions against earnings over a period of 25 years; these additional contributions will be charged against earnings as they are paid.

Comment: B.C. Forest Products will fund their obligation. The amount per year is not specified. If charging is synonymous with amortization, then the two policies of funding and amortization will coincide. Again, no mention is made of the legal period allowed for amortization.

Calgary Power Limited, December 31, 1970, (p. 15)

4. Pension Plan

Effective January 1, 1970, the Company's pension plan had been revised to a "Formula Plan" under which an employee's pension benefit is related to years of service and salary prior to retirement. As at January 1, 1970 an unfunded past service obligation estimated at approximately $1,795,000 existed mainly in respect to projected future salary growth. Based on actuarial advice, this amount is being funded and charged to operations in annual amounts of $164,000 over a period of 20 years. Past service pension

costs for service prior to 1943 have been fully funded and a special payment made for this purpose in 1965 is being amortized against income in approximate annual amounts of $105,000.

Comment: Two points of interest are made in this footnote. (1) A special payment was made to fund obligations arising from service rendered prior to 1943. This amount must have been reported as an asset. (2) The amount which will be funded and amortized is stated.

Canada Malting Company Limited and subsidiary company, December 31, 1972

6. The unfunded obligation for past service on the Company's pension plan of approximately $610,000 is being amortized by annual payments through to 1989.

Comment: Canada Malting does not mention whether the obligation will be funded or not.

Canadian Pacific Limited, December 31, 1971 (p. 18).

14. Pension Plan

Amendments to the pension plan effective July 1, 1971 include improved benefits, funding of past service costs as required by legislation; and the payment by the fund of all pensions, including the portion formerly paid directly by the Company. The unfunded liability at December 31, 1971, as determined by an actuarial survey, was $354,643,000 of

which $79,366,000 is to be funded by equal annual payments to 1992 and $275,277,000 is to be funded by equal annual payments to 2027. In total, these changes do not significantly affect the annual pension expense borne by the Company.

Comment: The firm's amortization policy is not given.

Canadian Salt Company Limited and subsidiary companies, June 30, 1969.

The employees of the company and its subsidiaries are eligible for membership in a non-contributory pension plan. During the year ended June 30, 1969 the plan was changed from an 'insured' plan to a 'trusteed' plan and provision was made for increased benefits to be paid on retirement. The unfunded liability in respect of past services at June 30, 1969, based on an actuarial valuation made as of December 31, 1968, is estimated to be $518,000 and is being amortized by payments of $41,300 over 21 years which will be charged to operations. Pension costs charged in the accounts during the year ended June 30, 1969 amounted to $236,440 including amounts in respect of past services.

Comment: Canadian Salt Company has obscured the difference between amortization and funding. It is unclear what "amortized by payments" means. Perhaps the firm is indicating that funding and amortization are occurring at the same time.

Canadian Utilities Limited, December 31, 1967 (p. 15).

10. The company together with certain of its affiliated companies has in effect a pension plan covering substantially all of its employees. At December 31, 1967, the company's share of the aggregate unfunded liability for past service costs under the plan amounted to approximately $403,000. Such unfunded liability, generally, is being absorbed as a charge against income on a basis which will result in the amotization of the amount over periods of approximately ten years. During 1967 approximately $184,000 was charged against income in respect of current services and in respect of the amortization of the unfunded liability for past service costs.

Comment: Canadian Utilities appears only concerned with the amortization of its unfunded past service obligation. Funding policies are not given.

Canron Limited, December 31, 1971 (p. 12)

8. Retirement Plans

As at December 31, 1971 there existed a net obligation for past service pension benefits estimated at $898,000 under various retirement plans of the company and certain subsidiaries. This liability is being funded by annual instalments over 25 years.

Comment: Canron is funding its obligation. However, no mention is made as to whether the amount is being amortized on

the same basis or whether amortization will occur at some later date.

Cassiar Asbestos Corporation Limited and its subsidiaries, December 31, 1971 (p. 10)

7. Pension Plan

The present value of the unfunded portion of past service benefits is approximately $540,000 at December 31, 1971 based on actuarial estimates made as at January 1, 1971. The amount is being funded and charged to operations by annual payments of $47,900, including interest, to December 31, 1988.

Comment: Cassiar Asbestos seems to be funding and amortizing its unfunded past service obligation on the same basis.

Cominco, December 31, 1967 (p. 19)

8. Pensions

At December 31, 1967 investments with a current value of approximately $49,000,000 were held by trustees under Cominco's pension arrangements. Actuarial estimates of these arrangements made to December 31, 1965 indicate an unfunded cost of $9,500,000 for past service at that date. It is intended to fund approximately $5,300,000 of this amount over 23 years starting in 1968.

Separate pension plans are in effect for certain consolidated subsidiaries. The unfunded cost for past service of one consolidated subsidiary is estimated at $1,860,000 which amount is being funded over 40 years, there are no other significant unfunded past service obligations.

Cominco and its consolidated subsidiaries charged earnings for 1967 and 1966 with provisions which reflected their estimates of the accruing pension costs related to both past and current service.

Comment: Cominco states that it has $49,000,000 in pension assets held by trustees and still there is an unfunded past service obligation of $9,5000,000. Of this latter amount, only $5,300,000 will be funded over the twenty-three years following the statement date. One wonders what will happen to the remainder, $4,200,000. Also, the amortization policy is not given.

Consumer's Gas Company, September 30, 1967 (p. 10)

9. Pension Plan Liability

The unfunded past service liabilities of the company and its subsidiaries according to independent actuarial valuations made as at September 30, 1967 amounted to $1,800,755 at that date. This obligation is being satisfied and charged to operations in the amount of $234,090

annually. Annual contributions are made and charged to operations in amounts estimated by the actuarial valuation to be sufficient to fund all current costs of the plan.

Comment: This is a "vague" footnote. The Consumer's Gas Company will satisfy and charge its obligations against operations. It is unclear what satisfy means particularly since the following sentence in the footnote states that contributions made are "sufficient to fund all current costs." One wonders about the funding of the unfunded past service obligations.

R.L. Crain Inc., December 31, 1972 (p. 12)

5. Effective January 1, 1973 the Company has amended its pension plan to increase employee benefits for service prior to July 1, 1968. The cost to the Company of providing these increased benefits is estimated to be $1,600,000 as at January 1, 1973. It is the Company's intention to fund this cost through equal annual instalments of $140,000, including interest, from 1973 through to 1989.

Comment: R.L. Crain Inc. is very explicit about its funding policy. Again, however, there is no mention of the firm's amortization policy.

Dominion Bridge Company Limited, October 31, 1967 (p. 10)

7. The estimated unfunded liability as at October 31, 1967

under Employees' Contributory Pension Plans amounted to $2,746,000. This liability is being amortized by equal monthly charges to operations and will be liquidated by 1987.

Comment: Dominion Bridge is only amortizing its obligation. No funding policy is given.

Dominion Stores Limited, March 21, 1970 (p. 12)

8. PENSION PLAN

The estimated unfunded liability under the pension plan as of October 31, 1969 amounted to $10,273,000 which will be paid over the next 20 years by means of annual instalments of approximately $772,000.

Comment: If "paid" and "funded" are synonymous, then Dominion Stores funding policy is given. If the words are not synonyms, then it is unclear what Dominion Stores accounting policy is. The amortization policy is not mentioned.

Domtar Inc., December 31, 1970 (p. 22)

7. Pension Fund:

The company and its subsidiaries have pension plans for their employees. The unfunded past service pension liability at December 31, 1970 approximates $6,600,000 and is being funded over the next twenty years as recommended by the actuaries.

Comment: Domtar's funding policy is given but the amount to be paid each year is not listed. The firm's amortization policy is not mentioned.

Falconbridge Nickel Mines Limited, December 31, 1971 (p. 21)

13. Retirement plans

The company and certain of its Canadian consolidated subsidiaries maintain retirement plans providing retirement, death and termination benefits for substantially all salaried and hourly-rated employees. The plans have been amended from time to time and, based on the most recent actuarial evaluation, such amendments have resulted in unfunded past service obligations having a present value of $9,186,000 at January 1, 1972 which have not been provided for in the company's accounts.

The company has accepted the recommendations of its actuary and intends to fund these obligations through annual payments of $1,141,000 in each of the next four years and $667,000 in each of the following thirteen years.

The charges to operations in respect of the plans were $2,967,000 in 1971 (including $1,141,000 in respect of past service obligations) and $2,500,000 in 1970.

Comment: The funding policy to be followed by Falconbridge is explicit. However, the amortization policy is not mentioned.

Federal Pioneer Limited, June 30, 1971

9. Unfunded pension costs:

Based on a report by independent actuaries, unfunded past service pension costs amounted to approximately $425,000 at July 1, 1970. Annual payments charged to operations are designed to fund these costs by 1989.

Comment: Federal Pioneer will be funding its unfunded past service obligation but no amount is given to meet these yearly obligations. The amortization policy is not given.

Fraser Companies, Limited, December 31, 1974 (p. 13)

7. Pension Plans

According to actuarial reports on the Company's pension plans as of December 31, 1973 but giving effect to benefit improvements effected January 1, 1974, there is an unfunded liability of $3,322,000, due totally to the benefit improvements, which is being amortized by annual payments of $312,000 for fifteen years as recommended by the actuaries. The Company has made a provision of $1,100,000 in its 1974 accounts for a possible additional contribution to its pension plans in view of the decline in market value of the assets of the plans.

Comment: The Fraser Companies amortization policy is not mentioned. Of special interest is the provision by the firm in its accounts for a hedge against the possible market decline in plan assets's value.

Gaz Metropolitain, Inc., December 31, 1971

7. Pension Plan

Unfunded past service cost for the employees' pension plan, as determined by independent actuaries, amounted to $333,972 as at December 31, 1970. This amount together with interest thereon is being funded by annual payments of $77,676 for the five years commencing in 1971. The company contributed $258,200 for 1971 current service costs (1970 -- $65,000).

Comment: Gaz Metropolitain's funding policy is clearly stated. The amortization policy is not given.

The Great Lakes Paper Company Limited, December 31, 1967 (p. 16)

7. The amount charged against earnings in 1967 in regard to the employees pension plan includes payments on account of past service costs resulting from a retroactive increase in benefits. These past service pension costs are being funded over a period not exceeding seventeen years. Based on the report, prepared by the company's underwriters, the liability at December 31, 1967 for unfunded pension benefits is estimated at $1,200,000. Contributions charged to income in respect of such past service costs were $100,000 in 1967.

Comment: Neither the annual amount to be paid into the fund nor the amortization policy is listed.

Hudson Bay Mining and Smelting Company Limited, December 31, 1972 (p. 12)

12. Pension fund

The unfunded past service pension liability at December 31, 1972, approximates $5,000,000 and is being funded over the next 16 years as recommended by the actuaries.

Comment: The Hudson Bay Mining and SMelting note does not mention the amount to be paid into the fund each year nor is the company's amortization policy given.

The John Inglis Company Limited, December 31, 1966

8. The unfunded liability of the Company under the Pension and Retirement Plans as at December 31, 1966, is estimated by the consulting actuary to be $1,955,000. The company plans to fund this amount by twenty-three equal annual payments to the Trustee.

Comment: Inglis does not list the annual amount to be paid into the fund nor its amortization policy.

Inland Natural Gas Company Limited, June 30, 1970 (p. 13)

10. Pension Plan

The Company revised its pension plan for salaried employees effective January 1, 1970. The actuarial liability for past service benefits arising from these revisions, $207,000 as at June 30, 1970, is being funded and charged to operations over a twenty year

period to 1989 in annual amounts of $18,400.

Comment: This note implies that funding and amortizing (changing) will concide.

Interprovincial Pipe Line Company, December 31, 1965 (p. 15)

7. Retirement Plan

Effective January 1, 1966, the company revised the Retirement Plan for its Canadian employees for both past and future service including integration with the Canada Pension Plan. Actuarial studies indicate that the liability for past service benefits to December 31, 1965 approximates $800,000 and this will be amortized by charges to earnings over a 20-year period.

Comment: Interprovincial Pipe Line does not state whether funding will occur. Also, the amount to be amortized each year is not listed.

John Labatt Limited, April 30, 1972 (p. 22)

12. Pensions

As a result of increased past service benefits the company's pension plans, based on a recent actuarial valuation, now indicate an unfunded liability of $3,600,000 at December 31, 1971. The company intends to fund this liability over periods not exceeding 18 years by annual contributions in addition to the cost of funding current service benefits.

Comment: The amount to be funded each year is not given. Also, the amortization policy is not stated.

Maclaren Power and Paper Company Limited, December 31, 1974 (p. 13)

8. Pensions

As a result of increased past service benefits and improvements in the company's pension plans there was an unfunded liability of $1,655,000 as at December 31, 1973 based on actuarial calculations as at that date. This obligation is being funded in accordance with the Quebec Pension Act over a period not exceeding 17 years. As at December 31, 1974 the unfunded liability is $1,511,000.

Comment: The amount to be funded each year is not stated nor is the amortization policy spelled out.

Molson Industries Limited, March 31, 1969

7. Past service costs of a subsidiary's employee pension plans are being funded over periods not exceeding 30 years. The unfunded liability for such past service costs amounted to approximately $2,700,000 at March 31, 1969.

Comment: Molson's has not provided the reader with a very informative footnote. The obligation will be funded but no amount to be paid each year is stated. The amortization policy is not stated. Finally, "a period not exceeding thirty years" for funding is not a very explicit statement.

Moore Corporation Limited, December 31, 1972 (p. 14)

8. RETIREMENT PLANS

In 1972 retirement plans were revised along with the actuarial methods and assumptions used to evaluate these plans. All vested benefits under the amended plans are fully funded. Pursuant to the recommendations of independent consulting actuarial firms, an actuarial obligation of $20,000,000 has been calculated with respect to that portion of the benefits expected to accrue and vest in the future which are related to prior service. This amount is being amortized and funded over a period of thirty years commencing in 1972 with respect to $18,000,000 under the United States plans and seventeen years commencing in 1973 with respect to $2,000,000 under the Canadian plan.

Comment: Moore Corporation appears to be amortizing and funding its obligation over the same time period. However, the sum to be amortized and funded is not listed.

Noranda Mines, Limited, December 31, 1966

5. The estimated future cost of funding past service pension obligations of consolidated subsidiary companies is $3,600,000.

Comment: The number of years are not even estimated for funding. The amount to be paid each year is not listed. Amortization is not mentioned.

Photo Engravers & Electrotypers Limited, December 31, 1967

5. PENSION PLANS

The majority of the Company's employees are covered by either the Canada Pension Plan and/or various union or Company administered retirement plans. The amount charged to income (including amounts paid to government pension plans) was $74,700 in 1967 and $69,400 in 1966 which amounts included amortization of prior service costs. The unfunded past service pension costs at December 31, 1967 were approximately $162,500 and these will be charged to operations over the next thirteen years.

Comment: The amount of the obligation will be amortized. Funding is not mentioned.

Price Company Limited, December 31, 1967

14. Unfunded Pension Benefits

Based on the most recent independent actuarial reports, the single-sum liability for unfunded past service pension benefits not provided for in the accounts at 31st December 1967 is estimated to be $4,300,000. The actuarial reports also indicate that, at the current rate of the Company's contributions, the Pension Plan will be fully funded, in accordance with the Supplemental Pension Plan Act of Quebec, by 31st December 1990.

Comment: The amount funded each year is not stated. Also, the amortization of the pension is not mentioned.

Reichhold Chemicals (Canada) Limited and Subsidiaries, December 31, 1968 (p. 13)

6. Pension Plan

Under the pension plan of a subsidiary company, the unfunded liability for past service benefits was calculated as at July 31, 1966 as $98,951. This amount is being satisfied by the payment of and charge to the accounts of the subsidiary in the amount of $6,523 annually.

Comment: The number of years over which the payments will be made is not listed.

Rio Algom Mines, Limited, December 31, 1972 (p. 21)

9. COMMITMENTS AND CONTINGENT LIABILITIES

(V) Unfunded liability for pension funds at December 31, 1972 was estimated at $2,824,000 including provisions for improvements in pension benefits which were approved by the directors in April 1972. This is presently being funded over a period of 16 years as follows:

(i) $333,700 per annum for 1973 to 1975,
(ii) $243,600 per annum for 1976 to 1977, and
(iii) $213,600 per annum for 1978 to 1988 inclusive.

Comment: This footnote is reasonably clear. The amortization policy is not given.

Ronyx, Limited, June 30, 1967

9. Liability for past service pension benefits

At June 30, 1967 an amount of $376,000 is required to fund past service pension obligations. This liability is not reflected in the accompanying financial statements but is being paid and charged to operations at the rate of $31,000 annually to account for the full liability by 1989.

Comment: The phrase "paid and charged" is used by Ronyx, Limited.

Silverwood Industries, Limited, January 3, 1971 (p. 20)

10. Pensions

As at January 3, 1971 the companies' liability in respect of past service pension benefits not provided for in the attached consolidated financial statements amounted to approximately $250,000. It is the intention of the companies to provide for and pay this liability in equal annual instalments over the next nineteen fiscal periods.

Comment: The meaning of "to provide for and pay" is not apparent. Silverwood does not disclose the exact amount to be paid each year.

Simpsons-Sears Limited and Consolidated Subsidiary Companies, January 5, 1972 (p. 15)

10. Supplementary Pension Plan:

In prior years Simpsons-Sears Limited has paid allowances

to supplement retirement income provided by the Profit Sharing Retirement Fund and Government plans. Effective from January 1, 1971 the Company has adopted a non-contributory pension plan designed to fully fund these supplemental retirement benefits. For the fiscal year 1970 the supplemental allowances amounted to $459,287 and for the fiscal year 1971 payments for current and past service under the supplementary pension plan amounted to $1,238,000. The unfunded obligation for past service at January 5, 1972, estimated by independent actuaries to be approximately $8,990,000, is to be amortized by annual payments through 1989.

Comment: Simpsons-Sears policy is obscured by the phrase "to be amortized by annual payments."Are the obligations being amortized and funded? Also, no fixed amount is listed to be paid each year.

The Steel Company of Canada, Limited and Subsidiary Companies, December 31, 1966 (p. 18)

8. Pension costs charged against income in the year include payments made to trust funds in respect of past service and amounts paid or payable in respect of current service. Past service costs are being funded over periods not exceeding 25 years. The total unfunded past service liability at December 31, 1966 is estimated at approximately $48,000,000.

Comment: The money used to meet the obligation is sent to a trustee. The exact number of years is not listed nor are the amounts funded each year listed.

Steinberg's Limited, July 31, 1971 (p. 20)

6. RETIREMENT PLAN

There is an obligation for past service pension benefits amounting to $416,000 in accordance with an actuarial valuation as at July 26, 1970. This obligation is being satisfied by annual payments of $33,000, with the final payment to be made in 1990.

Comment: The company's amortization policy is not given.

Union Gas Company of Canada Limited, March 31, 1967 (p. 25)

9. Pension plan liability

The company's pension plan was revised as of January 1, 1966.

The unfunded past service liabilities of the company and its subsidiaries are estimated by the company's consulting actuary to be $2,314,000 at March 31, 1967. The company is following a policy of funding the liability and charging the costs to operations over a period of fifteen years at an annual estimated cost of $226,000.

Comment: It appears that Union Gas Company follows funding and amortization policies that are timed the same.

Westinghouse of Canada Limited, December 31, 1967 (p. 8)

5. PENSION COSTS

The total unfunded past service pension liability at December 31, 1967, including the liability arising from amendments effective January 1, 1968, is estimated at $23 million. This amount will be amortized over future years up to 1989.

Comment: The exact number of years the obligation will be amortized over is not given. The amount to be amortized over is not listed.

Woodward Stores Limited, January 31, 1968

6. Contingent Liabilities and Commitments:

(d) The estimated unfunded liability with respect to the staff employees' pension plan is $8,767,000 which will be amortized and absorbed against income over 22 years.

Comment: Funding of its obligation is not mentioned by Woodward Stores. Also, the sum to be amortized each year is not listed.

APPENDIX B
The Firms in the Sample

Name	Assets (000's) Beg. Yr.	End Yr.	Statements Used
ABITIBI	$ 197,738	$ 380,171	1961-1971
ACKLANDS	89,082	208,285	1969-1979
ALGOMA CENTRAL RAILWAY	38,318	146,680	1967-1977
ASBESTOS CORPORATION LTD.	79,294	228,676	1967-1977
BRIDGE AND TANK CO.	14,634	14,778	1962-1972
B.C. FOREST PRODUCTS	89,349	280,052	1962-1972
CALGARY POWER LTD.	255,052	759,615	1965-1975
CANADA MALTING CO. LTD.	33,755	75,821	1967-1977
CANADIAN PACIFIC LTD.	2,122,527	7,357,419	1966-1976
CANADIAN SALT CO. LTD.	28,029	39,479	1964-1974
CANADIAN UTILITIES LTD.	43,180	363,080	1962-1972
CANRON LTD.	80,324	113,446	1966-1976
CASSIAR ASBESTOS	41,603	117,997	1966-1976
COMINCO LTD.	212,754	570,363	1962-1972
CONSUMER'S GAS CO.	225,594	555,689	1962-1972
R.L. CRAIN INC.	10,500	22,961	1967-1977
DOMINION BRIDGE LTD.	122,105	165,644	1962-1972
DOMINION STORES LTD.	97,809	240,856	1965-1975
DOMTAR INC.	470,355	721,368	1965-1975
FALCONBRIDGE NICKEL MINES	216,588	735,985	1966-1976
FEDERAL PIONEER LTD.	17,648	65,914	1966-1976
FRASER COMPANIES LTD.	97,431	330,788	1969-1979
GAZ METROPOLITAIN INC.	110,371	267,783	1966-1976
GREAT LAKES PAPER LTD.	46,319	84,766	1962-1972
HUDSON'S BAY MINING/SMELTING	123,086	618,736	1967-1977
JOHN INGLIS CO. LTD.	22,999	33,597	1961-1971
INLAND NATURAL GAS	42,293	87,846	1965-1975
INTERPROV. PIPE LINE LTD	234,106	498,792	1960-1970
JOHN LABATT LTD.	97,219	463,141	1967-1977
MACLAREN POWER AND PAPER	82,563	126,307*	1969-1979
MOLSONS LTD.	74,768	345,316	1964-1974
MOORE CORPORATION LTD.	222,268	819,877	1967-1977
NORANDA MINES LTD.	142,957	1,022,479	1961-1971
PHOTO ENGRAVERS/ELECTROTYPERS	4,679	8,277	1962-1972
PRICE COMPANY	198,192	305,818	1962-1972
REICHHOLD CHEMICALS LTD.	4,695	29,767	1963-1973
RIO ALGOM MINES	242,578	682,645	1967-1977
RONYX CORPORATION LTD.	2,628	10,817	1962-1972
SILVERWOOD INDUSTRIES LTD.	31,321	71,007	1965-1975
SIMPSONS-SEARS LTD.	303,545	1,238,070	1966-1976
STEEL COMPANY OF CANADA	370,014	965,910	1961-1971
STEINBERG'S LTD.	130,793	471,917	1966-1976
UNION GAS CO. OF CANADA	141,360	297,495	1962-1972
WESTINGHOUSE CANADA LTD.	79,289	152,031	1962-1972
WOODWARD'S LTD.	73,853	149,034	1963-1973

* 1978 statement last available in library.

APPENDIX C

Firms by Industry[1]

Industry	Firms
Appliance manufacture	John Inglis, Ltd.
Asbestos producers	Asbestos Corporation, Cassiar Asbestos
Auto supply company	Acklands
Breweries and malt producer	Canada Malting, John Labatts, Ltd., Molsons, Ltd.
Business forms manufacturers	R.L. Crain, Moore Corporation
Chemical manufacturer	Reichhold Chemicals
Dairy	Silverwood Industries
Electrical equipment manufacturer	Westinghouse of Canada, Ltd., Federal Pioneer, Ronyx Ltd.,
Mining and smelting	Cominco, Falconbridge Nickel Mines, Hudson Bay Mining and Smelting, Noranda Mines, Rio Algom Mines
Oil pipeline	Interprovincial Pipe Line
Paper producers and pulp and paper producers	Abitibi Paper, Price Company, Domtar, Fraser Companies, Great Lakes Paper
Printing	Photo Engravers and Electrotypers
Rail and Shipping	Algoma Central Railway
Retail stores	Dominion Stores, Simpsons-Sears, Steinbergs, Woodward Stores
Salt producers	Canadian Salt
Steel fabricators, producers and foundries	Bridge and Tank, Canron, Dominion Bridge, Steel Co. of Canada

APPENDIX C
Firms by Industry[1] (cont'd)

Timber	B.C. Forest Products
Transportation	Canadian Pacific, Ltd.
Utilities	Calgary Power, Consumer's Gas, Canadian Utilities, Gas Metropolitain, Inland Natural Gas, MacLaren Power and Paper, Union Gas

1. The decription of the firms' endeavors is taken from The Financial Post Survey of Industrials (1971) and The Financial Post Survey of Mines (1971). The year 1971 was chosen because all firms in the sample had data being collected for them in this year.

APPENDIX D

Price and Dividend Data

One of the major contributions of a research project is the data. Even though this thesis has a small sample, the data collection process took many months. So that the data will be available to other researchers and in order to illustrate the volume of information collected, the raw data has been reproduced on the following pages.

There are two basic presentations of the data. The most common presentation has three columns repeated three times. The information contained in the "three-column" form has a price column, a dividend column and a number of shares column. In the alternative form, the data are presented in a four column format, repeated twice. The first column contains the prices, he second column lists the dividend information, the third column contains stock rights' prices and the fourth column presents the number of shares outstanding in that month. The last two pieces of information are (1) a shortened form of the firm's name and (2) the month and year of the first price listed on each line.

Of special interest are three symbols used in the data. Whenever a 900 precedes a price, this indicates that the number listed as the price is a bid-ask price proxy. A negative 99 in the price column indicates a missing price. finally, when a negative number (e.g., -3.000) is listed in the dividends

column this indicates a stock split. In the case of a negative three, the stock split three-for-one.

As noted in the body of the thesis, the price data was collected from The Globe and Mail. The dividends primarily came from THe Financial Post Dividend Records. The number of shares outstanding each month was taken from The Toronto Stock Exchange Review. The stock rights were found by reading the firms' financial statements.

1.	000.000	00.000	00000000	000.000	00.000	00000000	042.750	00.000	04163218	ABT	0661
2.	041.625	00.000	04163218	040.750	00.425	04163218	039.250	00.000	04163218	ABT	0761
3.	038.500	00.000	04163218	039.250	00.425	04163218	039.875	00.000	04163218	ABT	1061
4.	039.750	00.000	04163218	044.000	00.500	04163218	045.875	00.000	04164684	ABT	0161
5.	046.375	00.000	04164684	045.000	00.500	04165184	044.250	00.000	04165184	ABT	0462
6.	044.750	00.000	04165184	045.750	00.500	04165184	041.500	00.000	04165184	ABT	0762
7.	040.000	00.000	04166484	041.125	00.500	04166684	041.000	00.000	04166684	ABT	1062
8.	041.500	00.000	04166684	041.125	00.500	04166684	040.750	00.000	04166684	ABT	0163
9.	044.750	00.000	04166684	045.500	00.500	04220684	044.000	00.000	04220684	ABT	0463
10.	043.750	00.000	04221184	044.750	00.500	04221184	046.500	00.000	04221184	ABT	0763
11.	049.375	00.000	04221184	049.625	00.560	04233987	012.875	-4.000	16945788	ABT	1063
12.	013.375	00.000	16971108	012.750	00.140	16975668	013.625	00.000	16975668	ABT	0164
13.	015.875	00.000	16978068	015.125	00.140	16978068	014.750	00.000	17187228	ABT	0464
14.	015.250	00.000	17187228	015.375	00.140	17274028	014.875	00.000	17294988	ABT	0764
15.	015.000	00.000	17314828	013.625	00.140	17337788	013.500	00.000	17364908	ABT	1064
16.	013.750	00.000	17364988	013.500	00.140	17366588	012.625	00.000	17366988	ABT	0165
17.	013.000	00.000	17367628	013.000	00.140	17369628	012.000	00.000	17370188	ABT	0465
18.	012.000	00.000	17370548	011.625	00.140	17370988	011.375	00.000	17373068	ABT	0765
19.	011.000	00.000	17373628	010.750	00.140	17373628	012.250	00.000	17373628	ABT	1065
20.	012.750	00.000	17373708	012.250	00.140	17374588	011.875	00.000	17374748	ABT	0166
21.	011.500	00.000	17378908	011.000	00.140	17379068	011.000	00.000	17392664	ABT	0466
22.	010.750	00.000	17394664	010.500	00.140	17404664	010.125	00.000	17405384	ABT	0766
23.	010.750	00.000	17405384	010.000	00.140	17405384	009.875	00.000	17405384	ABT	1066
24.	011.500	00.000	17405384	011.500	00.140	17405384	011.250	00.000	17405384	ABT	0167
25.	010.625	00.000	17405384	010.000	00.140	17405384	009.625	00.000	17405384	ABT	0467
26.	009.750	00.000	17405384	009.500	00.140	17405384	009.125	00.000	17405384	ABT	0767
27.	008.500	00.000	17405384	008.875	00.140	17405384	008.125	00.000	17405384	ABT	1067
28.	007.875	00.000	17455384	007.000	00.140	17455384	007.375	00.000	17455384	ABT	0168
29.	007.375	00.000	17455384	007.750	00.140	17855384	008.000	00.000	17855384	ABT	0468
30.	008.000	00.000	17855384	007.500	00.090	17855384	008.125	00.000	17855384	ABT	0768
31.	008.000	00.000	17855384	009.250	00.090	17855384	009.375	00.000	17855384	ABT	1068
32.	010.500	00.000	17855384	010.750	00.090	17855384	011.125	00.000	17855384	ABT	0169
33.	011.750	00.000	17855384	010.625	00.090	17860384	009.750	00.000	17860384	ABT	0469
34.	009.250	00.000	17860384	009.375	00.090	17860384	009.000	00.000	17860384	ABT	0769
35.	011.250	00.000	17863384	013.125	00.090	17863384	012.500	00.000	17863384	ABT	1069
36.	012.250	00.000	17863384	012.625	00.090	17863384	011.500	00.000	17884384	ABT	0170
37.	010.250	00.000	17884384	009.000	00.090	17884384	007.500	00.000	17884384	ABT	0470
38.	008.000	00.000	17884384	008.000	00.050	17884384	007.625	00.000	17884384	ABT	0770
39.	007.250	00.000	17884384	007.250	00.050	17884384	008.125	00.000	17884384	ABT	1070
40.	008.250	00.000	17884384	007.375	00.000	17884384	006.875	00.000	17884384	ABT	0171
41.	007.125	00.000	17884384	006.750	00.000	17884384	007.125	00.000	17884384	ABT	0471
42.	007.375	00.000	17884384	007.000	00.000	17884384	005.750	00.000	17884384	ABT	0771
43.	005.875	00.000	17884384	005.750	00.000	17884384	007.125	00.000	17884384	ABT	1071
44.	008.125	00.000	17884384	009.000	00.000	17884384	008.000	00.000	17884384	ABT	0172
45.	008.250	00.000	17884384	009.250	00.000	17884384	009.000	00.000	17884384	ABT	0472

1.	000.000	00.000	00000000	017.000	00.060	01230979	014.750	00.000	01230979	ACK	0569
2.	013.250	00.000	01230979	013.250	00.060	01230979	011.250	00.000	01230979	ACK	0769
3.	011.250	00.000	01230979	011.750	00.060	01230979	011.000	00.000	01230979	ACK	1069
4.	010.000	00.000	01230979	008.625	00.060	01230979	010.500	00.000	01230979	ACK	0170
5.	008.000	00.000	01571984	007.000	00.060	01571894	005.500	00.000	01571894	ACK	0470
6.	005.375	00.000	01601985	004.950	00.060	01601985	007.500	00.000	01602004	ACK	0770
7.	906.875	00.000	01602004	906.188	00.060	01602004	006.375	00.000	01602004	ACK	1070
8.	006.875	00.000	01602004	005.875	00.000	01602004	006.000	00.000	01602004	ACK	0171
9.	005.500	00.000	01602004	005.625	00.000	01601984	006.000	00.000	01601984	ACK	0471
10.	006.125	00.000	01601984	006.125	00.000	01601984	905.688	00.000	01601984	ACK	0771
11.	005.500	00.000	01601984	006.500	00.000	01601984	008.250	00.000	01601984	ACK	1071
12.	009.125	00.000	01601984	009.000	00.000	01601984	009.875	00.000	01601984	ACK	0172
13.	010.000	00.000	01601984	009.500	00.000	01601984	909.313	00.000	01601984	ACK	0472
14.	011.000	00.000	01601984	011.625	00.000	01601984	011.375	00.000	01601984	ACK	0772
15.	011.750	00.000	01601984	013.000	00.000	01601984	012.250	00.000	01601984	ACK	1072
16.	012.625	00.000	01601984	013.000	00.000	01601984	013.625	00.000	01601984	ACK	0173
17.	012.250	00.000	01601984	010.750	00.080	01601984	011.000	00.000	01601984	ACK	0473
18.	011.250	00.000	01601984	911.375	00.080	02469269	017.000	00.000	02469269	ACK	0773
19.	015.000	00.000	02469269	011.000	00.080	02469269	011.250	00.000	02469269	ACK	1073
20.	012.750	00.000	02469269	012.125	00.080	02469269	013.250	00.000	02478719	ACK	0174
21.	012.250	00.000	02478719	011.750	00.080	02478719	011.125	00.000	02478719	ACK	0474
22.	911.125	00.000	02478719	011.125	00.100	02478439	010.750	00.000	02478439	ACK	0774
23.	012.000	00.000	02478439	011.500	00.100	02478439	011.250	00.000	02478439	ACK	1074
24.	012.875	00.000	02478439	013.250	00.120	02478439	013.750	00.000	02478439	ACK	0175
25.	014.125	00.000	02478439	014.500	00.120	02478439	016.375	00.000	02478439	ACK	0475
26.	016.250	00.000	02478439	015.875	00.120	02478439	015.125	00.000	02478439	ACK	0775
27.	014.500	00.000	02478439	014.250	00.120	02478439	014.750	00.000	02478439	ACK	1075
28.	014.500	00.000	02478439	014.750	00.120	02478439	014.000	00.000	02482374	ACK	0176
29.	914.063	00.000	02482374	013.250	00.120	02521908	012.750	00.000	02521908	ACK	0476
30.	912.375	00.000	02521908	012.000	00.120	02521908	011.875	00.000	02521908	ACK	0776
31.	911.938	00.000	02521908	911.625	00.120	02517958	012.500	00.000	02517958	ACK	1076
32.	012.500	00.000	02517958	011.875	00.120	02517958	011.500	00.000	02517958	ACK	0177
33.	011.500	00.000	02520362	911.688	00.120	02520362	011.500	00.000	02520362	ACK	0477
34.	011.500	00.000	02520362	011.000	00.120	02520362	010.875	00.000	02520362	ACK	0777
35.	011.000	00.000	02520362	911.125	00.120	02520362	011.250	00.000	02520362	ACK	1077
36.	911.125	00.000	02520362	911.250	00.240	02520362	911.313	00.000	02520362	ACK	0178
37.	011.125	00.000	02520362	011.000	00.240	02519695	013.500	00.000	02519695	ACK	0478
38.	013.000	00.000	02519695	013.125	00.240	02519695	013.000	00.000	02519695	ACK	0778
39.	013.875	00.000	02519695	015.000	00.240	02519695	015.000	00.000	02519098	ACK	1078
40.	014.750	00.000	02519098	016.250	00.120	02519098	016.500	00.000	02519098	ACK	0179
41.	015.750	00.000	02519098	015.250	00.120	02519098	016.000	00.000	02519098	ACK	0479
42.	016.500	00.000	02520008	016.250	00.120	02520008	016.750	00.000	02520008	ACK	0779
43.	016.000	00.000	02520008	016.000	00.120	02520008	016.750	00.000	02520008	ACK	1079
44.	016.500	00.000	02520008	016.500	00.120	02520008	015.000	00.000	02529163	ACK	0180
45.	914.250	00.000	02529163	014.000	00.000	02529163	000.000	00.000	00000000	ACK	0480

1.	000.000	00.000	00000000	000.000	00.000	00000000	007.875	00.000	03202300	ACR	0667
2.	007.750	00.000	03203330	008.000	00.080	03215330	007.750	00.000	03215330	ACR	0767
3.	007.750	00.000	03215330	007.375	00.080	03215330	007.250	00.000	03215330	ACR	1067
4.	007.750	00.000	03215430	009.250	00.080	03219480	009.250	00.000	03234485	ACR	0168
5.	009.250	00.000	03248875	008.375	00.080	03248875	008.625	00.000	03248875	ACR	0468
6.	010.250	00.000	03248875	010.000	00.080	03248875	011.250	00.000	03248875	ACR	0768
7.	010.500	00.000	03248875	010.500	00.080	03248875	010.000	00.000	03248875	ACR	1068
8.	009.875	00.000	03248875	010.250	00.080	03248875	009.000	00.000	03248875	ACR	0169
9.	009.875	00.000	03248875	009.250	00.080	03248875	908.375	00.000	03248875	ACR	0469
10.	007.250	00.000	03248875	007.250	00.080	03248875	907.500	00.000	03248875	ACR	0769
11.	007.250	00.000	03248875	006.750	00.080	03248875	906.625	00.000	03248875	ACR	1069
12.	006.500	00.000	03248875	006.375	00.080	03248875	006.375	00.000	03248875	ACR	0170
13.	006.875	00.000	03248875	006.375	00.100	03248875	006.750	00.000	03248875	ACR	0470
14.	006.125	00.000	03248875	006.750	00.100	03278875	008.000	00.000	03278875	ACR	0770
15.	008.750	00.000	03278875	008.250	00.100	03278875	008.875	00.000	03278875	ACR	1070
16.	008.875	00.000	03278875	009.000	00.100	03278875	009.750	00.000	03278875	ACR	0171
17.	010.000	00.000	03278875	009.500	00.100	03278875	009.625	00.000	03278875	ACR	0471
18.	009.000	00.000	03278875	908.313	00.100	03278875	007.375	00.000	03278875	ACR	0771
19.	007.625	00.000	03278875	007.750	00.100	03278875	008.750	00.000	03278875	ACR	1071
20.	009.000	00.000	03278875	008.750	00.100	03278875	009.750	00.000	03278875	ACR	0172
21.	010.625	00.000	03278875	010.875	00.125	03278875	010.250	00.000	03278875	ACR	0472
22.	010.000	00.000	03278875	010.000	00.125	03278875	010.875	00.000	03278875	ACR	0772
23.	011.000	00.000	03278875	011.375	00.125	03278875	013.000	00.000	03278875	ACR	1072
24.	012.000	00.000	03278875	013.875	00.125	03278875	016.000	00.000	03278875	ACR	0173
25.	015.750	00.000	03278875	015.000	00.150	03278875	014.500	00.000	03278875	ACR	0473
26.	015.000	00.000	03278875	914.813	00.150	03278875	013.500	00.000	03278875	ACR	0773
27.	015.000	00.000	03278875	013.625	00.150	03278875	012.500	00.000	03278875	ACR	1073
28.	013.125	00.000	03278875	014.500	00.150	03278875	912.875	00.000	03278875	ACR	0174
29.	012.000	00.000	03278875	011.500	00.180	03278875	911.188	00.000	03278875	ACR	0474
30.	010.500	00.000	03278875	010.625	00.180	03278875	909.875	00.000	03278875	ACR	0774
31.	910.375	00.000	03278875	909.375	00.180	03278875	009.125	00.000	03278875	ACR	1074
32.	010.750	00.000	03278875	012.000	00.180	03278875	012.500	00.000	03278875	ACR	0175
33.	015.000	00.000	03278875	914.000	00.180	03278875	012.875	00.000	03278875	ACR	0475
34.	013.250	00.000	03278875	014.750	00.180	03278875	014.750	00.000	03278875	ACR	0775
35.	015.000	00.000	03278875	013.500	00.180	03278875	912.938	00.000	03278875	ACR	1075
36.	013.875	00.000	03278875	013.750	00.180	03278875	913.750	00.000	03278875	ACR	0176
37.	913.813	00.000	03278875	012.500	00.180	03278875	012.500	00.000	03278875	ACR	0476
38.	011.750	00.180	03278875	012.000	00.000	03278875	012.250	00.000	03278875	ACR	0776
39.	011.125	00.000	03278875	911.250	00.195	03278875	911.375	00.000	03278875	ACR	1076
40.	011.250	00.000	03278875	011.000	00.195	03278875	011.500	00.000	03278875	ACR	0177
41.	912.688	00.000	03278875	912.875	00.195	03278875	912.500	00.000	03278875	ACR	0477
42.	913.625	00.000	03278875	913.063	00.195	03278875	012.750	00.000	03278875	ACR	0777
43.	913.250	00.000	03278875	914.125	00.195	03278875	015.625	00.000	03278875	ACR	1077
44.	016.000	00.000	03278875	015.625	00.210	03278875	016.000	00.000	03278875	ACR	0178
45.	016.375	00.000	03278875	019.000	00.210	03278875	918.438	00.000	03278875	ACR	0478

1.	000.000	00.000	00000000	000.000	00.000	00000000	022.750	00.250	02577855	ASB	0667
2.	023.000	00.000	02577855	024.250	00.000	02577855	024.375	00.250	02578005	ASB	0767
3.	022.250	00.000	02581180	020.750	00.000	02581180	019.125	00.250	02581180	ASB	1067
4.	020.750	00.000	02581180	021.500	00.000	02581180	019.375	00.250	02581180	ASB	0168
5.	019.250	00.000	02581180	020.500	00.000	02581180	022.125	00.250	02581180	ASB	0468
6.	022.875	00.000	02581180	023.000	00.000	02581500	022.875	00.250	02581500	ASB	0768
7.	022.625	00.000	02582800	022.500	00.000	02582800	025.500	00.250	02582800	ASB	1068
8.	027.500	00.000	02584875	025.000	00.000	02585075	023.625	00.250	02585075	ASB	0169
9.	024.000	00.000	02835225	022.500	00.000	02835225	020.500	00.250	02835225	ASB	0469
10.	023.000	00.000	02835225	025.250	00.000	02835225	024.375	00.250	02835225	ASB	0769
11.	025.000	00.000	02837075	026.500	00.000	02837075	025.875	00.250	02837075	ASB	1069
12.	026.000	00.000	02837075	026.250	00.000	02837075	026.000	00.250	02837002	ASB	0170
13.	026.250	00.000	02837002	025.625	00.000	02837002	026.250	00.250	02837002	ASB	0470
14.	028.000	00.000	02837002	028.000	00.000	02837002	027.250	00.250	02837002	ASB	0770
15.	027.125	00.000	02837002	030.000	00.000	02837002	032.750	00.250	02837002	ASB	1070
16.	034.000	00.000	02837002	034.500	00.000	02837002	036.500	00.250	02837002	ASB	0171
17.	035.000	00.000	02837002	035.000	00.000	02837002	034.750	00.250	02837002	ASB	0471
18.	033.625	00.000	02837002	033.875	00.000	02837002	029.625	00.250	02837002	ASB	0771
19.	027.625	00.000	02837002	027.750	00.000	02837002	027.750	00.250	02837002	ASB	1071
20.	028.250	00.000	02837002	027.500	00.000	02837002	028.000	00.250	02837002	ASB	0172
21.	026.125	00.000	02837002	022.250	00.200	02837002	021.125	00.000	02837002	ASB	0472
22.	021.375	00.000	02837002	020.750	00.000	02837002	020.000	00.000	02837002	ASB	0772
23.	019.000	00.000	02837002	017.125	00.000	02837002	016.500	00.000	02837002	ASB	1072
24.	019.750	00.000	02837002	017.750	00.000	02837002	017.250	00.000	02837002	ASB	0173
25.	016.375	00.000	02837002	016.625	00.000	02837002	915.625	00.000	02837002	ASB	0473
26.	015.625	00.000	02837002	015.250	00.000	02837002	018.250	00.000	02837002	ASB	0773
27.	021.000	00.000	02837002	017.750	00.000	02837002	016.875	00.000	02837002	ASB	1073
28.	019.000	00.000	02837002	019.250	00.000	02837002	018.625	00.000	02837002	ASB	0174
29.	018.125	00.000	02837002	018.125	00.000	02837002	017.125	00.000	02837002	ASB	0474
30.	917.813	00.000	02837002	017.250	00.000	02837002	013.500	00.000	02837002	ASB	0774
31.	017.000	00.000	02837002	015.625	00.000	02837002	012.500	00.000	02837002	ASB	1074
32.	015.750	00.000	02837002	017.000	00.000	02837002	916.000	00.000	02837002	ASB	0175
33.	014.500	00.000	02837002	016.750	00.000	02837002	017.000	00.000	02837002	ASB	0475
34.	020.500	00.000	02837002	020.250	00.000	02837002	019.500	00.000	02837002	ASB	0775
35.	019.750	00.000	02837002	020.750	00.000	02837002	021.375	00.000	02837002	ASB	1075
36.	026.000	00.250	02837002	026.500	00.000	02837002	029.625	00.250	02837002	ASB	0176
37.	029.750	00.000	02837002	031.250	00.000	02837002	029.875	00.250	02837002	ASB	0476
38.	030.000	00.000	02837002	032.750	00.000	02837002	030.250	00.250	02837002	ASB	0776
39.	027.750	00.000	02837002	023.500	00.250	02837002	022.750	00.000	02837002	ASB	1076
40.	021.250	00.000	02837002	021.875	00.000	02837002	022.500	00.250	02837002	ASB	0177
41.	024.250	00.000	02837002	923.250	00.000	02837002	021.750	00.250	02837002	ASB	0477
42.	023.375	00.000	02837002	023.500	00.000	02837002	023.000	00.500	02837002	ASB	0777
43.	035.000	00.000	02837002	041.000	00.000	02837002	038.250	00.600	02837002	ASB	1077
44.	039.500	00.000	02837002	039.500	00.000	02837002	038.500	00.600	02837002	ASB	0178
45.	038.125	00.000	02837002	039.500	00.000	02837002	044.000	00.600	02837002	ASB	0478

ASBESTOS CORPORATION LIMITED

1.	000.000	00.000	00000000	000.000	00.000	00000000	003.400	00.000	01043694	BRT	0662
2.	002.950	00.000	01043694	002.900	00.000	01043694	003.000	00.000	01043694	BRT	0762
3.	902.850	00.000	01043694	002.850	00.000	01043694	902.950	00.000	01043694	BRT	1062
4.	902.900	00.000	01043694	902.900	00.000	01043694	002.700	00.000	01043694	BRT	0163
5.	902.775	00.000	01043694	002.600	00.000	01043694	002.250	00.000	01043694	BRT	0463
6.	902.025	00.000	01043694	001.800	00.000	01043694	901.975	00.000	01043694	BRT	0763
7.	902.325	00.000	01043694	002.200	00.000	01043694	902.625	00.000	01043694	BRT	1063
8.	002.500	00.000	01043694	002.700	00.000	01043694	902.725	00.000	01043694	BRT	0164
9.	902.700	00.000	01043694	003.050	00.000	01043694	903.425	00.000	01043694	BRT	0464
10.	903.550	00.000	01043694	903.050	00.000	01043694	002.900	00.000	01043694	BRT	0764
11.	-99.000	00.000	01043694	902.975	00.000	01043694	002.900	00.000	01043694	BRT	1064
12.	903.050	00.000	01043694	003.100	00.000	01043694	903.175	00.000	01043694	BRT	0165
13.	003.750	00.000	01043694	004.800	00.000	01043694	904.375	00.000	01043694	BRT	0465
14.	904.125	00.000	01043694	904.500	00.000	01043694	004.700	00.000	01043694	BRT	0765
15.	904.875	00.000	01043694	005.250	00.000	01043694	007.000	00.000	01043694	BRT	1065
16.	007.250	00.000	01043694	906.750	00.000	01043694	007.500	00.000	01043694	BRT	0166
17.	006.750	00.000	01043694	906.563	00.000	01043694	906.375	00.000	01043694	BRT	0466
18.	905.563	00.000	01043694	005.500	00.000	01043694	005.250	00.000	01043694	BRT	0766
19.	004.750	00.000	01043694	904.700	00.000	01043694	004.000	00.000	01043694	BRT	1066
20.	904.700	00.000	01043694	004.500	00.000	01043694	004.500	00.000	01043694	BRT	0167
21.	904.375	00.000	01043694	904.875	00.000	01043694	004.350	00.000	01043694	BRT	0467
22.	903.750	00.000	01043694	903.825	00.000	01043694	003.150	00.000	01043694	BRT	0767
23.	903.375	00.000	01043694	903.475	00.000	01043694	903.350	00.000	01043694	BRT	1067
24.	902.700	00.000	01043694	002.350	00.000	01043694	902.250	00.000	01043694	BRT	0168
25.	002.500	00.000	01043694	902.725	00.000	01043694	903.575	00.000	01043694	BRT	0468
26.	002.500	00.000	01043694	903.100	00.000	01043694	903.050	00.000	01043694	BRT	0768
27.	902.875	00.000	01043694	903.375	00.000	01043694	003.450	00.000	01043694	BRT	1068
28.	003.250	00.000	01043694	903.650	00.000	01043694	903.725	00.000	01043694	BRT	0169
29.	003.650	00.000	01043694	003.250	00.000	01043694	903.325	00.000	01043694	BRT	0469
30.	902.525	00.000	01043694	902.400	00.000	01043694	002.250	00.000	01043694	BRT	0769
31.	902.375	00.000	01043694	902.750	00.000	01043694	902.675	00.000	01043694	BRT	1069
32.	002.450	00.000	01043694	902.575	00.000	01043694	902.375	00.000	01043694	BRT	0170
33.	902.575	00.000	01043694	902.175	00.000	01043694	002.450	00.000	01043694	BRT	0470
34.	902.375	00.000	01043694	902.375	00.000	01043694	902.475	00.000	01043694	BRT	0770
35.	902.300	00.000	01043694	902.575	00.000	01043694	902.500	00.000	01043694	BRT	1070
36.	903.225	00.000	01043694	002.750	00.000	01043694	-99.000	00.000	01043694	BRT	0171
37.	003.250	00.000	01043694	902.675	00.000	01043694	902.650	00.000	01043694	BRT	0471
38.	902.700	00.000	01043694	004.150	00.000	01043694	904.375	00.000	01043694	BRT	0771
39.	904.575	00.000	01043694	004.500	00.000	01043694	004.900	00.000	01043694	BRT	1071
40.	905.625	00.000	01043694	905.375	00.000	01043694	905.188	00.000	01043694	BRT	0172
41.	905.313	00.000	01043694	905.188	00.000	01043694	004.650	00.000	01043694	BRT	0472
42.	004.900	00.000	01043694	905.263	00.000	01043694	006.250	00.000	01043694	BRT	0772
43.	906.000	00.000	01043694	905.875	00.000	01043694	005.750	00.000	01043694	BRT	1072
44.	005.875	00.000	01043694	006.125	00.000	01043694	907.000	00.000	01043694	BRT	0173
45.	007.500	00.000	01043694	006.500	00.000	01043694	006.125	00.000	01043694	BRT	0473

1.	000.000	00.000	00000000	000.000	00.000	00000000	011.000	00.000	03442750	BCF	0662
2.	010.625	00.125	03442750	012.625	00.000	03442750	012.000	00.000	03442750	BCF	0762
3.	010.750	00.125	03442750	014.375	00.000	03442750	012.500	00.000	03442750	BCF	1062
4.	014.500	00.125	03442750	014.375	00.000	03442750	016.250	00.000	03442750	BCF	0163
5.	018.000	00.150	03442750	018.375	00.000	03442850	018.125	00.000	03442850	BCF	0463
6.	019.250	00.150	03443650	019.750	00.000	03443650	022.375	00.000	03443650	BCF	0763
7.	022.750	00.150	03444650	022.750	00.000	03445050	023.500	00.150	03445383	BCF	1063
8.	024.500	00.000	03445935	024.625	00.000	03447335	028.375	00.000	03447835	BCF	0164
9.	029.250	00.200	03450335	028.625	00.000	03450335	030.250	00.200	03451335	BCF	0464
10.	032.500	00.000	03451335	030.375	00.000	03451990	033.125	00.000	03452507	BCF	0764
11.	032.500	00.200	03454037	030.500	00.000	03454037	029.500	00.000	03454037	BCF	1064
12.	031.500	00.200	03454795	030.500	00.000	03455945	029.500	00.000	03457199	BCF	0165
13.	030.000	00.250	03461580	028.500	00.000	03461580	026.750	00.000	03461580	BCF	0465
14.	027.000	00.250	03461580	026.500	00.000	03461735	026.375	00.000	03461735	BCF	0765
15.	023.875	00.250	03462068	021.875	00.000	03463068	023.000	00.000	03463193	BCF	1065
16.	023.250	00.250	03463748	024.500	00.000	03464100	021.500	00.000	03464366	BCF	0166
17.	019.625	00.250	03464366	018.625	00.000	03464754	019.750	00.000	03464754	BCF	0466
18.	020.500	00.250	03465504	020.000	00.000	03465504	019.375	00.000	03465849	BCF	0766
19.	019.125	00.250	03465949	019.250	00.000	03466049	019.750	00.000	03467089	BCF	1066
20.	022.625	00.250	03694389	023.250	00.000	03702825	023.250	00.000	03705327	BCF	0167
21.	022.250	00.250	03705427	020.000	00.000	03705627	019.250	00.000	03710078	BCF	0467
22.	019.750	00.250	03710078	020.375	00.000	03710078	021.625	00.000	03712828	BCF	0767
23.	020.125	00.250	03712828	018.500	00.000	03713828	017.250	00.000	03713828	BCF	1067
24.	015.250	00.250	03716195	014.625	00.000	03716195	014.000	00.000	03716195	BCF	0168
25.	015.250	00.250	03716195	015.500	00.000	03716195	018.500	00.000	03716195	BCF	0468
26.	016.750	00.250	03716195	019.000	00.000	03716195	024.500	00.000	03716195	BCF	0768
27.	025.500	00.250	03716345	028.250	00.000	03716345	030.875	00.250	03716720	BCF	1068
28.	035.000	00.000	03716720	035.000	00.000	03716720	037.000	00.000	03717020	BCF	0169
29.	039.500	00.250	03718064	037.000	00.000	03718064	031.000	00.000	03718064	BCF	0469
30.	031.750	00.250	03718064	031.500	00.000	03718064	031.000	00.000	03718064	BCF	0769
31.	032.500	00.250	03718064	935.688	00.000	03718064	032.250	00.000	03718064	BCF	1069
32.	033.000	00.250	03718339	933.125	00.000	03718339	033.000	00.000	03718469	BCF	0170
33.	031.750	00.250	03718469	024.500	00.000	03718469	022.875	00.000	03718469	BCF	0470
34.	025.250	00.250	03718469	025.000	00.000	03718469	022.500	00.300	03718469	BCF	0770
35.	925.500	00.250	03718469	024.000	00.000	03718469	025.125	00.000	03718469	BCF	1070
36.	923.625	00.250	03718569	025.500	00.000	03718569	024.000	00.000	03718569	BCF	0171
37.	023.000	00.000	03718569	020.000	00.000	03718569	919.813	00.000	03718569	BCF	0471
38.	919.875	00.000	03718569	919.563	00.000	03718569	919.125	00.000	03718569	BCF	0771
39.	016.500	00.100	03718569	916.125	00.000	03718569	021.500	00.000	03718569	BCF	1071
40.	025.250	00.100	03718569	924.875	00.000	03718569	021.000	00.000	03718569	BCF	0172
41.	020.750	00.100	03718569	922.250	00.000	03718569	921.750	00.000	03718569	BCF	0472
42.	021.500	00.100	03718569	023.000	00.000	03718569	920.250	00.000	03718569	BCF	0772
43.	020.000	00.100	03718569	021.375	00.000	03718569	023.750	00.000	03718744	BCF	1072
44.	028.000	00.100	03718744	035.250	00.000	03718744	034.500	00.000	03718744	BCF	0173
45.	035.375	00.200	03733744	016.125	-2.000	07467488	016.250	00.000	07467488	BCF	0473

1.	020.375	00.150	00.000	05250000	021.625	00.000	00.000	05250000	CAL 0665
2.	024.250	00.000	00.000	05250000	026.000	00.175	00.000	05250000	CAL 0865
3.	026.375	00.000	00.000	05250000	027.500	00.000	00.000	05250000	CAL 1065
4.	027.500	00.175	00.000	05250000	029.500	00.000	00.000	05250000	CAL 1265
5.	027.125	00.000	00.000	05250000	025.625	00.175	00.000	05250000	CAL 0266
6.	027.125	00.000	00.000	05250000	026.250	00.000	00.000	05250000	CAL 0466
7.	026.500	00.175	00.000	05250000	026.500	00.000	00.000	05250000	CAL 0666
8.	023.250	00.000	00.000	05250000	022.500	00.175	00.000	05250000	CAL 0866
9.	021.500	00.000	00.000	05250000	021.250	00.000	00.000	05250000	CAL 1066
10.	021.500	00.175	00.000	05250000	022.750	00.000	00.000	05250000	CAL 1266
11.	923.563	00.175	00.000	05250000	023.250	00.000	00.000	05250000	CAL 0267
12.	024.500	00.000	00.000	05250000	022.500	00.175	00.000	05250000	CAL 0467
13.	023.250	00.000	00.000	05250000	024.750	00.000	00.000	05250000	CAL 0667
14.	024.500	00.175	00.000	05250000	025.250	00.000	00.000	05250000	CAL 0867
15.	023.125	00.000	00.000	05250000	023.625	00.200	00.000	05250000	CAL 1067
16.	023.375	00.000	00.000	05250000	021.500	00.000	00.000	05250000	CAL 1267
17.	020.750	00.200	00.000	05250000	019.000	00.000	00.000	05250000	CAL 0268
18.	023.000	00.000	00.000	05250000	020.375	00.200	00.000	05250000	CAL 0468
19.	023.000	00.000	00.000	05250000	022.750	00.000	00.000	05250000	CAL 0668
20.	023.500	00.200	00.000	05250000	026.000	00.000	00.000	05250000	CAL 0868
21.	026.000	00.000	00.000	05250000	028.500	00.200	00.000	05250000	CAL 1068
22.	027.500	00.000	00.000	05250000	026.000	00.000	00.000	05250000	CAL 1268
23.	025.500	00.200	00.000	05250000	025.000	00.000	00.000	05250000	CAL 0269
24.	024.500	00.000	00.000	05250000	027.750	00.200	00.000	05250000	CAL 0469
25.	025.000	00.000	00.000	05250000	024.500	00.000	00.000	05250000	CAL 0669
26.	024.875	00.200	00.000	05250000	026.625	00.000	00.000	05250000	CAL 0869
27.	026.000	00.000	00.000	05250000	023.500	00.000	00.000	05250000	CAL 1069
28.	023.000	00.200	00.000	05250000	021.250	00.000	00.000	05250000	CAL 1269
29.	021.750	00.200	00.000	05250000	022.750	00.000	00.000	05250000	CAL 0270
30.	020.500	00.000	00.000	05250000	020.750	00.200	00.000	05250000	CAL 0470
31.	020.875	00.000	00.000	05250000	021.375	00.000	00.000	05250000	CAL 0670
32.	022.750	00.200	00.000	05250000	025.000	00.000	00.000	05250000	CAL 0870
33.	023.625	00.000	00.000	05250000	026.500	00.250	00.000	05250000	CAL 1070
34.	026.000	00.000	00.000	05250000	026.750	00.000	00.000	05250000	CAL 1270
35.	026.625	00.250	00.000	05250000	028.375	00.000	00.000	05250000	CAL 0271
36.	028.500	00.000	00.000	05250000	027.000	00.250	00.000	05250000	CAL 0471

CALGARY POWER LIMITED - CLASS A

37.	027.250	00.000	00.000	05250000	026.750	00.000	00.000	05250000	CAL 0671
38.	026.625	00.250	00.000	05250000	025.000	00.000	00.000	05250000	CAL 0871
39.	024.125	00.000	00.000	05276950	025.500	00.250	00.000	05276950	CAL 1071
40.	026.500	00.000	00.000	05276950	028.000	00.000	00.000	05577195	CAL 1271
41.	026.375	00.250	00.000	05577195	024.750	00.000	00.000	05578110	CAL 0272
42.	025.250	00.000	00.000	05578110	025.000	00.250	00.000	05578110	CAL 0472
43.	025.250	00.000	00.000	05578110	025.500	00.000	00.000	05578110	CAL 0672
44.	026.500	00.250	00.000	05578110	025.000	00.000	00.000	05578110	CAL 0872
45.	-99.000	00.000	00.000	05578110	026.625	00.250	00.000	05578110	CAL 1072
46.	028.625	00.000	00.000	05578110	028.750	00.000	00.000	05578110	CAL 1272
47.	029.500	00.000	00.000	05578110	027.750	00.250	00.000	05578110	CAL 0273
48.	027.750	00.000	00.000	05578110	025.000	00.250	00.000	05578031	CAL 0473
49.	024.500	00.000	00.000	05578031	024.000	00.000	00.000	05578031	CAL 0673
50.	023.125	00.000	00.000	05578031	025.500	00.300	00.000	05578031	CAL 0873
51.	024.500	00.000	00.000	05578031	022.875	00.300	00.000	05578031	CAL 1073
52.	023.750	00.000	00.000	05578031	023.250	00.000	00.000	05578031	CAL 1273
53.	024.750	00.300	00.000	05578031	023.250	00.000	00.000	05578031	CAL 0274
54.	023.000	00.000	00.000	05578031	022.750	00.300	00.000	05578031	CAL 0474
55.	022.625	00.000	00.000	05578031	022.750	00.000	00.000	05578031	CAL 0674
56.	019.500	00.300	00.000	05578031	016.500	00.000	00.000	05578031	CAL 0874
57.	019.250	00.000	00.100	05578031	019.500	00.350	00.000	05578031	CAL 1074
58.	022.000	00.000	00.000	05578031	024.250	00.000	00.000	06137955	CAL 1274
59.	025.125	00.350	00.000	06137955	024.500	00.000	00.000	06137955	CAL 0275
60.	022.500	00.000	00.000	06137955	024.000	00.350	00.000	06137955	CAL 0475
61.	025.500	00.000	00.000	06138396	026.000	00.000	00.000	06138396	CAL 0675
62.	025.500	00.450	00.000	06138396	025.250	00.000	00.000	06138501	CAL 0875
63.	026.625	00.000	00.000	07094602	027.750	00.450	00.000	07094602	CAL 1075
64.	028.125	00.000	00.000	07094602	029.375	00.000	00.000	07095994	CAL 1275
65.	027.000	00.450	00.000	07095994	027.625	00.000	00.000	07095994	CAL 0276
66.	028.875	00.000	00.000	07095994	029.875	00.450	00.000	07051177	CAL 0476
67.	029.500	00.000	00.000	07051177	000.000	00.000	00.000	00000000	CAL 0676

CALGARY POWER LIMITED - CLASS A (continued)

1.	000.000	00.000	00000000	000.000	00.000	00000000	021.875	00.000	00863888	CDM	0667
2.	023.000	00.000	00863888	924.563	00.225	00863888	023.000	00.000	00863888	CDM	0767
3.	024.000	00.000	00863888	022.000	00.225	00863888	023.500	00.000	00863888	CDM	1067
4.	022.000	00.000	00863888	017.500	00.250	00863888	017.000	04.050	00863888	CDM	0168
5.	017.875	00.000	00863888	017.625	00.250	00863888	019.750	00.000	00863888	CDM	0468
6.	019.000	00.000	00863888	019.500	00.250	00863888	020.500	00.000	00863888	CDM	0768
7.	022.875	00.000	00863888	022.000	00.250	00863888	022.000	00.000	00863888	CDM	1068
8.	020.500	00.000	00863888	020.250	00.250	00863888	020.500	00.000	00863888	CDM	0169
9.	020.500	00.000	00863888	020.625	00.250	00863888	019.500	00.000	00863888	CDM	0469
10.	019.250	00.000	00863888	020.000	00.250	00863888	021.000	00.000	00863888	CDM	0769
11.	020.500	00.000	00863888	022.250	00.250	00863888	021.875	00.000	00863888	CDM	1069
12.	021.250	00.000	00863888	021.125	00.250	00863888	021.250	00.000	00863888	CDM	0170
13.	020.625	00.000	00863888	019.500	00.250	00863888	020.000	00.000	00863888	CDM	0470
14.	919.625	00.000	00863888	020.250	00.250	00863888	021.000	00.000	00863888	CDM	0770
15.	021.000	00.000	00863888	020.875	00.250	00863888	021.500	00.000	00863888	CDM	1070
16.	922.125	00.000	00863888	022.000	00.250	00863888	022.250	00.000	00863888	CDM	0171
17.	023.500	00.000	00863888	022.875	00.250	00863888	023.500	00.000	00863888	CDM	0471
18.	922.750	00.000	00863888	023.000	00.250	00863888	024.625	00.000	00863888	CDM	0771
19.	924.250	00.000	00863888	026.500	00.300	00863888	025.750	00.000	00863888	CDM	1071
20.	029.000	00.000	00863888	029.125	00.300	00863888	029.000	00.000	00863888	CDM	0172
21.	028.750	00.000	00863888	029.375	00.300	00863888	028.625	00.000	00863888	CDM	0472
22.	031.000	00.000	00863888	029.750	00.300	00863888	028.250	00.000	00863888	CDM	0772
23.	930.000	00.000	00863888	031.000	00.300	00863888	032.500	00.000	00863888	CDM	1072
24.	032.000	00.000	00863888	030.000	00.300	00863888	931.750	00.000	00863888	CDM	0173
25.	033.000	00.000	00863888	928.250	00.350	00863888	029.000	00.000	00863888	CDM	0473
26.	028.750	00.000	00863888	027.250	00.350	00863888	025.500	00.000	00863888	CDM	0773
27.	028.375	00.000	00863888	027.750	00.350	00863888	027.500	00.000	00863888	CDM	1073
28.	028.750	00.000	00863888	928.500	00.350	00863888	031.000	00.000	00863888	CDM	0174
29.	929.500	00.000	00863888	027.000	00.350	00863888	027.250	00.000	00863888	CDM	0474
30.	927.688	00.000	00749478	029.000	00.350	00749478	926.750	00.000	00749478	CDM	0774
31.	025.250	00.000	00749478	024.500	00.350	00749478	924.188	00.000	00749478	CDM	1074
32.	023.000	00.000	00749478	024.000	00.350	00749478	025.625	00.000	00749478	CDM	0175
33.	025.250	00.000	00766155	923.750	00.350	00766155	922.250	00.000	00766415	CDM	0475
34.	023.500	00.000	00761500	922.000	00.350	00761600	020.000	00.000	00761730	CDM	0775
35.	020.500	00.000	00761795	919.375	00.350	00761730	019.625	00.000	00761730	CDM	1075
36.	021.000	00.000	00761730	022.000	00.350	00761730	021.250	00.000	00761730	CDM	0176
37.	922.000	00.000	00761730	020.250	00.350	00754480	919.750	00.000	00754480	CDM	0476
38.	018.750	00.000	00754480	918.938	00.350	00754480	018.375	00.000	00754480	CDM	0776
39.	017.500	00.000	00748588	017.500	00.350	00748588	919.750	00.000	00748588	CDM	1076
40.	018.250	00.000	00748588	918.125	00.350	00748588	019.250	00.000	00748588	CDM	0177
41.	022.000	00.000	00748588	021.875	00.350	00747725	021.625	00.000	00747725	CDM	0477
42.	022.500	00.000	00747725	024.000	00.350	00747725	023.375	00.000	00747725	CDM	0777
43.	026.500	00.000	00747885	029.750	00.400	00747885	029.000	00.000	00742285	CDM	1077
44.	026.250	00.000	00743465	027.500	00.400	00743725	029.875	00.000	00743925	CDM	0178
45.	028.875	00.000	00743985	929.375	00.400	00745256	030.000	00.000	00745256	CDM	0478

1.	000.000	00.000	00000000	000.000	00.000	00000000	063.000	01.450	14332456	CPL	0666
2.	060.000	00.000	14332456	055.250	00.000	14332456	055.500	00.000	14332456	CPL	0766
3.	053.125	00.000	14332456	054.500	00.000	14332456	054.750	01.450	14332456	CPL	1066
4.	060.375	00.000	14332456	064.250	00.000	14332456	067.750	00.000	14332456	CPL	0167
5.	072.375	00.000	14332456	068.500	00.000	14332456	071.000	01.450	14332456	CPL	0467
6.	072.000	00.000	14332456	067.500	00.000	14332456	062.875	00.000	14332456	CPL	0767
7.	060.500	00.000	14332456	060.000	00.000	14332456	058.500	01.450	14332456	CPL	1067
8.	054.000	00.000	14332456	052.875	00.000	14332456	049.000	00.000	14332456	CPL	0168
9.	051.750	00.000	14332456	058.250	00.000	14332456	059.000	01.500	14332456	CPL	0468
10.	058.000	00.000	14332456	061.500	00.000	14332456	066.625	00.000	14332456	CPL	0768
11.	071.500	00.000	14332456	074.875	00.000	14332456	076.875	01.500	14332456	CPL	1068
12.	079.500	00.000	14332456	079.000	00.000	14332456	084.000	00.000	14332456	CPL	0169
13.	086.000	00.000	14332456	088.125	00.000	14332456	077.250	01.600	14332456	CPL	0469
14.	075.125	00.000	14332456	072.250	00.000	14332456	075.000	00.000	14332456	CPL	0769
15.	073.000	00.000	14332456	072.250	00.000	14332456	072.250	01.600	14332456	CPL	1069
16.	066.500	00.000	14332456	066.000	00.000	14332456	064.875	00.000	14332456	CPL	0170
17.	059.000	00.000	14332456	055.000	00.000	14332456	052.500	01.600	14332456	CPL	0470
18.	054.375	00.000	14332456	055.875	00.000	14332456	063.875	00.000	14332456	CPL	0770
19.	061.000	00.000	14332456	065.875	00.000	14332456	068.375	01.650	14332456	CPL	1070
20.	069.750	00.000	14332456	070.125	00.000	14332456	065.500	00.000	14332456	CPL	0171
21.	067.375	00.000	14332456	064.250	00.000	14332456	063.000	01.600	14332456	CPL	0471
22.	063.500	00.000	14332456	064.250	00.000	14332456	065.250	00.000	14332456	CPL	0771
23.	012.250	-5.000	71662280	012.250	00.000	71662280	013.875	00.340	71662280	CPL	1071
24.	015.000	00.000	71662280	015.125	00.000	71662280	014.625	00.000	71662280	CPL	0172
25.	014.375	00.000	71662280	015.125	00.000	71662280	015.750	00.320	71662280	CPL	0472
26.	015.750	00.000	71662280	016.250	00.000	71662280	015.375	00.000	71662280	CPL	0772
27.	014.375	00.000	71662280	015.625	00.000	71662280	016.000	00.380	71662280	CPL	1072
28.	016.750	00.000	71662280	017.125	00.000	71662280	019.000	00.000	71662280	CPL	0173
29.	017.625	00.000	71662280	017.000	00.000	71662280	016.625	00.360	71662280	CPL	0473
30.	017.375	00.000	71662280	016.375	00.000	71662280	016.625	00.000	71662280	CPL	0773
31.	016.750	00.000	71662280	015.125	00.000	71662280	015.500	00.410	71662280	CPL	1073
32.	016.125	00.000	71662280	016.500	00.000	71662280	015.750	00.000	71662280	CPL	0174
33.	014.500	00.000	71662280	014.000	00.000	71662280	013.000	00.410	71662280	CPL	0474
34.	013.500	00.000	71662280	012.500	00.000	71662280	011.750	00.000	71662280	CPL	0774
35.	014.125	00.000	71662280	013.625	00.000	71662280	013.625	00.450	71662280	CPL	1074
36.	016.125	00.000	71662280	016.875	00.000	71662280	016.000	00.000	71662280	CPL	0175
37.	015.375	00.000	71662280	015.250	00.000	71662280	014.625	00.410	71662280	CPL	0475
38.	014.000	00.000	71662280	014.875	00.000	71662280	013.625	00.000	71662280	CPL	0775
39.	013.125	00.000	71662280	014.125	00.000	71662280	013.375	00.435	71662280	CPL	1075
40.	015.250	00.000	71662280	016.625	00.000	71662280	016.625	00.000	71662280	CPL	0176
41.	017.875	00.000	71662280	017.250	00.000	71662280	017.875	00.310	71662280	CPL	0476
42.	018.250	00.000	71662280	017.875	00.000	71662280	017.250	00.000	71662280	CPL	0776
43.	016.500	00.000	71662280	014.750	00.000	71662280	017.250	00.465	71662280	CPL	1076
44.	016.375	00.000	71662280	016.875	00.000	71662280	017.250	00.000	71662280	CPL	0177
45.	017.250	00.000	71662280	018.000	00.000	71662280	018.500	00.465	71662280	CPL	0477

1.	000.000	00.000	00000000	000.000	00.000	00000000	921.500	00.000	00750000	CDS 1263
2.	922.000	00.000	00750000	921.875	00.000	00750000	917.500	00.200	00750000	CDS 0164
3.	920.188	00.000	00750000	921.000	00.000	00750000	921.750	00.200	00750000	CDS 0464
4.	924.500	00.000	00750000	923.375	00.000	00750000	923.625	00.200	00750000	CDS 0764
5.	026.000	00.000	00750000	927.125	00.000	00750000	931.000	00.200	00750000	CDS 1064
6.	030.188	00.000	00750000	929.688	00.000	00750000	028.500	00.200	00750000	CDS 0165
7.	930.500	00.000	00750000	931.500	00.000	00750000	929.750	00.200	00750000	CDS 0465
8.	927.500	00.000	00750000	928.438	00.000	00750000	933.000	00.200	00750000	CDS 0765
9.	934.563	00.000	00750000	933.500	00.000	00750000	932.750	00.200	00750000	CDS 1065
10.	937.000	00.000	00750000	936.000	00.000	00750000	932.000	00.200	00750000	CDS 0166
11	934.000	00.000	00750000	933.500	00.000	00750000	933.750	00.200	00750000	CDS 0466
12.	931.750	00.000	00750000	028.000	00.000	00750000	929.500	00.200	00750000	CDS 0766
13.	928.000	00.000	00750000	929.000	00.000	00750000	929.500	00.200	00750000	CDS 1066
14.	930.500	00.000	00750000	929.500	00.000	00750000	931.000	00.200	00750000	CDS 0167
15.	934.500	00.000	00750000	938.000	00.000	00750000	936.500	00.200	00750000	CDS 0467
16.	036.000	00.000	00750000	936.500	00.000	00750000	942.000	00.200	00750000	CDS 0767
17.	936.000	00.000	00750000	050.000	00.000	00750000	944.500	00.200	00750000	CDS 1067
18.	-99.000	-3.000	02250000	915.750	00.000	02250000	914.125	00.100	02250000	CDS 0168
19.	915.500	00.000	02250000	015.750	00.000	02250000	916.500	00.100	02250000	CDS 0468
20.	016.000	00.000	02250000	916.750	00.000	02250000	017.625	00.100	02250000	CDS 0768
21.	018.250	00.000	02250000	016.875	00.000	02250000	017.375	00.150	02250000	CDS 1068
22.	018.250	00.000	02250000	917.625	00.000	02250000	017.750	00.150	02250000	CDS 0169
23.	017.500	00.000	02250000	018.250	00.000	02250000	016.875	00.150	02250000	CDS 0469
24.	016.000	00.000	02250000	917.250	00.000	02250000	916.125	00.150	02250000	CDS 0769
25.	015.000	00.000	02250000	016.000	00.000	02250000	016.750	00.150	02250000	CDS 1069
26.	016.000	00.000	02250000	915.000	00.000	02250000	915.250	00.150	02250000	CDS 0170
27.	914.750	00.000	02250000	913.750	00.000	02250000	911.500	00.150	02250000	CDS 0470
28.	912.625	00.000	02250000	913.438	00.000	02250000	015.000	00.250	02250000	CDS 0770
29.	915.125	00.000	02250000	914.563	00.000	02250000	015.250	00.150	02250000	CDS 1070
30.	915.750	00.000	02250000	016.750	00.000	02250000	017.500	00.150	02250000	CDS 0171
31.	017.000	00.000	02250000	916.063	00.000	02250000	016.375	00.150	02250000	CDS 0471
32.	016.250	00.000	02250000	016.875	00.000	02250000	916.313	00.413	02250000	CDS 0771
33.	015.500	00.000	02250000	915.250	00.000	02250000	014.750	00.163	02250000	CDS 1071
34.	915.875	00.000	02250000	016.250	00.000	02250000	916.750	00.200	02250000	CDS 0172
35.	015.375	00.000	02250000	017.000	00.000	02250000	916.875	00.200	02250000	CDS 0472
36.	017.875	00.000	02250000	918.625	00.000	02250000	018.625	00.400	02250000	CDS 0772
37.	918.875	00.000	02250000	918.188	00.000	02250000	016.313	00.200	02250000	CDS 1072
38.	917.188	00.000	02250000	016.500	00.000	02250000	916.375	00.200	02250000	CDS 0173
39.	915.938	00.000	02250000	915.000	00.000	02250000	015.000	00.200	02250000	CDS 0473
40.	015.250	00.000	02250000	915.188	00.000	02250000	914.500	00.450	02250000	CDS 0773
41.	914.938	00.000	02250000	914.188	00.000	02250000	014.000	00.200	02250000	CDS 1073
42.	914.750	00.000	02250000	014.750	00.000	02250000	014.750	00.200	02250000	CDS 0174
43.	014.625	00.000	02250000	914.813	00.000	02250000	915.250	00.250	02250000	CDS 0474
44.	914.625	00.000	02250000	013.500	00.000	02250000	913.250	00.500	02250000	CDS 0774
45.	913.563	00.000	02250000	913.000	00.000	02250000	013.500	00.250	02250000	CDS 1074

1.	025.250	00.000	00.000	00839778	927.625	00.000	00.000	00839778	CUT 0662
2.	027.500	00.250	00.000	00839778	028.000	00.000	00.000	00839778	CUT 0862
3.	928.750	00.000	00.000	00839778	029.000	00.500	00.000	00839778	CUT 1062
4.	029.500	00.000	00.000	00839778	931.125	00.000	00.000	00839778	CUT 1262
5.	931.250	00.300	00.000	00839778	030.000	00.000	00.000	00839778	CUT 0263
6.	033.000	00.000	00.000	00839778	035.000	00.300	00.000	00839778	CUT 0463
7.	033.875	00.000	00.000	00839778	034.000	00.000	00.000	00839778	CUT 0663
8.	034.000	00.350	00.000	00839778	033.000	00.000	00.000	00839778	CUT 0863
9.	032.750	00.000	00.000	00839918	032.500	00.350	00.000	00839918	CUT 1063
10.	933.125	00.000	00.000	00839918	033.000	00.000	00.000	00839918	CUT 1263
11.	032.250	00.350	00.000	00839918	031.500	00.000	00.000	00839918	CUT 0264
12.	032.000	00.000	00.000	00839918	032.375	00.350	00.000	00839918	CUT 0464
13.	932.125	00.000	00.000	00839918	034.000	00.000	00.000	00839918	CUT 0664
14.	036.000	00.400	00.000	00839918	037.750	00.000	00.000	00839918	CUT 0864
15.	037.500	00.000	00.000	00839918	039.000	00.400	00.000	00851418	CUT 1064
16.	038.000	00.000	00.000	00851418	041.000	00.000	00.000	00851418	CUT 1264
17.	041.000	00.400	00.000	00851418	041.000	00.000	00.000	00851418	CUT 0265
18.	940.625	00.000	00.000	00855238	939.750	00.400	00.000	00855238	CUT 0465
19.	037.000	00.000	00.000	00855238	938.250	00.000	00.000	00855238	CUT 0665
20.	937.750	00.400	00.000	00855238	938.125	00.000	00.000	00855238	CUT 0865
21.	938.250	00.000	00.000	00855238	037.000	00.400	00.000	00861438	CUT 1065
22.	037.875	00.000	00.000	00861438	937.750	00.000	00.000	00861438	CUT 1265
23.	037.500	00.400	00.000	00861438	938.500	00.000	00.000	00861438	CUT 0266
24.	937.125	00.000	00.000	00877560	037.000	00.400	00.000	00877560	CUT 0466
25.	036.000	00.000	00.000	00877560	035.000	00.000	00.000	00877560	CUT 0666
26.	032.000	00.400	00.000	00878100	031.750	00.000	00.000	00878100	CUT 0866
27.	934.250	00.000	00.000	00878100	035.375	00.400	00.000	00878100	CUT 1066
28.	035.000	00.000	00.000	00878100	937.000	00.000	00.000	00878100	CUT 1266
29.	038.000	00.425	00.000	00878100	038.750	00.000	00.000	00878100	CUT 0267
30.	938.500	00.000	00.000	00878100	039.000	00.425	00.000	00879090	CUT 0467
31.	042.000	00.000	00.000	00879090	040.500	00.000	00.000	00879090	CUT 0667
32.	044.000	00.425	00.000	00879090	043.000	00.000	00.000	00879324	CUT 0867
33.	042.000	00.000	00.000	00879324	040.000	00.425	00.000	00879324	CUT 1067
34.	040.000	00.000	00.000	00879324	039.000	00.000	00.000	00879324	CUT 1267
35.	036.500	00.425	00.000	00879324	034.000	00.000	00.000	00879324	CUT 0268
36.	037.000	00.000	00.000	00879324	934.625	00.425	00.000	00879324	CUT 0468

37.	938.500	00.000	00.000	00879324	038.250	00.000	00.000	00879324	CUT 0668
38.	041.000	00.425	00.000	00879324	044.000	00.000	00.000	00879324	CUT 0868
39.	046.000	00.000	00.000	00879324	041.500	00.425	00.000	00879324	CUT 1068
40.	043.875	00.000	00.000	00886686	045.000	00.000	00.000	00886686	CUT 1268
41.	943.750	00.425	00.000	00886686	941.000	00.000	00.000	00886686	CUT 0269
42.	044.000	00.000	00.000	00886686	043.250	00.425	00.000	00886686	CUT 0469
43.	039.000	00.000	00.000	00886686	935.813	00.000	00.000	00886686	CUT 0669
44.	038.500	00.425	00.000	00886706	039.250	00.000	00.000	00886706	CUT 0869
45.	039.000	00.000	00.000	00886706	937.750	00.425	00.000	00886706	CUT 1069
46.	934.563	00.000	00.000	00886706	032.500	00.000	00.000	00886706	CUT 1269
47.	033.000	00.425	00.000	00886706	032.000	00.000	00.000	00886706	CUT 0270
48.	933.375	00.000	00.000	00886706	931.500	00.425	00.000	00886706	CUT 0470
49.	031.000	00.000	00.000	00886706	933.000	00.000	00.000	00886706	CUT 0670
50.	935.250	00.425	00.000	00886706	932.750	00.000	00.000	00886706	CUT 0870
51.	032.500	00.000	00.000	00886706	030.750	00.425	00.650	00886706	CUT 1070
52.	037.625	00.000	00.000	01182274	036.750	00.000	00.000	01182274	CUT 1270
53.	036.500	00.425	00.000	01182274	037.750	00.000	00.000	01182274	CUT 0271
54.	037.000	00.000	00.000	01182274	035.000	00.425	00.000	01182274	CUT 0471
55.	036.000	00.000	00.000	01182274	934.875	00.000	00.000	01182274	CUT 0671
56.	034.000	00.425	00.000	01182274	032.875	00.000	00.000	01182274	CUT 0871
57.	033.000	00.000	00.000	01182274	036.750	00.425	00.000	01182274	CUT 1071
58.	037.875	00.000	00.000	01182274	045.000	00.000	00.000	01182274	CUT 1271
59.	045.750	00.500	00.000	01182274	045.000	00.000	00.000	02514056	CUT 0272
60.	049.000	00.000	00.000	02514056	046.500	00.500	00.000	02514056	CUT 0472
61.	947.375	00.000	00.000	02514056	052.000	00.000	00.000	02514056	CUT 0672
62.	052.250	00.540	00.000	02514056	013.250	-4.000	00.000	10062044	CUT 0872
63.	013.875	00.000	00.000	10060404	013.500	00.135	00.000	10060844	CUT 1072
64.	013.625	00.000	00.000	10062056	012.375	00.000	00.000	10062056	CUT 1272
65.	013.500	00.135	00.000	10062646	012.750	00.000	00.000	10062786	CUT 0273
66.	012.750	00.000	00.000	10063186	012.750	00.135	00.000	10063186	CUT 0473
67.	012.875	00.000	00.000	10063186	000.000	00.000	00.000	00000000	CUT 0673

CANADIAN UTILITIES LIMITED (continued)

1.	000.000	00.000	00000000	000.000	00.000	00000000	023.125	00.250	02441622	CAN	0666
2.	021.000	00.000	02441622	019.250	00.250	02441622	017.250	00.000	02441622	CAN	0766
3.	017.625	00.000	02441622	017.500	00.250	02441622	018.750	00.000	02489622	CAN	1066
4.	020.500	00.000	02489622	020.625	00.000	02489622	020.375	00.250	02489622	CAN	0167
5.	021.500	00.000	02489622	019.000	00.000	02489622	018.500	00.000	02489622	CAN	0467
6.	020.750	00.000	02489622	022.500	00.250	02489622	021.875	00.000	02489622	CAN	0767
7.	018.500	00.000	02489622	017.000	00.250	02489622	016.500	00.000	02489622	CAN	1067
8.	017.250	00.000	02489622	915.875	00.250	02489622	014.875	00.000	02489622	CAN	0168
9.	015.250	00.000	02489622	016.000	00.000	02489622	017.500	00.250	02489622	CAN	0468
10.	919.125	00.000	02489622	018.000	00.000	02489622	019.250	00.250	02489622	CAN	0768
11.	017.750	00.000	02489622	019.375	00.250	02489622	019.875	00.000	02489622	CAN	1068
12.	020.750	00.000	02489622	021.375	00.250	02489622	020.375	00.000	02489622	CAN	0169
13.	020.000	00.000	02489622	018.750	00.250	02489622	017.250	00.000	02489622	CAN	0469
14.	015.625	00.000	02489622	017.000	00.250	02489622	017.125	00.000	02489622	CAN	0769
15.	016.625	00.000	02489622	018.125	00.250	02489622	917.313	00.000	02489622	CAN	1069
16.	017.000	00.000	02489622	915.563	00.250	02489622	015.625	00.000	02489622	CAN	0170
17.	016.000	00.000	02489622	015.000	00.000	02489622	014.250	00.250	02489622	CAN	0470
18.	012.750	00.000	02489622	011.750	00.250	02489622	013.750	00.000	02489622	CAN	0770
19.	011.250	00.000	02489622	012.750	00.250	02489622	015.500	00.000	02489622	CAN	1070
20.	015.875	00.000	02489622	017.750	00.000	02489622	018.000	00.250	02548962	CAN	0171
21.	018.750	00.000	02489622	017.875	00.250	02489622	018.375	00.000	02489622	CAN	0471
22.	017.500	00.000	02489622	018.250	00.250	02489622	016.500	00.000	02489622	CAN	0771
23.	016.750	00.000	02489622	017.000	00.000	02489622	019.250	00.250	02489622	CAN	1071
24.	021.000	00.000	02489622	023.250	00.000	02489622	022.375	00.250	02489622	CAN	0172
25.	020.000	00.000	02489622	022.500	00.000	02489622	020.000	00.250	02489622	CAN	0472
26.	022.250	00.000	02489622	023.375	00.000	02489622	023.250	00.250	02489622	CAN	0772
27.	024.500	00.000	02489622	924.750	00.000	02489622	025.875	00.250	02489622	CAN	1072
28.	025.250	00.000	02489622	025.250	00.000	02489622	024.000	00.250	02489622	CAN	0173
29.	023.000	00.000	02489622	020.500	00.000	02489622	021.000	00.250	02489622	CAN	0473
30.	020.750	00.000	02489622	020.000	00.000	02489622	022.000	00.250	02489622	CAN	0773
31.	021.750	00.000	02489622	017.750	00.000	02489622	018.500	00.250	02489622	CAN	1073
32.	020.625	00.000	02489622	021.875	00.250	02489622	022.000	00.000	02489622	CAN	0174
33.	022.000	00.000	02489622	021.500	00.000	02489622	921.875	00.250	02489622	CAN	0474
34.	021.000	00.000	02489622	018.250	00.000	02489622	017.000	00.450	02489622	CAN	0774
35.	918.938	00.000	02489622	917.250	00.000	02489622	015.000	00.300	02489622	CAN	1074
36.	018.375	00.000	02489622	017.500	00.000	02489622	017.250	00.300	02489622	CAN	0175
37.	018.625	00.000	02490154	018.000	00.000	02490154	018.500	00.300	02490154	CAN	0475
38.	018.250	00.000	02490154	019.375	00.000	02490154	019.000	00.400	02490154	CAN	0775
39.	017.375	00.000	02490154	017.000	00.000	02490154	017.875	00.400	02490154	CAN	1075
40.	019.000	00.000	02490154	021.750	00.000	02490154	920.313	00.400	02490154	CAN	0176
41.	021.750	00.000	02500694	022.125	00.000	02500694	021.625	00.400	02500694	CAN	0476
42.	021.500	00.000	02500694	022.500	00.000	02500694	023.375	00.400	02500694	CAN	0776
43.	023.750	00.000	02500694	019.125	00.000	02512394	023.000	00.430	02512394	CAN	1076
44.	021.500	00.000	02512394	020.875	00.000	02512394	020.875	00.430	02512394	CAN	0477
45.	020.375	00.000	02512394	023.000	00.000	02543374	024.000	00.430	02543374	CAN	0777

1.	015.375	00.000	00.000	04775000	015.000	00.150	00.000	04775000	CAS 0666
2.	014.875	00.000	00.000	04775000	015.000	00.150	00.000	04775000	CAS 0866
3.	015.125	00.000	00.000	04775000	015.125	00.000	00.000	04775000	CAS 1066
4.	015.875	00.150	00.000	04775000	016.125	00.000	00.430	04775000	CAS 1266
5.	016.125	00.000	00.000	04775000	016.000	00.150	00.000	05252500	CAS 0267
6.	016.625	00.000	00.000	05252500	016.250	00.000	00.000	05252500	CAS 0467
7.	016.125	00.000	00.000	05252500	016.250	00.150	00.000	05252500	CAS 0667
8.	016.500	00.000	00.000	05252500	017.000	00.000	00.000	05252500	CAS 0867
9.	017.625	00.150	00.000	05252500	017.625	00.000	00.000	05252500	CAS 1067
10.	917.125	00.150	00.000	05252500	016.625	00.000	00.000	05252500	CAS 1267
11.	016.000	00.000	00.000	05252500	014.875	00.150	00.000	05252500	CAS 0268
12.	015.750	00.000	00.000	05252500	915.313	00.000	00.000	05252500	CAS 0468
13.	015.000	00.150	00.000	05252500	016.750	00.000	00.000	05252500	CAS 0668
14.	016.375	00.000	00.000	05252500	016.250	00.000	00.000	05252500	CAS 0868
15.	016.000	00.150	00.000	05252500	016.125	00.000	00.000	05252500	CAS 1068
16.	015.250	00.150	00.000	05252500	018.375	00.000	00.000	05252500	CAS 1268
17.	019.500	00.000	00.000	05252500	020.125	00.150	00.000	05252500	CAS 0269
18.	019.750	00.000	00.000	05252500	018.875	00.000	00.000	05252500	CAS 0469
19.	017.750	00.150	00.000	05252500	016.250	00.000	00.000	05252500	CAS 0669
20.	018.000	00.000	00.000	05252500	017.000	00.000	00.000	05252500	CAS 0869
21.	017.375	00.150	00.000	05252500	018.250	00.000	00.000	05252500	CAS 1069
22.	018.375	00.150	00.000	05252500	017.250	00.000	00.000	05252500	CAS 1269
23.	017.375	00.000	00.000	05252500	019.250	00.200	00.000	05252500	CAS 0270
24.	019.500	00.000	00.000	05500000	017.625	00.000	00.000	05500000	CAS 0470
25.	020.250	00.200	00.000	05500000	020.000	00.000	00.000	05500000	CAS 0670
26.	020.625	00.000	00.000	05500000	021.750	00.200	00.000	05500000	CAS 0870
27.	022.375	00.000	00.000	05500000	023.000	00.000	00.000	05500000	CAS 1070
28.	023.500	00.200	00.000	05500000	023.625	00.000	00.000	05500000	CAS 1270
29.	023.500	00.000	00.000	05500000	022.875	00.200	00.000	05500000	CAS 0271
30.	022.625	00.000	00.000	05500000	021.625	00.000	00.000	05500000	CAS 0471
31.	023.000	00.200	00.000	05500000	022.750	00.000	00.000	05500000	CAS 0671
32.	020.375	00.000	00.000	05500000	019.500	00.200	00.000	05500000	CAS 0871
33.	017.000	00.000	00.000	05500000	017.750	00.000	00.000	05500000	CAS 1071
34.	020.500	00.200	00.000	05500000	019.500	00.000	00.000	05500000	CAS 1271
35.	018.625	00.000	00.000	05500000	019.750	00.200	00.000	05500000	CAS 0272
36.	017.000	00.000	00.000	05500000	016.250	00.000	00.000	05500000	CAS 0472

37.	017.000	00.200	00.000	05500000	016.500	00.000	00.000	05500000	CAS 0672
38.	017.750	00.000	00.000	05500000	014.500	00.150	00.000	05500000	CAS 0872
39.	013.250	00.000	00.000	05500000	011.750	00.000	00.000	05500000	CAS 1072
40.	012.000	00.150	00.000	05500000	013.375	00.000	00.000	05500000	CAS 1272
41.	013.000	00.000	00.000	05500000	012.875	00.150	00.000	05500000	CAS 0273
42.	011.000	00.000	00.000	05500000	010.500	00.000	00.000	05500000	CAS 0473
43.	010.375	00.150	00.000	05500000	010.750	00.000	00.000	05500000	CAS 0673
44.	011.000	00.000	00.000	05500000	014.125	00.150	00.000	05500000	CAS 0873
45.	013.500	00.000	00.000	05500000	010.500	00.000	00.000	05500000	CAS 1073
46.	009.300	00.150	00.000	05500000	011.375	00.000	00.000	05500000	CAS 1273
47.	010.500	00.000	00.000	05500000	010.000	00.150	00.000	05500000	CAS 0274
48.	008.000	00.000	00.000	05500000	007.000	00.000	00.000	05500000	CAS 0474
49.	004.800	00.000	00.000	05500000	006.250	00.000	00.000	05500000	CAS 0674
50.	004.650	00.000	00.000	05500000	004.000	00.000	00.000	05500000	CAS 0874
51.	003.750	00.000	00.000	05500000	002.950	00.000	00.000	05500000	CAS 1074
52.	003.250	00.000	00.000	05500000	004.250	00.000	00.000	05500000	CAS 1274
53.	004.400	00.000	00.000	05500000	004.250	00.000	00.000	05500000	CAS 0275
54.	004.600	00.000	00.000	05500000	004.450	00.000	00.000	05500000	CAS 0475
55.	005.500	00.000	00.000	05500000	006.750	00.000	00.000	05500000	CAS 0675
56.	007.125	00.000	00.000	05500000	006.500	00.000	00.000	05500000	CAS 0875
57.	005.750	00.000	00.000	05500000	006.125	00.000	00.000	05500000	CAS 1075
58.	007.000	00.000	00.000	05500000	007.000	00.000	00.000	05500000	CAS 1275
59.	007.750	00.000	00.000	05500000	008.125	00.000	00.000	05500000	CAS 0276
60.	006.500	00.000	00.000	05500000	006.625	00.000	00.000	05500000	CAS 0476
61.	005.625	00.000	00.000	05500000	005.750	00.000	00.000	05500000	CAS 0676
62.	006.000	00.000	00.000	05500000	005.625	00.000	00.000	05500000	CAS 0876
63.	005.375	00.000	00.000	05500000	905.563	00.000	00.000	05500000	CAS 1076
64.	005.875	00.000	00.000	05500000	006.125	00.000	00.000	05500000	CAS 1276
65.	006.625	00.000	00.000	05500000	007.000	00.000	00.000	05500000	CAS 0277
66.	008.625	00.100	00.000	05500000	009.000	00.000	00.000	05500000	CAS 0477
67.	009.500	00.000	00.000	05500000	000.000	00.000	00.000	00000000	CAS 0677

CASSIAR ASBESTOS CORPORATION LIMITED (continued)

1.	000.000	00.000	00000000	000.000	00.000	00000000	020.500	00.500	16381645	COM	0662
2.	019.250	00.000	16381645	020.000	00.000	16381645	019.375	00.000	16381645	COM	0762
3.	019.250	00.000	16381645	021.750	00.000	16381645	022.750	00.600	16381645	COM	1062
4.	023.250	00.000	16381645	023.375	00.000	16381645	025.500	00.000	16381645	COM	0163
5.	025.250	00.000	16381645	026.125	00.000	16381645	025.750	00.600	16381645	COM	0463
6.	026.500	00.000	16381645	027.250	00.000	16381645	028.500	00.000	16381645	COM	0763
7.	029.500	00.000	16381645	029.000	00.000	16381645	032.000	00.700	16381645	COM	1063
8.	031.625	00.000	16381645	031.750	00.000	16381645	034.750	00.000	16381645	COM	0164
9.	033.750	00.000	16381645	035.625	00.000	16381645	035.750	00.800	16381645	COM	0464
10.	037.250	00.000	16381645	037.750	00.000	16688155	040.625	00.000	16688155	COM	0764
11.	043.250	00.000	16688155	042.875	00.000	16688155	041.750	00.800	16688155	COM	1064
12.	047.250	00.000	16688155	046.250	00.000	16688155	043.500	00.000	16688155	COM	0165
13.	045.000	00.000	16688155	045.500	00.000	16688155	041.250	00.900	16688155	COM	0465
14.	041.625	00.000	16688155	043.500	00.000	16688155	045.625	00.000	16688155	COM	0765
15.	049.625	00.000	16688155	049.250	00.000	16688155	048.875	00.900	16688155	COM	1065
16.	048.625	00.000	16688155	047.500	00.000	16688155	043.500	00.000	16688155	COM	0166
17.	043.250	00.000	16688155	040.375	00.000	16688155	041.000	00.900	16688155	COM	0466
18.	039.625	00.000	16688155	034.375	00.000	16688155	034.750	00.000	16688155	COM	0766
19.	032.250	00.000	16688155	031.125	00.000	16688155	030.875	00.900	16688155	COM	1066
20.	033.625	00.000	16688155	033.250	00.000	16688155	032.750	00.000	16688155	COM	0167
21.	031.750	00.000	16688155	032.125	00.000	16688155	030.000	00.800	16688155	COM	0467
22.	029.000	00.000	16688155	029.625	00.000	16688155	029.625	00.000	16688155	COM	0767
23.	027.125	00.000	16688155	028.500	00.000	16688155	025.250	00.700	16688155	COM	1067
24.	025.000	00.000	16688155	023.625	00.000	16688155	022.000	00.000	16688155	COM	0168
25.	022.375	00.000	16688155	023.125	00.000	16688155	024.750	00.700	16688155	COM	0468
26.	025.500	00.000	16688155	027.000	00.000	16688155	031.625	00.000	16688155	COM	0768
27.	032.000	00.000	16688155	035.250	00.700	16688155	037.000	00.000	16688155	COM	1068
28.	039.250	00.000	16698583	037.500	00.000	16698583	037.875	00.000	16698583	COM	0169
29.	034.750	00.000	16698583	038.750	00.700	16698583	032.125	00.000	16698583	COM	0469
30.	030.750	00.000	16698583	029.250	00.000	16698583	030.750	00.000	16698583	COM	0769
31.	029.750	00.000	16698583	030.875	00.700	16698583	032.000	00.000	16698583	COM	1069
32.	033.250	00.000	16698583	031.000	00.000	16698583	028.625	00.000	16698583	COM	0170
33.	027.875	00.000	16698583	024.500	00.700	16698583	021.250	00.000	16698583	COM	0470
34.	021.250	00.000	16698583	021.000	00.000	16698583	020.625	00.000	16698583	COM	0770
35.	021.250	00.000	16698583	021.500	00.700	16698583	023.875	00.000	16698583	COM	1070
36.	023.125	00.000	16698583	021.625	00.000	16698583	024.500	00.000	16698583	COM	0171
37.	021.750	00.000	16698583	021.625	00.350	16698583	023.000	00.000	16698583	COM	0471
38.	023.875	00.000	16698583	022.875	00.000	16698583	021.500	00.000	16698583	COM	0771
39	018.500	00.000	16698583	018.375	00.350	16698583	022.375	00.000	16698583	COM	1071
40.	025.750	00.000	16698583	028.750	00.000	16698583	027.875	00.000	16698583	COM	0172
41.	028.625	00.000	16698583	029.625	00.350	16698583	027.625	00.000	16698583	COM	0472
42.	028.500	00.000	16698583	027.500	00.000	16698583	027.625	00.000	16698583	COM	0772
43.	024.500	00.000	16969953	024.500	00.450	16969953	024.750	00.000	16969953	COM	1072
44.	028.000	00.000	16969953	029.250	00.000	16969953	031.875	00.000	16969953	COM	0173
45.	029.500	00.000	16969953	027.500	00.500	16969953	029.500	00.000	16969953	COM	0473

1.	000.000	00.000	00.000	00000000	019.625	00.100	00.000	07678303	CNG 0362
2.	018.875	00.000	00.000	07803002	017.750	00.000	00.000	07803002	CNG 0462
3.	016.125	00.120	00.000	07803002	016.000	00.000	00.000	07816500	CNG 0662
4.	017.500	00.000	00.000	07816500	017.750	00.120	00.000	07816500	CNG 0862
5.	017.250	00.000	00.000	07823353	019.625	00.000	00.000	07823353	CNG 1062
6.	019.125	00.120	00.000	07823353	019.500	00.000	00.000	07859978	CNG 1262
7.	020.125	00.000	00.000	07859978	020.625	00.120	00.000	07859978	CNG 0263
8.	021.875	00.000	00.000	07859978	024.000	-2.000	00.000	07865766	CNG 0463
9.	011.375	00.080	00.000	15731532	011.125	00.000	00.000	15759512	CNG 0663
10.	011.500	00.000	00.000	15759512	011.625	00.080	00.000	15759512	CNG 0863
11.	011.875	00.000	00.000	15777366	011.875	00.000	00.000	15777366	CNG 1063
12.	011.750	00.080	00.000	15777366	011.875	00.000	00.000	15779406	CNG 1263
13.	011.500	00.000	00.000	15779406	011.625	00.080	00.000	15779406	CNG 0264
14.	011.125	00.000	00.000	15787601	011.375	00.000	00.000	15787601	CNG 0464
15.	011.375	00.090	00.000	15787601	012.625	00.000	00.000	15787601	CNG 0664
16.	012.250	00.000	00.000	15798116	012.250	00.090	00.000	15798116	CNG 0864
17.	012.625	00.000	00.000	15802898	012.875	00.000	00.000	15802898	CNG 1064
18.	013.000	00.090	00.000	15802898	014.500	00.000	00.000	15819350	CNG 1264
19.	013.500	00.000	00.000	15819350	013.000	00.100	00.000	15819350	CNG 0265
20.	013.625	00.000	00.000	15824884	013.750	00.000	00.000	15824884	CNG 0465
21.	013.500	00.100	00.000	15824884	013.125	00.000	00.000	15830064	CNG 0665
22.	013.750	00.000	00.000	15830064	014.250	00.100	00.000	15830064	CNG 0865
23.	014.750	00.000	00.000	15830448	014.625	00.000	00.000	15830448	CNG 1065
24.	015.875	00.120	00.000	15830448	016.750	00.000	00.000	15841770	CNG 1265
25.	016.000	00.000	00.000	15841770	016.000	00.120	00.000	15841770	CNG 0266
26.	015.750	00.000	00.000	15847636	015.625	00.000	00.000	15847636	CNG 0466
27.	015.375	00.120	00.000	15847636	015.500	00.000	00.000	15850800	CNG 0666
28.	014.625	00.000	00.000	15850800	013.125	00.140	00.000	15850800	CNG 0866
29.	014.000	00.000	00.000	15865948	015.000	00.000	00.000	15865948	CNG 1066
30.	015.375	00.140	00.000	15865948	015.500	00.000	00.000	15866998	CNG 1266
31.	015.750	00.000	00.000	15866998	016.750	00.140	00.000	15868808	CNG 0267
32.	016.500	00.000	00.460	15868808	017.125	00.000	00.000	15868808	CNG 0467
33.	018.250	00.140	00.000	15868808	020.000	00.000	00.000	17451407	CNG 0667
34.	019.250	00.000	00.000	17451407	020.750	00.160	00.000	17451407	CNG 0867
35.	020.000	00.000	00.000	17449147	021.000	00.000	00.000	17449147	CNG 1067
36.	020.000	00.160	00.000	17449147	021.375	00.000	00.000	17461250	CNG 1267

37.	018.500	00.000	00.000	17461250	018.250	00.160	00.000	17461250	CNG 0268
38.	020.500	00.000	00.000	17461620	019.750	00.000	00.000	17461620	CNG 0468
39.	020.625	00.160	00.000	17461620	019.875	00.000	00.000	17462305	CNG 0668
40.	020.625	00.000	00.000	17462305	020.250	00.180	00.000	17462305	CNG 0868
41.	021.750	00.000	00.000	17463087	021.625	00.000	00.000	17463087	CNG 1068
42.	020.000	00.180	00.000	17463087	019.500	00.000	00.000	17465412	CNG 1268
43.	018.875	00.000	00.000	17465412	018.750	00.180	00.000	17465412	CNG 0269
44.	018.875	00.000	00.000	17465744	018.500	00.000	00.000	17465744	CNG 0469
45.	016.875	00.180	00.000	17465744	016.875	00.000	00.000	17466181	CNG 0669
46.	017.000	00.000	00.000	17466181	017.000	00.180	00.000	17466181	CNG 0869
47.	015.750	00.000	00.000	17466181	016.000	00.000	00.000	17466181	CNG 1069
48.	014.875	00.180	00.000	17466181	014.000	00.000	00.000	17466181	CNG 1269
49.	014.875	00.000	00.000	17473992	015.875	00.180	00.000	17473992	CNG 0270
50.	015.375	00.000	00.000	17473992	013.750	00.000	00.000	17475340	CNG 0470
51.	015.000	00.180	00.000	17475340	016.125	00.000	00.000	17475505	CNG 0670
52.	016.000	00.000	00.000	17475505	018.375	00.200	00.000	17475505	CNG 0870
53.	017.250	00.000	00.000	17486828	019.000	00.000	00.000	17486828	CNG 1070
54.	019.125	00.200	00.000	17486828	019.500	00.000	00.000	17486828	CNG 1270
55.	019.625	00.000	00.000	17488604	019.875	00.200	00.000	17488604	CNG 0271
56.	019.000	00.000	00.000	17490079	019.875	00.000	00.000	17490079	CNG 0471
57.	021.125	00.200	00.000	17490079	021.250	00.000	00.000	17493210	CNG 0671
58.	020.500	00.000	00.000	17493210	019.750	00.220	00.000	17493210	CNG 0871
59.	019.375	00.000	00.000	17495745	019.375	00.000	00.000	17495745	CNG 1071
60.	019.625	00.220	00.000	17495745	019.750	00.000	00.000	17503863	CNG 1271
61.	019.125	00.000	00.000	17503863	019.000	00.220	00.000	17503863	CNG 0272
62.	018.625	00.000	00.000	17503863	018.250	00.000	00.000	17506363	CNG 0472
63.	018.125	00.220	00.000	17506363	017.750	00.000	00.000	17506363	CNG 0672
64.	018.875	00.000	00.000	17509263	017.625	00.220	00.000	17509263	CNG 0872
65.	017.375	00.000	00.000	17509263	017.125	00.000	00.000	17509348	CNG 1072
66.	017.625	00.220	00.000	17509348	017.875	00.000	00.000	17509348	CNG 1272
67.	017.500	00.000	00.000	17509348	017.125	00.220	00.000	17509348	CNG 0273

THE CONSUMER'S GAS COMPANY (continued)

1.	000.000	00.000	00000000	000.000	00.000	00000000	048.750	00.210	00425920	RLC	0667
2.	052.500	00.000	00425920	052.500	00.000	00425920	048.500	00.210	00425920	RLC	0767
3.	047.500	00.000	00425920	946.250	00.000	00425920	052.000	00.210	00425920	RLC	1067
4.	051.500	00.000	00425920	049.750	00.000	00425920	043.500	00.240	00425920	RLC	0168
5.	046.500	00.000	00425920	015.000	-3.000	01277760	014.750	00.080	01277760	RLC	0468
6.	016.000	00.000	01277760	016.375	00.000	01277760	014.875	00.080	01277760	RLC	0768
7.	015.750	00.000	01277760	014.875	00.000	01277760	014.875	00.080	01277760	RLC	1068
8.	016.500	00.000	01277760	014.375	00.000	01277760	015.500	00.080	01277760	RLC	0169
9.	015.625	00.000	01277760	016.000	00.000	01277760	014.750	00.080	01277760	RLC	0469
10.	914.750	00.000	01277760	015.875	00.000	01277760	017.000	00.080	01277760	RLC	0769
11.	917.875	00.000	01277760	021.500	00.000	01277760	021.000	00.100	01277760	RLC	1069
12.	017.750	00.000	01277760	019.000	00.000	01277760	018.750	00.100	01277760	RLC	0170
13.	017.000	00.000	01277760	015.875	00.000	01277760	013.125	00.100	01277760	RLC	0470
14.	013.000	00.000	01277760	012.750	00.000	01277760	013.375	00.100	01277760	RLC	0770
15.	012.000	00.000	01277760	012.500	00.000	01277760	014.000	00.100	01277760	RLC	1070
16.	014.750	00.000	01277760	015.125	00.000	01277760	015.750	00.100	01277760	RLC	0171
17.	015.750	00.000	01277760	014.250	00.000	01277760	012.750	00.100	01277760	RLC	0471
18.	913.125	00.000	01277760	012.250	00.000	01277760	010.500	00.100	01277760	RLC	0771
19.	011.000	00.000	01277760	010.625	00.000	01277760	011.125	00.100	01277760	RLC	1071
20.	014.500	00.000	01277760	013.875	00.000	01277760	013.500	00.100	01277760	RLC	0172
20.1	014.000	00.000	01277760	015.500	00.000	01277760	013.375	00.100	01277760	RLC	0472
21.	913.688	00.000	01277760	014.750	00.000	01277760	913.375	00.100	01277760	RLC	0772
22.	913.500	00.000	01277760	013.375	00.000	01277760	013.000	00.100	01277760	RLC	1072
23.	013.750	00.000	01277760	013.625	00.000	01277760	012.750	00.100	01277760	RLC	0173
24.	011.625	00.000	01277760	010.625	00.000	01277760	010.875	00.100	01277760	RLC	0473
25.	010.125	00.000	01277760	010.500	00.000	01277760	010.375	00.100	01277760	RLC	0773
26.	010.125	00.000	01277760	008.750	00.000	01277760	008.375	00.100	01277760	RLC	1073
27.	008.125	00.000	01277760	008.250	00.000	01277760	009.250	00.100	01277760	RLC	0174
28.	008.500	00.000	01277760	009.250	00.000	01277760	010.000	00.150	01277760	RLC	0474
29.	010.375	00.000	01277760	009.500	00.000	01277760	009.000	00.150	01277760	RLC	0774
30.	009.625	00.000	01277760	010.000	00.000	01277760	009.250	00.150	01277760	RLC	1074
31.	012.000	00.000	01277760	912.250	00.000	01277760	011.125	00.150	01277760	RLC	0175
32.	911.563	00.000	01277760	010.875	00.000	01277760	011.125	00.150	01277760	RLC	0475
33.	010.625	00.000	01277760	910.063	00.000	01277760	009.250	00.150	01277760	RLC	0775
34.	008.750	00.000	01277760	008.875	00.000	01277760	009.000	00.150	01277760	RLC	1075
35.	011.125	00.000	01277760	911.375	00.000	01277760	010.750	00.150	01277760	RLC	0176
36.	010.750	00.000	01277760	010.125	00.000	01277760	010.250	00.150	01277760	RLC	0476
37.	010.000	00.000	01277760	909.625	00.000	01277760	009.625	00.150	01277760	RLC	0776
38.	009.000	00.000	01277760	008.250	00.000	01277760	008.750	00.198	01277760	RLC	1076
39.	909.500	00.000	01277760	008.750	00.000	01277760	009.000	00.150	01277760	RLC	0177
40.	908.375	00.000	01277760	008.125	00.000	01277760	008.500	00.150	01277760	RLC	0477
41.	908.813	00.000	01277760	008.500	00.000	01277760	008.625	00.150	01277760	RLC	0777
42.	008.375	00.000	01277760	009.000	00.000	01277760	009.125	00.150	01277760	RLC	1077
43.	009.000	00.000	01277760	009.875	00.000	01277760	009.875	00.150	01277760	RLC	0178
44.	010.625	00.000	01277760	010.500	00.000	01277760	910.563	00.150	01277760	RLC	0478

1.	021.000	00.200	02585001	019.250	00.000	02585001	018.000	00.000	02585001	DBR	0462
2.	018.375	00.200	02585001	918.688	00.000	02585001	015.250	00.000	02585001	DBR	0762
3.	015.500	00.100	02585001	015.875	00.000	02585001	019.625	00.000	02585001	DBR	1062
4.	020.500	00.100	02585001	017.375	00.000	02585001	019.375	00.000	02585001	DBR	0163
5.	021.125	00.100	02585001	021.875	00.000	02585001	018.875	00.000	02585001	DBR	0463
6.	018.375	00.100	02585001	018.000	00.000	02585001	017.625	00.000	02585001	DBR	0763
7.	016.875	00.100	02585001	017.250	00.000	02585001	019.500	00.000	02585001	DBR	1063
8.	017.125	00.100	02585001	018.750	00.000	02585001	018.875	00.000	02585001	DBR	0164
9.	020.000	00.100	02585001	021.875	00.000	02585001	023.875	00.000	02585001	DBR	0464
10.	022.000	00.150	02585001	021.250	00.000	02585001	021.000	00.000	02585001	DBR	0764
11.	021.750	00.150	02585001	022.875	00.000	02585001	024.875	00.000	02585001	DBR	1064
12.	026.000	00.150	02585001	026.250	00.000	02585001	027.500	00.000	02585001	DBR	0165
13.	027.875	00.150	02585001	028.500	00.000	02585001	026.000	00.000	02585001	DBR	0465
14.	026.000	00.200	02585001	027.000	00.000	02585001	028.000	00.000	02585001	DBR	0765
15.	029.000	00.200	02585001	028.500	00.000	02585001	027.375	00.000	02585001	DBR	1065
16.	027.000	00.300	02585001	027.500	00.000	02585001	025.000	00.000	02585001	DBR	0166
17.	024.375	00.200	02585001	022.000	00.000	02585001	021.125	00.000	0025850l	DBR	0466
18.	020.125	00.200	02585001	018.750	00.000	02585001	018.500	00.000	02585001	DBR	0766
19.	017.375	00.200	02585001	016.500	00.000	02585001	017.375	00.000	02585001	DBR	1066
20.	018.125	00.250	02585001	019.000	00.000	02585001	018.500	00.000	02585001	DBR	0167
21.	021.500	00.250	02585001	020.125	00.000	02585001	018.750	00.000	02585001	DBR	0467
22.	018.875	00.250	02585001	017.500	00.000	02585001	018.500	00.000	02585001	DBR	0767
23.	015.500	00.250	02585001	015.250	00.000	02585001	017.000	00.000	02585001	DBR	1067
24.	014.750	00.250	02585001	014.000	00.000	02585001	012.500	00.000	02585001	DBR	0168
25.	014.625	00.200	02585001	013.750	00.000	02585001	013.375	00.000	02585001	DBR	0468
26.	913.500	00.200	02585001	014.000	00.000	02585001	017.625	00.000	02585001	DBR	0768
27.	018.000	00.200	02585001	017.375	00.000	02585001	018.000	00.000	02585001	DBR	1068
28.	021.750	00.200	02585001	018.250	00.000	02585001	017.500	00.000	02585001	DBR	0169
29.	017.375	00.200	02585001	016.750	00.000	02585001	014.750	00.000	02585001	DBR	0469
30.	014.000	00.200	02585001	013.625	00.000	02585001	013.875	00.000	02585001	DBR	0769
31.	013.375	00.200	02585001	015.000	00.000	02585001	014.250	00.140	02585001	DBR	1069
32.	013.125	00.000	02585001	013.000	00.000	02585001	914.500	00.200	02585001	DBR	0170
33.	013.250	00.000	02585001	013.000	00.000	02585001	013.750	00.200	02585001	DBR	0470
34.	015.500	00.000	02585001	016.000	00.000	02585001	015.875	00.200	02585001	DBR	0770
35.	016.000	00.000	02585001	017.750	00.000	02585001	019.125	00.400	02586001	DBR	1070
36.	020.000	00.000	02587001	020.625	00.000	02591101	022.625	00.200	02599301	DBR	0171
37.	023.625	00.000	02600401	024.500	00.000	02601601	024.250	00.200	02601601	DBR	0471
38.	023.750	00.000	02601801	024.000	00.000	02601901	023.000	00.200	02602501	DBR	0771
39.	022.125	00.000	02605001	021.000	00.000	02606701	022.750	00.400	02607301	DBR	1071
40.	024.875	00.000	02610701	027.000	00.000	02611301	028.500	00.200	02611301	DBR	0172
41.	026.000	00.000	02614301	031.250	00.200	02614301	028.500	00.000	02614301	DBR	0472
42.	032.500	00.000	02614301	033.125	00.200	02614301	032.750	00.000	02614301	DBR	0772
43.	031.500	00.000	02614301	030.875	00.000	02617001	032.500	00.750	02621401	DBR	1072
44.	032.500	00.000	02621401	033.875	00.000	02626601	033.000	00.250	02626801	DBR	0173
45.	033.875	00.000	02626801	933.750	00.000	02626801	035.500	00.250	02629801	DBR	0473

1.	000.000	00.000	00000000	000.000	00.000	00000000	022.625	00.000	08050000	DST	0964
2.	022.500	00.000	08051370	023.375	00.160	08053995	022.625	00.000	08055183	DST	1064
3.	026.875	00.000	08055951	027.000	00.160	08057321	024.500	00.000	08058329	DST	0165
4.	024.500	00.000	08058488	025.500	00.180	08059108	023.750	00.000	08059782	DST	0465
5.	023.500	00.000	08059782	025.750	00.180	08062417	026.000	00.000	08063201	DST	0765
6.	025.250	00.000	08063781	025.000	00.180	08065051	023.875	00.000	08065864	DST	1065
7.	025.000	00.000	08066735	024.250	00.180	08068990	024.500	00.000	08069495	DST	0166
8.	023.250	00.000	08069576	021.750	00.180	08071757	021.250	00.000	08072517	DST	0466
9.	020.250	00.000	08073007	019.000	00.180	08073013	019.125	00.000	08073013	DST	0766
10.	018.000	00.000	08073013	017.750	00.180	08073021	018.250	00.000	08073021	DST	1066
11.	019.250	00.000	08073021	020.625	00.180	08073027	020.250	00.000	08073027	DST	0167
12.	018.500	00.000	08073027	017.375	00.180	08073027	017.875	00.000	08073027	DST	0467
13.	017.375	00.000	08073027	017.125	00.180	08073027	018.750	00.000	08073027	DST	0767
14.	016.875	00.000	08073027	016.250	00.180	08073027	016.000	00.000	08073027	DST	1067
15.	016.875	00.000	08073027	015.875	00.180	08073027	015.500	00.000	08073027	DST	0168
16.	016.500	00.000	08073027	018.000	00.180	08073027	019.500	00.000	08073028	DST	0468
17.	018.875	00.000	08073028	018.250	00.180	08073028	017.125	00.000	08073028	DST	0768
18.	016.750	00.000	08073028	017.000	00.180	08073028	016.500	00.000	08073028	DST	1068
19.	014.750	00.000	08073028	014.875	00.180	08073028	014.125	00.000	08073028	DST	0169
20.	014.625	00.000	08073029	015.000	00.180	08073029	014.500	00.000	08073029	DST	0469
21.	014.000	00.000	08073029	012.750	00.180	08073029	012.500	00.000	08073029	DST	0769
22.	013.375	00.000	08073029	013.000	00.180	08073029	014.625	00.000	08073809	DST	1069
23.	014.000	00.000	08073859	013.500	00.180	08076729	013.500	00.000	08077404	DST	0170
24.	013.125	00.000	08077404	012.625	00.180	08077644	012.375	00.000	08078129	DST	0470
25.	012.625	00.000	08078129	011.750	00.180	08078129	010.750	00.000	08078129	DST	0770
26.	010.375	00.000	08078129	008.875	00.180	08078129	010.000	00.000	08078129	DST	1070
27.	010.500	00.000	08078129	011.000	00.180	08078129	011.875	00.000	08078129	DST	0171
28.	010.500	00.000	08078129	011.500	00.180	08078129	013.000	00.000	08078129	DST	0471
29.	012.500	00.000	08078129	014.000	00.180	08078129	013.875	00.000	08079739	DST	0771
30.	014.000	00.000	08081489	014.000	00.180	08085144	014.625	00.000	08085644	DST	1071
31.	015.000	00.000	08098629	016.000	00.180	08116179	016.500	00.000	08116179	DST	0172
32.	015.375	00.000	08189014	015.625	00.180	08237664	016.375	00.000	08250244	DST	0472
33.	016.875	00.000	08250244	017.000	00.180	08272594	015.750	00.000	08298591	DST	0772
34.	013.625	00.000	08298591	014.500	00.180	08303366	014.375	00.000	08304171	DST	1072
35.	015.625	00.000	08304171	015.000	00.180	08306586	014.375	00.000	08307961	DST	0173
36.	014.500	00.000	08308311	914.313	00.180	08308311	014.000	00.000	08308551	DST	0473
37.	014.500	00.000	08308551	014.500	00.180	08309351	013.625	00.000	08309351	DST	0773
38.	014.250	00.000	08312661	012.875	00.180	08312661	012.250	00.000	08312661	DST	1073
39.	012.875	00.000	08312661	014.500	00.180	08312661	014.500	00.000	08318336	DST	0174
40.	013.625	00.000	08318336	014.750	00.280	08323536	015.000	00.000	08323536	DST	0474
41.	015.125	00.000	08385160	013.500	00.180	08416755	014.000	00.000	08491446	DST	0774
42.	014.500	00.000	08491446	014.750	00.180	08491446	015.750	00.000	08491446	DST	1074
43.	017.000	00.000	08492996	017.750	00.180	08492996	018.250	00.000	08507776	DST	0175
44.	017.000	00.000	08510066	016.750	00.280	08510066	016.000	00.000	08510530	DST	0475
45.	016.500	00.000	08510530	018.250	00.310	08510531	017.625	00.000	08510530	DST	0775

1.	000.000	00.000	00000000	000.000	00.000	00000000	019.625	00.225	14621715	DTR	0665
2.	019.125	00.000	14621715	019.500	00.000	14621715	019.000	00.225	14621715	DTR	0765
3.	017.875	00.000	14621715	017.625	00.000	14621715	019.000	00.225	14621715	DTR	1065
4.	020.000	00.000	14621715	020.000	00.000	14621715	019.500	00.250	14621715	DTR	0166
5.	018.875	00.000	14621715	017.625	00.000	14621715	017.875	00.250	14621715	DTR	0466
6.	017.500	00.000	14621715	017.000	00.000	14621715	016.500	00.250	14621715	DTR	0766
7.	016.500	00.000	14621715	016.625	00.000	14700700	016.000	00.250	14700700	DTR	1066
8.	017.625	00.000	14700700	018.250	00.000	14700700	017.500	00.250	14700700	DTR	0167
9.	016.625	00.000	14700700	015.625	00.000	14700700	015.250	00.250	14700700	DTR	0467
10.	014.875	00.000	14700700	013.625	00.000	14700700	012.750	00.250	14700700	DTR	0767
11.	011.625	00.000	14700700	010.250	00.000	14700700	010.375	00.150	14700700	DTR	1067
12.	009.625	00.000	14700700	008.625	00.000	14700700	008.250	00.150	14700700	DTR	0168
13.	008.625	00.000	14700700	009.000	00.000	14700700	010.500	00.150	14700700	DTR	0468
14.	010.125	00.000	14700700	010.500	00.000	14700700	012.000	00.150	14700700	DTR	0768
15.	011.125	00.000	14700700	012.375	00.000	14700700	011.750	00.150	14700700	DTR	1068
16.	014.375	00.000	14700700	013.500	00.000	14700700	014.625	00.150	14700700	DTR	0169
17.	015.625	00.000	14700700	015.500	00.000	14700700	013.375	00.150	14700700	DTR	0469
18.	012.500	00.000	14700700	013.125	00.000	14827300	013.250	00.150	14827300	DTR	0769
19.	014.250	00.000	14827300	015.250	00.000	14827300	015.500	00.150	14827300	DTR	1069
20.	014.625	00.000	14827300	016.000	00.000	14827300	016.250	00.150	14827300	DTR	0170
21.	015.500	00.000	14827300	014.000	00.000	14827300	013.125	00.250	14827300	DTR	0470
22.	012.750	00.000	14827300	013.625	00.000	14827300	013.500	00.150	14827300	DTR	0770
23.	013.500	00.000	14827300	014.625	00.000	14827300	015.000	00.150	14827300	DTR	1070
24.	015.125	00.000	14827300	015.250	00.000	14827300	014.125	00.150	14827300	DTR	0171
25.	013.125	00.000	14827300	012.875	00.000	14827300	014.000	00.150	14827300	DTR	0471
26.	013.500	00.000	14827300	012.250	00.000	14827300	010.500	00.150	14827300	DTR	0771
27.	009.875	00.000	14827300	010.375	00.000	14827300	012.250	00.150	14827300	DTR	1071
28.	012.125	00.000	14827300	013.625	00.000	14827300	013.000	00.150	14827300	DTR	0172
29.	013.125	00.000	14827300	015.250	00.000	14827300	014.500	00.150	14827300	DTR	0472
30.	015.000	00.000	14827300	016.500	00.000	14827300	016.125	00.150	14827300	DTR	0772
31.	015.125	00.000	14827300	017.500	00.000	14827300	018.250	00.150	14827300	DTR	1072
32.	019.000	00.000	14827300	018.750	00.000	14827300	020.250	00.150	14827300	DTR	0173
33.	019.875	00.000	14827300	019.500	00.000	14827300	020.500	00.150	14827300	DTR	0473
34.	022.750	00.000	14827300	021.250	00.000	14827300	025.000	00.150	14827300	DTR	0773
35.	026.500	00.000	14827300	022.000	00.000	14827300	022.750	00.550	14827300	DTR	1073
36.	022.625	00.000	14827300	025.250	00.000	14827300	027.125	00.250	14827300	DTR	0174
37.	024.250	00.000	14827300	024.500	00.000	14827300	025.000	00.350	14827300	DTR	0474
38.	025.500	00.000	14827300	022.000	00.000	14827300	020.500	00.600	14827300	DTR	0774
39.	019.625	00.000	14827300	022.000	00.000	14827300	018.750	00.400	14827300	DTR	1074
40.	019.375	00.000	14827300	019.500	00.000	14827300	019.750	00.400	14827300	DTR	0175
41.	021.125	00.000	14827300	023.000	00.000	14827300	024.000	00.400	14827300	DTR	0475
42.	024.000	00.000	14827300	023.375	00.000	14827300	020.500	00.400	14827300	DTR	0775
43.	019.000	00.000	14827300	019.250	00.000	14827300	019.500	00.400	14827300	DTR	1075
44.	024.125	00.000	14827300	024.625	00.000	14827300	025.125	00.400	14827300	DTR	0176
45.	025.500	00.000	14827300	023.000	00.000	14827300	021.750	00.200	14827300	DTR	0476

1.	000.000	00.000	00000000	000.000	00.000	00000000	092.500	00.000	04893607	FAL	0666
2.	097.625	00.000	04893607	088.500	00.750	04893607	082.750	00.000	04894607	FAL	0766
3.	086.000	00.000	04894607	086.500	01.250	04894607	087.125	00.000	04894607	FAL	1066
4.	088.750	00.000	04894607	088.250	00.750	04894607	091.500	00.000	04894607	FAL	0167
5.	088.000	00.000	04894607	082.500	00.750	04895607	086.000	00.000	04900064	FAL	0467
6.	089.000	00.000	04900064	086.000	00.750	04900064	090.750	00.000	04900564	FAL	0767
7.	088.000	00.000	04904064	086.000	01.250	04904064	097.000	00.000	04904064	FAL	1067
8.	099.750	00.750	04904064	095.000	00.000	04904064	094.500	00.000	04904064	FAL	0168
9.	107.000	00.000	04904064	106.250	00.750	04904168	105.000	00.000	04904168	FAL	0468
10.	100.000	00.750	04904168	098.750	00.000	04904168	097.250	00.000	04904168	FAL	0768
11.	098.250	00.000	04904168	098.500	01.250	04904168	107.500	00.000	04905017	FAL	1068
12.	114.000	00.000	04905017	119.750	00.750	04905017	119.000	00.000	04905032	FAL	0169
13.	126.000	00.750	04905032	137.000	00.000	04920216	122.000	00.000	04920216	FAL	0469
14.	123.500	00.750	04923031	134.000	00.000	04923031	140.250	00.000	04923031	FAL	0769
15.	145.000	01.250	01923031	166.500	00.000	04930168	167.000	00.000	04930168	FAL	1069
16.	167.250	00.000	04946243	177.750	00.750	04946243	176.250	00.000	04946643	FAL	0170
17.	155.500	00.750	04947288	133.500	00.000	04947288	140.750	00.000	04947288	FAL	0470
18.	148.000	00.000	04954498	136.000	00.750	04954498	141.000	00.000	04954808	FAL	0770
19.	142.875	00.000	04954808	136.000	01.250	04954808	142.000	00.000	04954808	FAL	1070
20.	141.500	00.000	04955223	137.500	00.750	04955223	147.500	00.000	04955223	FAL	0171
21.	140.000	00.000	04958623	121.875	00.750	04958623	115.000	00.000	04961033	FAL	0471
22.	096.250	00.000	04961033	096.000	00.750	04961033	083.000	00.000	04961033	FAL	0771
23.	065.250	00.000	04961033	060.500	00.500	04961043	083.000	00.000	04961043	FAL	1071
24.	084.250	00.000	04999980	090.000	00.500	04999980	092.750	00.000	04999980	FAL	0172
25.	082.000	00.000	04999980	073.500	00.500	04999980	064.750	00.000	04999980	FAL	0472
26.	058.250	00.000	04999980	063.125	00.000	04999980	062.250	00.000	04999980	FAL	0772
27.	058.000	00.000	04999980	053.000	00.000	04999980	065.250	00.000	04999980	FAL	1072
28.	066.750	00.000	04999980	067.500	00.000	04999980	070.750	00.000	04999980	FAL	0173
29.	073.000	00.000	04999980	066.375	00.000	04999980	069.125	00.000	04999980	FAL	0473
30.	079.375	00.000	04999980	075.500	00.000	04999980	076.875	00.000	04999980	FAL	0773
31.	084.875	00.000	04999980	066.000	00.000	04999980	062.250	01.000	04999980	FAL	1073
32.	067.000	00.000	04999980	063.000	00.000	04999980	058.750	00.250	05000895	FAL	0174
33.	053.875	00.000	05000895	048.000	00.000	05000895	040.375	00.250	05000895	FAL	0474
34.	038.000	00.000	05000895	035.000	00.000	05000895	028.000	00.250	05000895	FAL	0774
35.	031.125	00.000	05000895	026.500	00.000	05000895	024.375	01.250	05000895	FAL	1074
36.	029.000	00.000	05000895	032.000	00.000	05000955	032.000	00.250	05000955	FAL	0175
37.	034.500	00.000	05000955	035.000	00.000	05002755	035.125	00.250	05003555	FAL	0475
38.	032.750	00.000	05005555	035.000	00.000	05005555	029.000	00.250	05005555	FAL	0775
39.	028.875	00.000	05005555	029.000	00.000	05005555	029.000	00.250	05005555	FAL	1075
40.	033.000	00.000	05005555	034.000	00.000	05005555	040.250	00.250	05005555	FAL	0176
41.	041.500	00.000	05005555	037.500	00.000	05006755	039.875	00.250	05006755	FAL	0476
42.	043.500	00.000	05006755	044.750	00.000	05008555	039.500	00.250	05008555	FAL	0776
43.	036.375	00.000	05008555	030.750	00.000	05008555	035.500	00.250	05008555	FAL	1076
44.	036.500	00.000	05008555	035.375	00.000	05008555	039.000	00.250	05008555	FAL	0177
45.	035.500	00.000	05008555	032.500	00.000	05010055	033.875	00.250	05010055	FAL	0477

FALCONBRIDGE NICKEL MINES LIMITED - CLASS A

1.	000.000	00.000	00000000	000.000	00.000	00000000	018.000	00.140	00207400	FED	1265
2.	018.250	00.000	00211465	917.750	00.000	00211465	916.750	00.140	00211465	FED	0166
3.	016.750	00.000	00211465	916.813	00.000	00211465	916.875	00.140	00213265	FED	0466
4.	916.688	00.000	00213265	914.438	00.000	00213265	014.500	00.140	00228921	FED	0766
5.	016.625	00.000	00228921	016.750	00.000	00228921	916.750	00.140	00229521	FED	1066
6.	019.750	00.000	00229521	021.125	00.000	00231121	022.500	00.140	00232121	FED	0167
7.	024.500	00.000	00232121	024.500	00.000	00232121	923.250	00.140	00232321	FED	0467
8.	027.500	00.000	00232321	029.750	00.000	00232321	030.250	00.140	00232321	FED	0767
9.	033.000	00.000	00243721	031.500	00.000	00288673	028.000	00.140	00288673	FED	1067
10.	025.500	00.000	00288673	024.250	00.000	00376399	018.500	00.140	00379599	FED	0168
11.	024.750	00.000	00384019	923.375	00.000	00385919	921.750	00.140	00387859	FED	0468
12.	022.500	00.000	00387859	022.000	00.000	00389399	022.000	00.000	00389399	FED	0768
13.	-99.000	00.140	00389399	026.000	00.000	00390735	025.000	00.140	00390815	FED	1068
14.	024.000	00.000	00390815	924.500	00.000	00390915	025.500	00.140	00390915	FED	0169
15.	025.750	00.000	00393987	025.000	00.000	00393987	022.500	00.140	00393987	FED	0469
16.	917.500	00.000	00393987	918.000	00.000	00393987	915.250	00.140	00393987	FED	0769
17.	016.000	00.000	00393987	915.875	00.000	00393987	014.000	00.140	00465877	FED	1069
18.	012.500	00.000	00466197	011.000	00.000	00466197	013.500	00.140	00466617	FED	0170
19.	912.000	00.000	00522237	910.375	00.000	00522837	909.875	00.140	00522837	FED	0470
20.	909.750	00.000	00522837	913.375	00.000	00522837	014.000	00.140	00522837	FED	0770
21.	014.500	00.000	00522837	014.375	00.000	00525813	015.750	00.140	00526713	FED	1070
22.	018.250	00.000	00527753	019.000	00.000	00528313	018.125	00.140	00584343	FED	0171
23.	020.000	00.000	00584633	920.250	00.000	00584633	020.000	00.140	00586733	FED	0471
24.	020.250	00.000	00526733	918.000	00.000	00590793	017.500	00.140	00590793	FED	0771
25.	917.375	00.000	00591141	916.813	00.000	00594741	017.500	00.140	00630317	FED	1071
26.	021.250	00.000	00632245	919.250	00.000	00637013	919.250	00.140	00637013	FED	0172
27.	917.438	00.000	00637013	017.875	00.000	00693509	019.500	00.140	00698733	FED	0472
28.	920.750	00.000	00698733	020.125	00.000	00699193	020.125	00.140	00702153	FED	0772
29.	019.750	00.000	00702153	019.750	00.000	00704193	021.500	00.140	00704193	FED	1072
30.	022.750	00.000	00704193	026.000	00.000	00705385	026.500	00.140	00706285	FED	0173
31.	923.750	00.000	00706285	923.125	00.000	00706285	024.000	00.140	00706285	FED	0473
32.	924.625	00.000	00783243	023.500	00.000	00783243	023.000	00.140	00783243	FED	0773
33.	923.750	00.000	00783243	921.313	00.000	00783243	021.000	00.140	00783243	FED	1073
34.	922.250	00.000	00783243	021.750	00.000	00783243	022.000	00.140	00787827	FED	0174
35.	918.000	00.000	00787827	018.000	00.000	00863255	016.125	00.140	00863255	FED	0474
36.	916.750	00.000	00863255	018.000	00.000	00863435	914.000	00.140	00863435	FED	0774
37.	013.375	00.000	00863435	012.500	00.000	00863731	914.000	00.140	00863731	FED	1074
38.	015.250	00.000	00863731	915.250	00.000	00863731	916.500	00.140	00863947	FED	0175
39.	918.250	00.000	00868387	020.500	00.000	00924147	921.875	00.140	00924147	FED	0475
40.	922.750	00.000	00924147	021.750	00.000	00924147	021.750	00.140	00924147	FED	0775
41.	918.375	00.000	00924907	920.313	00.000	00925047	019.000	00.140	00925047	FED	1075
42.	022.500	00.000	00925047	025.000	00.050	00925927	024.500	00.170	00925927	FED	0176
43.	023.000	00.000	00928167	927.250	00.170	00986399	026.500	00.000	00986399	FED	0476
44.	926.375	00.000	00986399	925.063	00.170	00989663	925.750	00.000	00989663	FED	0776
45.	926.375	00.000	00990791	924.000	00.000	00990871	025.500	00.170	00990871	FED	1076

1.	000.000	00.000	00000000	000.000	00.000	00000000	024.000	00.150	02300202	FRA	0669
2.	922.875	00.000	02314702	024.250	00.000	02314702	024.250	00.150	02314702	FRA	0769
3.	025.500	00.000	02314702	028.500	00.000	02314702	027.875	00.250	02314702	FRA	1069
4.	027.750	00.000	02314702	028.000	00.250	02314702	032.000	00.000	02314702	FRA	0170
5.	029.000	00.000	02320952	025.750	00.250	02320952	022.750	00.000	02320952	FRA	0470
6.	023.000	00.000	02320952	922.438	00.250	02320952	024.250	00.000	02324302	FRA	0770
7.	020.250	00.000	02324302	018.500	00.250	02324302	019.000	00.000	02324302	FRA	1070
8.	020.500	00.000	02324302	017.750	00.000	02324302	017.250	00.150	02324302	FRA	0171
9.	916.875	00.000	02331802	016.500	00.000	02331802	916.813	00.000	02331802	FRA	0471
10.	016.375	00.000	02331802	915.813	00.000	02331802	913.813	00.000	02331802	FRA	0771
11.	912.500	00.000	02331802	012.000	00.000	02331802	013.000	00.000	02331802	FRA	1071
12.	913.000	00.000	02331802	014.250	00.000	02331802	914.750	00.000	02331802	FRA	0172
13.	014.000	00.000	02331802	013.750	00.000	02334302	913.500	00.000	02334302	FRA	0472
14.	014.000	00.000	02334302	014.500	00.000	02334302	914.375	00.000	02334302	FRA	0772
15.	014.500	00.000	02334802	915.813	00.000	02334802	016.500	00.100	02334802	FRA	1072
16.	018.375	00.000	02334802	020.000	00.000	02334802	021.500	00.000	02334802	FRA	0173
17.	020.000	00.000	02334802	020.000	00.000	02334802	022.000	00.150	02338002	FRA	0473
18.	021.000	00.000	02338002	020.500	00.000	02338102	024.000	00.200	02338102	FRA	0773
19.	025.250	00.000	02338102	022.000	00.000	02338102	922.000	00.250	02338102	FRA	1073
20.	023.875	00.000	02338102	924.125	00.000	02340652	023.625	00.300	02344402	FRA	0174
21.	025.500	00.000	02344402	924.125	00.000	02344402	023.375	00.300	02344402	FRA	0474
22.	023.125	00.000	02344402	022.875	00.000	02225791	920.000	00.400	02225791	FRA	0774
23.	022.250	00.000	02225791	022.000	00.000	02225791	020.625	00.400	02225791	FRA	1074
24.	020.500	00.000	02225791	921.750	00.000	02225791	920.000	00.400	02225791	FRA	0175
25.	919.438	00.000	02242852	919.625	00.000	02242852	919.500	00.400	02242852	FRA	0475
26.	919.500	00.000	02224452	019.500	00.000	02224452	020.000	00.400	02224452	FRA	0775
27.	918.250	00.000	02224452	016.500	00.000	02224452	918.500	00.400	02224452	FRA	1075
28.	019.500	00.000	02224452	021.500	00.000	02224452	022.250	00.400	02224452	FRA	0176
29.	024.500	00.000	02224452	921.250	00.400	02217133	922.125	00.000	02217133	FRA	0476
30.	022.750	00.000	02217133	020.000	00.400	02217133	922.438	00.000	02217133	FRA	0776
31.	022.500	00.000	02217133	922.375	00.000	02217133	922.250	00.430	02217133	FRA	1076
32.	923.250	00.000	02217133	024.250	00.430	02217133	926.375	00.000	02217133	FRA	0177
33.	026.500	00.000	02210738	925.000	00.430	02210738	024.000	00.000	02210738	FRA	0477
34.	025.750	00.000	02215738	025.000	00.000	02215738	924.563	00.440	02215738	FRA	0777
35.	923.563	00.000	02215738	023.000	00.000	02215738	924.938	00.450	02215738	FRA	1077
36.	024.500	00.000	02214440	025.500	00.000	02214440	028.000	00.460	02214440	FRA	0178
37.	031.250	00.000	02214440	031.250	00.000	02207922	935.625	00.460	02207922	FRA	0478
38.	037.125	00.000	02207922	037.000	00.000	02207922	041.000	00.460	02207922	FRA	0778
39.	039.750	00.000	02207922	014.750	-3.000	06623766	013.750	00.200	06684486	FRA	1078
40.	015.000	00.000	06684486	914.750	00.000	06684486	016.000	00.000	06684486	FRA	0179
41.	015.625	00.000	06684486	015.000	00.000	06684486	016.500	00.250	06684486	FRA	0479
42.	016.625	00.000	07050912	017.500	00.250	07051912	916.000	00.000	07051912	FRA	0779
43.	914.375	00.000	07051912	914.313	00.000	07051912	016.000	00.300	07060487	FRA	1079
44.	019.500	00.000	07067430	019.250	00.200	07067430	015.500	00.000	07077430	FRA	0180
45.	018.000	00.000	07079169	016.500	00.000	07079169	016.500	00.000	07079169	FRA	0480

1.	014.250	00.000	00.000	03545580	012.500	00.000	00.000	03545580	GAZ 0666
2.	012.250	00.000	00.000	03545580	011.000	00.000	00.000	03545580	GAZ 0866
3.	010.500	00.000	00.000	03545580	010.250	00.000	00.000	03545580	GAZ 1066
4.	009.875	00.000	00.000	03545580	010.500	00.000	00.000	03545580	GAZ 1266
5.	010.625	00.000	00.000	03545580	011.500	00.000	00.000	03545580	GAZ 0267
6.	010.750	00.000	00.000	03556123	009.875	00.000	00.000	03556143	GAZ 0467
7.	010.125	00.000	00.000	03556144	009.875	00.000	00.000	03556153	GAZ 0667
8.	010.500	00.000	00.000	03556159	010.375	00.000	00.000	03556160	GAZ 0867
9.	009.000	00.000	00.000	03556163	009.750	00.000	00.000	03556165	GAZ 1067
10.	010.250	00.000	00.000	03556166	009.875	00.000	00.000	03556166	GAZ 1267
11.	010.375	00.000	00.000	03556167	010.625	00.000	00.000	03556167	GAZ 0268
12.	010.875	00.000	00.000	03556167	010.500	00.000	00.000	03556197	GAZ 0468
13.	012.125	00.000	00.000	03556347	012.500	00.000	00.000	03556347	GAZ 0668
14.	013.000	00.000	00.000	03556369	014.125	00.000	00.000	03556369	GAZ 0868
15.	016.250	00.000	00.000	03556369	015.750	00.000	00.000	03556393	GAZ 1068
16	014.500	00.000	00.000	03556393	015.750	00.000	00.000	03556414	GAZ 1268
17.	016.500	00.000	00.000	03556416	017.375	00.000	00.000	03556416	GAZ 0269
18.	019.500	00.000	00.000	03556416	021.000	00.000	00.000	03556419	GAZ 0469
19.	018.000	00.000	00.000	03556419	017.500	00.000	00.000	03556461	GAZ 0669
20.	017.625	00.000	00.000	03556465	017.500	00.000	00.000	03556465	GAZ 0869
21.	015.750	00.000	00.000	03556465	007.000	-2.000	00.000	07113300	GAZ 1069
22.	006.250	00.000	00.000	07113300	005.625	00.000	00.000	07113300	GAZ 1269
23.	004.800	00.000	00.000	07113300	004.650	00.000	00.000	07113300	GAZ 0270
24.	004.400	00.000	00.000	07113300	004.100	00.000	00.000	07113300	GAZ 0470
25.	903.450	00.000	00.000	07113300	004.000	00.000	00.000	07113300	GAZ 0670
26.	004.250	00.000	00.000	07113300	005.625	00.000	00.000	07113300	GAZ 0870
27.	905.063	00.000	00.000	07113300	004.700	00.000	00.010	07113300	GAZ 1070
28.	004.600	00.000	00.000	07114690	905.063	00.000	00.000	09958620	GAZ 1270
29.	004.500	00.000	00.000	09958620	005.250	00.000	00.000	09958620	GAZ 0271
30.	006.375	00.000	00.000	09958620	006.000	00.000	00.000	09958620	GAZ 0471
31.	006.375	00.000	00.000	09958620	006.000	00.000	00.000	09958620	GAZ 0671
32.	005.625	00.000	00.000	09958620	005.625	00.000	00.000	09958620	GAZ 0871
33.	905.075	00.000	00.000	09958620	005.250	00.000	00.000	09958620	GAZ 1071
34.	005.625	00.000	00.000	09958620	006.625	00.000	00.000	09958620	GAZ 1271
35.	006.125	00.000	00.000	09958620	005.750	00.000	00.000	09958620	GAZ 0272
36.	005.500	00.000	00.000	09958620	005.125	00.000	00.000	09958620	GAZ 0472

GAZ METROPOLITAIN INCORPORATED

37.	904.950	00.100	00.000	09958620	005.000	00.000	00.000	09958620	GAZ 0672
38.	005.000	00.000	00.000	09958620	004.800	00.000	00.000	09958620	GAZ 0872
39.	005.000	00.000	00.000	09958620	005.250	00.000	00.000	09958620	GAZ 1072
40.	005.000	00.100	00.000	09958620	005.000	00.000	00.000	09958620	GAZ 1272
41.	005.125	00.000	00.000	09958620	004.950	00.070	00.000	09958620	GAZ 0273
42.	004.750	00.000	00.000	09958620	004.500	00.000	00.000	09958620	GAZ 0473
43.	004.400	00.070	00.000	09958620	904.500	00.000	00.000	09958620	GAZ 0673
44.	904.275	00.000	00.000	09958905	004.500	00.070	00.000	09958905	GAZ 0873
45.	005.125	00.000	00.000	09958905	005.250	00.000	00.000	09958905	GAZ 1073
46.	005.625	00.140	00.000	09958905	906.063	00.000	00.000	09958905	GAZ 1273
47.	006.375	00.000	00.000	09958905	006.375	00.090	00.000	09958905	GAZ 0274
48.	005.500	00.000	00.000	09958905	005.500	00.000	00.000	09958905	GAZ 0474
49.	005.000	00.090	00.000	09958905	005.250	00.000	00.000	09958905	GAZ 0674
50.	905.375	00.000	00.000	09958905	004.900	00.090	00.000	09958905	GAZ 0874
51.	905.188	00.000	00.000	09958905	905.063	00.000	00.000	09958905	GAZ 1074
52.	004.850	00.180	00.000	09958905	005.500	00.000	00.000	09958905	GAZ 1274
53.	006.625	00.000	00.000	09958905	006.250	00.150	00.000	09958905	GAZ 0275
54.	906.625	00.000	00.000	09959805	906.563	00.000	00.000	09958905	GAZ 0475
55.	007.000	00.150	00.000	09958905	006.125	00.000	00.000	09958905	GAZ 0675
56.	006.000	00.000	00.000	09958905	005.750	00.150	00.000	09958905	GAZ 0875
57.	005.750	00.000	00.000	09958905	005.875	00.000	00.000	09958905	GAZ 1075
58.	006.250	00.150	00.000	09958905	006.250	00.000	00.000	09958905	GAZ 1275
59.	006.500	00.000	00.000	09958905	006.625	00.150	00.000	09958905	GAZ 0276
60.	906.375	00.000	00.000	09958905	906.438	00.000	00.000	09958905	GAZ 0476
61.	006.000	00.150	00.000	09958905	006.375	00.000	00.000	09958905	GAZ 0676
62.	006.500	00.000	00.000	09958905	906.438	00.150	00.000	09958905	GAZ 0876
63.	006.000	00.000	00.000	09958905	005.875	00.000	00.000	09958905	GAZ 1076
64.	006.000	00.150	00.000	09958905	005.875	00.000	00.000	09958905	GAZ 1276
65.	006.625	00.000	00.000	09958905	006.250	00.150	00.000	09958905	GAZ 0277
66.	006.375	00.000	00.000	09958905	006.500	00.000	00.000	09958905	GAZ 0477
67.	006.250	00.150	00.000	09958905	000.000	00.000	00.000	00000000	GAZ 0677

GAZ METROPOLITAIN INCORPORATED (continued)

1.	000.000	00.000	00000000	000.000	00.000	00000000	017.000	00.150	03600000	GLP	0662
2.	016.500	00.000	03600000	015.500	00.000	03600000	016.500	00.150	03600000	GLP	0762
3.	015.875	00.000	03600000	017.125	00.000	03600000	916.625	00.200	03600000	GLP	1062
4.	016.500	00.000	03600000	017.250	00.000	03600000	018.000	00.200	03600000	GLP	0163
5.	019.500	00.000	03600000	020.125	00.000	03600000	019.125	00.200	03600000	GLP	0463
6.	019.000	00.000	03600000	021.500	00.000	03600000	022.500	00.200	03600000	GLP	0763
7.	022.250	00.000	03600000	022.500	00.000	03600000	022.750	00.200	03600000	GLP	1063
8.	024.500	00.000	03600000	023.125	00.000	03600000	022.750	00.250	03600000	GLP	0164
9.	024.375	00.000	03600000	026.125	00.000	03600000	026.000	00.250	03600000	GLP	0464
10.	027.000	00.000	03600000	026.500	00.000	03600000	027.000	00.250	03600000	GLP	0764
11.	029.625	00.000	03600000	024.750	00.000	03600000	023.625	00.250	03600000	GLP	1064
12.	025.500	00.000	03600000	024.375	00.000	03600000	022.750	00.250	03600000	GLP	0165
13.	023.625	00.000	03600083	023.500	00.000	03600083	022.250	00.250	03600083	GLP	0465
14.	022.750	00.000	03600083	024.000	00.000	03600083	023.500	00.250	03600083	GLP	0765
15.	021.000	00.000	03600083	920.625	00.000	03600083	022.000	00.250	03600083	GLP	1065
16.	024.000	00.000	03600083	024.500	00.000	03600083	025.500	00.250	03600083	GLP	0166
17.	027.375	00.000	03600083	027.000	00.000	03600083	028.000	00.250	03600113	GLP	0466
18.	028.000	00.000	03600418	023.250	00.250	03600498	024.250	00.000	03600523	GLP	0766
19.	022.000	00.000	03600523	023.750	00.000	03600523	022.750	00.250	03600523	GLP	1066
20.	023.500	00.000	03600523	026.500	00.000	03600523	028.500	00.250	03600523	GLP	0167
21.	029.500	00.000	03600523	026.250	00.000	03601053	025.000	00.250	03602103	GLP	0467
22.	023.000	00.000	03602603	023.000	00.000	03602603	022.875	00.250	03602603	GLP	0767
23.	020.125	00.000	03602603	019.125	00.000	03602603	017.500	00.250	03602603	GLP	1067
24.	017.250	00.000	03602603	017.500	00.000	03602603	015.250	00.250	03602603	GLP	0168
25.	016.125	00.000	03602603	015.000	00.000	03602603	017.750	00.250	03602603	GLP	0468
26.	017.000	00.000	03602603	018.000	00.250	03602603	020.250	00.000	03602603	GLP	0768
27.	021.000	00.000	03602603	022.500	00.000	03602603	024.750	00.250	03602603	GLP	1068
28.	026.000	00.000	03602603	027.250	00.000	03602603	027.250	00.250	03602603	GLP	0169
29.	028.000	00.000	03602603	027.500	00.000	03602603	024.000	00.250	03602603	GLP	0469
30.	021.250	00.000	03602603	025.000	00.250	03602603	025.000	00.000	03602603	GLP	0769
31.	024.500	00.000	03602603	024.000	00.000	03602603	023.500	00.250	03602603	GLP	1069
32.	923.313	00.000	03602603	023.625	00.000	03602603	023.875	00.250	03602603	GLP	0170
33.	024.000	00.000	03602603	019.000	00.000	03602603	017.125	00.250	03602603	GLP	0470
34.	018.250	00.000	03602603	017.625	00.250	03602603	019.750	00.000	03602603	GLP	0770
35.	016.500	00.000	03602603	017.500	00.250	03602603	018.500	00.000	03602603	GLP	1070
36.	020.500	00.000	03602603	018.500	00.000	03602603	018.125	00.200	03602603	GLP	0171
37.	-99.000	00.000	03602603	016.500	00.000	03602603	016.125	00.200	03602603	GLP	0471
38.	016.000	00.000	03602603	014.375	00.000	03602603	015.500	00.100	03602603	GLP	0771
39.	013.500	00.000	03602603	015.250	00.000	03602603	018.000	00.150	03602603	GLP	1071
40.	017.625	00.000	03602603	017.500	00.150	03602603	017.250	00.000	03602603	GLP	0172
41.	017.250	00.000	03602603	017.125	00.000	03602603	916.125	00.150	03602603	GLP	0472
42.	017.000	00.000	03602603	015.750	00.000	03602603	015.750	00.000	03602603	GLP	0772
43.	915.063	00.000	03602603	015.875	00.000	03602603	020.000	00.000	03602603	GLP	1072
44.	021.250	00.000	03602603	021.500	00.000	03602603	022.125	00.000	03602603	GLP	0173
45.	921.250	00.000	03602603	021.750	00.000	03602603	021.250	00.000	03602603	GLP	0473

1.	000.000	00.000	00000000	000.000	00.000	00000000	063.500	00.000	02820473	HMS	0667
2.	062.000	00.000	02820473	061.000	00.850	02820473	061.000	00.000	02820473	HMS	0767
3.	057.500	00.000	02820473	057.500	01.350	02820473	056.500	00.000	02820473	HMS	1067
4.	060.375	00.000	02820473	055.500	00.850	02820473	054.250	00.000	02820473	HMS	0168
5.	058.500	00.000	02820473	056.250	00.850	02820473	056.000	00.000	02820473	HMS	0468
6.	059.000	00.000	02820473	060.000	00.850	02820473	065.500	00.000	02820473	HMS	0768
7.	073.000	00.000	02820473	074.000	01.450	02820473	074.000	00.000	02820473	HMS	1068
8.	080.500	00.000	02820473	082.750	00.850	02820473	086.250	00.000	02820473	HMS	0169
9.	086.500	00.000	03007611	085.000	00.850	03007611	074.000	00.000	03007611	HMS	0469
10.	073.500	00.000	03007611	078.750	00.850	03007611	081.375	00.000	03007611	HMS	0769
11.	085.000	00.000	03007611	083.500	01.850	03012761	081.000	00.000	03013061	HMS	1069
12.	084.750	00.000	03013061	083.000	00.850	03013061	086.500	00.000	03013061	HMS	0170
13.	027.375	-3.000	09040533	023.500	00.000	09040833	022.250	00.300	09040833	HMS	0470
14.	023.250	00.000	09040833	020.750	00.300	09040833	020.500	00.000	09040833	HMS	0770
15.	019.000	00.000	09040833	018.250	00.300	09040833	020.125	00.000	09040833	HMS	1070
16.	020.250	00.000	09040833	021.625	00.300	09040833	024.000	00.000	09040833	HMS	0171
17.	019.500	00.000	09040833	021.375	00.000	09040833	022.125	00.000	09040833	HMS	0471
18.	023.125	00.000	09040833	022.500	00.000	09040833	020.375	00.000	09040833	HMS	0771
19.	016.750	00.000	09040833	017.000	00.100	09040833	021.250	00.100	09040833	HMS	1071
20.	021.125	00.000	09040833	025.000	00.000	09041433	025.625	00.000	09041433	HMS	0172
21.	024.250	00.200	09041433	023.375	00.000	09041433	020.500	00.000	09041433	HMS	0472
22.	021.125	00.200	09041433	023.250	00.000	09041433	021.875	00.000	09041433	HMS	0772
23.	020.125	00.200	09041433	019.250	00.000	09041433	020.250	00.200	09041433	HMS	1072
24.	022.750	00.000	09041433	022.750	00.000	09041433	024.250	00.200	09041433	HMS	0173
25.	023.000	00.000	09041433	022.125	00.000	09041433	024.875	00.000	09041433	HMS	0473
26.	027.500	00.400	09041433	026.000	00.000	09041433	027.500	00.000	09041433	HMS	0773
27.	029.875	00.400	09041433	024.250	00.000	09941433	026.500	00.900	09941433	HMS	1073
28.	025.875	00.000	09941433	025.750	00.000	09941433	024.625	00.400	09941658	HMS	0174
29.	021.625	00.000	09941658	020.125	00.000	09941658	018.500	00.000	09941658	HMS	0474
30.	019.750	00.400	09941658	017.000	00.000	09941658	016.875	00.000	09941658	HMS	0774
31.	015.625	00.400	09941658	013.875	00.000	09941658	013.000	00.400	09941658	HMS	1074
32.	015.500	00.000	09941658	016.000	00.000	09941658	018.000	00.400	09941658	HMS	0175
33.	017.750	00.000	05497258	018.125	00.000	05497258	019.000	00.000	05497258	HMS	0475
34.	020.125	00.400	05497258	019.875	00.000	05497258	018.500	00.000	05497258	HMS	0775
35.	017.500	00.400	05260075	017.250	00.000	05260075	015.500	00.200	05061639	HMS	1075
36.	018.625	00.000	05061639	019.000	00.000	05061639	020.750	00.200	05061639	HMS	0176
37.	021.250	00.000	05061639	020.000	00.000	05061639	018.625	00.000	05063114	HMS	0476
38.	019.250	00.200	05063114	017.375	00.000	05063114	018.500	00.000	05033968	HMS	0776
39.	016.625	00.200	05192574	015.500	00.000	05192574	018.000	00.200	05192574	HMS	1076
40.	019.000	00.000	05192574	019.500	00.000	05192574	018.875	00.200	05192574	HMS	0177
41.	018.000	00.000	05192574	017.250	00.200	05085247	016.125	00.000	05085247	HMS	0477
42.	016.625	00.000	05085247	016.750	00.200	05085247	016.500	00.000	05085247	HMS	0777
43.	014.000	00.000	05085247	016.125	00.000	05085247	016.500	00.000	05107189	HMS	1077
44.	016.125	00.000	05107189	015.250	00.000	05107189	017.000	00.000	05107189	HMS	0178
45.	016.500	00.000	05177609	018.625	00.000	05177609	017.500	00.000	05177609	HMS	0478

1.	000.000	00.000	00000000	000.000	00.000	00000000	006.500	00.000	01107498	ING	0461
2.	005.500	00.000	01107498	005.875	00.000	01107498	005.125	00.000	01107498	ING	0761
3.	005.500	00.000	01107498	005.250	00.000	01107498	005.125	00.000	01107498	ING	1061
4.	905.813	00.000	01107498	005.625	00.000	01107498	005.750	00.000	01107498	ING	0162
5.	004.850	00.000	01107498	004.450	00.000	01107498	003.900	00.000	01107498	ING	0462
6.	004.000	00.000	01107498	004.350	00.000	01107498	004.250	00.000	01107498	ING	0762
7.	-99.000	00.000	01107498	005.750	00.000	01107498	005.375	00.000	01107498	ING	1062
8.	006.125	00.000	01107498	904.675	00.000	01107498	004.950	00.000	01107498	ING	0163
9.	004.600	00.000	01107498	005.375	00.000	01107498	004.750	00.000	01107498	ING	0463
10.	004.400	00.000	01107498	004.950	00.000	01107498	004.950	00.000	01107498	ING	0763
11.	004.600	00.000	01107498	004.500	00.000	01107498	904.300	00.000	01107498	ING	1063
12.	004.150	00.000	01107498	003.750	00.000	01107498	004.250	00.000	01107498	ING	0164
13.	903.700	00.000	01107498	004.500	00.000	01107498	004.000	00.000	01107498	ING	0464
14.	003.950	00.000	01107498	003.800	00.000	01107498	004.000	00.000	01107498	ING	0764
15.	-99.000	00.000	01107498	903.900	00.000	01107498	003.750	00.000	01107498	ING	1064
16.	004.000	00.000	01107498	003.950	00.000	01107498	004.200	00.000	01107498	ING	0165
17.	005.375	00.000	01107498	005.000	00.000	01107498	005.375	00.000	01107498	ING	0465
18.	005.625	00.000	01107498	905.750	00.000	01107498	-99.000	00.000	01107498	ING	0765
19.	008.125	00.000	01107498	007.750	00.000	01107498	008.875	00.000	01107498	ING	1065
20.	008.875	00.000	01107498	009.750	00.000	01107498	009.375	00.000	01107498	ING	0166
21.	008.875	00.000	01107498	008.500	00.000	01107498	009.000	00.000	01107498	ING	0466
22.	008.750	00.000	01107498	008.000	00.000	01107498	007.625	00.000	01107498	ING	0766
23.	008.750	00.000	01107498	009.250	00.000	01107498	009.000	00.000	01107498	ING	1066
24.	008.875	00.000	01107498	010.125	00.000	01107498	010.250	00.000	01107498	ING	0167
25.	011.875	00.000	01107498	012.000	00.000	01107498	012.000	00.000	01107498	ING	0467
26.	010.750	00.000	01107498	011.500	00.000	01107498	012.250	00.000	01107498	ING	0767
27.	011.125	00.000	01107498	011.250	00.000	01107498	011.125	00.000	01107498	ING	1067
28.	011.625	00.000	01107498	011.500	00.000	01107498	010.500	00.000	01107498	ING	0168
29.	011.750	00.000	01107498	010.625	00.000	01107498	010.750	00.000	01107498	ING	0468
30.	010.500	00.000	01107498	009.125	00.000	01107498	009.500	00.000	01107498	ING	0768
31.	011.250	00.000	01107498	012.750	00.000	01107498	011.125	00.000	01107498	ING	1068
32.	011.875	00.000	01107498	011.500	00.000	01107498	013.000	00.000	01107498	ING	0169
33.	013.625	00.000	01107498	913.875	00.000	01107498	911.875	00.000	01107498	ING	0469
34.	012.250	00.000	01107498	013.250	00.000	01315831	013.375	00.000	01315831	ING	0769
35.	013.375	00.000	01315831	013.750	00.000	01315831	913.813	00.000	01315831	ING	1069
36.	011.500	00.000	01315831	010.000	00.000	01315831	910.500	00.000	01315831	ING	0170
37.	909.250	00.000	01315831	007.250	00.000	01315831	907.250	00.000	01315831	ING	0470
38.	907.313	00.000	01315831	007.000	00.000	01315831	008.000	00.000	01315831	ING	0770
39.	007.250	00.000	01315831	907.750	00.000	01315831	008.250	00.000	01315831	ING	1070
40.	910.250	00.000	01315831	910.625	00.000	01315831	010.000	00.000	01315831	ING	0171
41.	010.000	00.000	01315831	910.063	00.000	01315831	010.250	00.000	01315831	ING	0471
42.	910.625	00.000	01315831	911.063	00.000	01315831	010.500	00.000	01315831	ING	0771
43.	909.438	00.000	01315831	008.750	00.000	01315831	011.000	00.000	01315831	ING	1071
44.	013.000	00.000	01315831	015.000	00.000	01315831	014.125	00.000	01315831	ING	0172
45.	018.000	00.000	01315831	919.313	00.000	01315831	018.250	00.000	01315831	ING	0472

1.	009.000	00.000	00.000	02341625	010.125	00.000	00.000	02341625	INN 1264
2.	011.250	00.063	00.000	02341625	010.750	00.000	00.000	02341625	INN 0265
3.	011.000	00.063	00.000	02341625	011.000	00.000	00.000	02341625	INN 0465
4.	010.125	00.000	00.000	02341625	009.500	00.063	00.000	02341625	INN 0665
5.	010.000	00.000	00.000	02341625	009.875	00.000	00.000	02341625	INN 0865
6.	010.875	00.000	00.000	02341625	010.000	00.063	00.000	02341625	INN 1065
7.	010.000	00.000	00.000	02341625	009.875	00.000	00.000	02341625	INN 1265
8.	009.500	00.073	00.000	02341625	009.375	00.000	00.000	02341625	INN 0266
9.	009.375	00.073	00.000	02341625	009.375	00.000	00.000	02341625	INN 0466
10.	009.125	00.000	00.000	02341625	008.875	00.073	00.000	02341625	INN 0666
11.	008.250	00.000	00.000	02341625	007.875	00.000	00.000	02341625	INN 0866
12.	008.750	00.073	00.000	02341625	008.625	00.000	00.000	02341625	INN 1066
13.	008.500	00.000	00.000	02341625	009.500	00.000	00.000	02341625	INN 1266
14.	010.625	00.100	00.000	02341625	010.375	00.000	00.000	02341625	INN 0267
15.	010.875	00.100	00.000	02341625	010.750	00.000	00.000	02341625	INN 0467
16.	010.625	00.000	00.000	02341625	011.375	00.100	00.000	02341625	INN 0667
17.	011.000	00.000	00.000	02341625	010.625	00.000	00.000	02341625	INN 0867
18.	010.375	00.100	00.000	02341625	009.875	00.000	00.000	02341625	INN 1067
19.	009.875	00.000	00.000	02341625	009.875	00.100	00.000	02341625	INN 1267
20.	009.500	00.000	00.000	02341625	008.750	00.000	00.000	02341625	INN 0268
21.	009.750	00.000	00.000	02341625	009.500	00.125	00.000	02341625	INN 0468
22.	010.625	00.000	00.000	02341625	010.500	00.125	00.000	02341625	INN 0668
23.	012.500	00.000	00.000	02341625	013.750	00.000	00.000	02341625	INN 0868
24.	013.875	00.125	00.000	02341625	012.875	00.000	00.000	02341625	INN 1068
25.	013.125	00.000	00.400	02341625	014.000	00.125	00.000	02341625	INN 1268
26.	014.875	00.000	00.000	02571843	014.500	00.000	00.000	02571843	INN 0269
27.	015.750	00.000	00.000	02571843	014.500	00.125	00.000	02571843	INN 0469
28.	013.250	00.000	00.000	02571843	012.500	00.125	00.000	02571843	INN 0669
29.	012.250	00.000	00.000	02571843	012.250	00.000	00.000	02571843	INN 0869
30.	012.250	00.125	00.000	02571843	011.000	00.000	00.000	02571843	INN 1069
31.	010.000	00.000	00.000	02571843	009.375	00.125	00.000	02571843	INN 1269
32.	009.000	00.000	00.000	02571843	009.250	00.000	00.000	02571843	INN 0270
33.	909.875	00.000	00.000	02571843	008.750	00.125	00.000	02571843	INN 0470
34.	008.750	00.000	00.000	02571843	009.125	00.125	00.000	02571843	INN 0670
35.	010.625	00.000	00.000	02571843	010.250	00.000	00.000	02571843	INN 0870
36.	010.000	00.000	00.000	02571843	010.250	00.125	00.000	02571843	INN 1070

37.	011.000	00.000	00.000	02571843	012.750	00.000	00.000	02571843	INN 1270
38.	012.250	00.125	00.000	02571843	013.250	00.000	00.000	02571843	INN 0271
39.	013.250	00.125	00.000	02571843	011.875	00.000	00.290	02571843	INN 0471
40.	013.000	00.000	00.000	02571843	013.250	00.125	00.000	02571843	INN 0671
41.	013.000	00.000	00.000	02571843	012.000	00.000	00.000	02571843	INN 0871
42.	011.875	00.125	00.000	02571843	012.750	00.000	00.000	02571843	INN 1071
43.	013.000	00.000	00.000	02822122	014.500	00.000	00.000	02822122	INN 1271
44.	015.750	00.165	00.000	02822122	016.375	00.000	00.000	02822122	INN 0272
45.	016.250	00.000	00.000	02822122	015.875	00.165	00.000	02822122	INN 0472
46.	016.250	00.000	00.000	02822122	015.500	00.165	00.000	02822122	INN 0672
47.	014.750	00.000	00.000	02822122	013.250	00.000	00.000	02822122	INN 0872
48.	012.250	00.000	00.000	02822122	011.750	00.165	00.000	02822122	INN 1072
49.	011.750	00.000	00.000	02822122	013.000	00.180	00.000	02822122	INN 1272
50.	012.000	00.000	00.000	02822122	011.625	00.000	00.000	02822122	INN 0273
51.	011.000	00.180	00.000	02822122	010.500	00.000	00.000	02822122	INN 0473
52.	010.875	00.000	00.000	02822122	011.000	00.180	00.000	02822122	INN 0673
53.	010.250	00.000	00.000	02822122	010.000	00.000	00.000	02822122	INN 0873
54.	009.625	00.180	00.000	02822122	009.375	00.000	00.000	02822122	INN 1073
55.	910.000	00.000	00.000	02822122	010.125	00.180	00.000	02822122	INN 1273
56.	009.875	00.000	00.000	02822122	009.500	00.000	00.000	02822122	INN 0274
57.	009.250	00.180	00.000	02822122	008.750	00.000	00.000	02822122	INN 0474
58.	009.375	00.000	00.000	02822122	008.625	00.180	00.000	02822122	INN 0674
59.	008.250	00.000	00.000	02822122	007.500	00.000	00.000	02822122	INN 0874
60.	908.188	00.180	00.000	02822122	007.750	00.000	00.000	02822122	INN 1074
61.	907.250	00.000	00.000	02822122	008.000	00.000	00.000	02822122	INN 1274
62.	008.375	00.180	00.000	02822122	008.000	00.000	00.000	02822122	INN 0275
63.	008.500	00.000	00.000	02822122	009.000	00.200	00.000	02822122	INN 0475
64.	010.000	00.000	00.000	02822122	009.125	00.200	00.000	02822122	INN 0675
65.	009.000	00.000	00.000	02822122	008.500	00.000	00.000	02822122	INN 0875
66.	008.750	00.200	00.000	02822122	008.375	00.000	00.000	02822122	INN 1075
67.	008.500	00.000	00.000	02822122	000.000	00.000	00.000	00000000	INN 1275

INLAND NATURAL GAS COMPANY LIMITED (continued)

1.	000.000	00.000	00000000	000.000	00.000	00000000	053.500	00.000	05064343	IPL	0660
2.	053.125	00.000	05064843	057.250	00.600	05065843	057.250	00.000	05066193	IPL	0760
3.	059.750	00.000	05066293	059.625	01.100	05067993	060.750	00.000	05068343	IPL	1060
4.	063.250	00.000	05068343	064.375	00.600	05068843	065.500	00.000	05069143	IPL	0161
5.	073.500	00.000	05069243	073.000	00.600	05070143	072.000	00.000	05070643	IPL	0461
6.	071.250	00.000	05070643	071.000	00.600	05070643	076.500	00.000	05070643	IPL	0761
7.	077.500	00.000	05070693	079.875	01.100	05072193	081.875	00.000	05072493	IPL	1061
8.	079.250	00.000	05077933	083.000	00.700	05078033	083.500	00.000	05078133	IPL	0162
9.	083.000	00.000	05078333	077.500	00.750	05078922	070.000	00.000	05078922	IPL	0462
10.	073.000	00.000	05079022	074.750	00.750	05079052	075.000	00.000	05079152	IPL	0762
11.	075.875	00.000	05079152	080.500	00.850	05079982	078.875	00.000	05079982	IPL	1062
12.	080.000	00.000	05080482	078.500	00.750	05080482	080.750	00.000	05080482	IPL	0163
13.	082.125	00.000	05080482	087.000	00.750	05082132	084.750	00.000	05082432	IPL	0463
14.	083.500	00.000	05082532	080.500	00.800	05082732	084.500	00.000	05082732	IPL	0763
15.	083.500	00.000	05082732	081.500	00.800	05082982	080.875	00.000	05082982	IPL	1063
16.	083.875	00.000	05083782	081.000	00.800	05085482	080.250	00.000	05086482	IPL	0164
17.	084.500	00.000	05087282	085.500	00.800	05087282	087.625	00.000	05087282	IPL	0464
18.	090.000	00.000	05087282	089.000	00.850	05087282	094.500	00.000	05087282	IPL	0764
19.	093.500	00.000	05087282	094.500	00.850	05087282	095.000	00.000	05087282	IPL	1064
20.	098.000	00.000	05087282	093.500	00.850	05087282	090.500	00.000	05087282	IPL	0165
21.	093.500	00.000	05087282	091.000	00.850	05087282	090.500	00.000	05087282	IPL	0465
22.	088.500	00.850	05087282	089.125	00.000	05087282	088.625	00.000	05087282	IPL	0765
23.	087.750	00.000	05087282	085.250	00.900	05087282	086.500	00.000	05087282	IPL	1065
24.	088.000	00.000	05087282	084.000	00.850	05087282	083.000	00.000	05087282	IPL	0166
25.	082.500	00.000	05087282	078.750	00.850	05087282	076.500	00.000	05087282	IPL	0466
26.	077.500	00.000	05087282	075.250	00.900	05087282	076.250	00.000	05087282	IPL	0766
27.	081.750	00.000	05087282	083.250	01.000	05087282	084.750	00.000	05087282	IPL	1066
28.	092.000	00.000	05087282	093.000	00.900	05087282	097.000	00.000	05087282	IPL	0167
29.	106.500	-5.000	05087282	020.250	00.180	25436635	023.500	00.000	25437360	IPL	0467
30.	023.000	00.180	25437785	021.750	00.000	25438135	022.875	00.000	25438135	IPL	0767
31.	020.375	00.000	25438260	022.875	00.180	25438535	021.625	00.000	25438535	IPL	1067
32.	019.750	00.000	25438560	019.000	00.180	25438560	017.250	00.000	25438585	IPL	0168
33.	019.625	00.180	25438585	019.500	00.000	25438660	019.500	00.000	25438660	IPL	0468
34.	019.375	00.000	25438785	020.000	00.180	25438785	022.625	00.000	25438810	IPL	0768
35.	022.000	00.000	25438810	020.750	00.180	25438835	020.125	00.000	25438835	IPL	1068
36.	020.625	00.000	25438835	019.000	00.180	25438835	018.625	00.000	25438835	IPL	0169
37.	018.750	00.180	25438835	018.625	00.000	25438835	017.750	00.000	25438835	IPL	0469
38.	017.500	00.000	25438835	018.875	00.180	25438960	020.000	00.000	25438960	IPL	0769
39.	021.000	00.000	25438960	022.750	00.180	25438960	023.500	00.000	25438960	IPL	1069
40.	022.125	00.000	25438960	022.250	00.200	25438960	022.875	00.000	25438960	IPL	0170
41.	020.500	00.200	25438960	019.000	00.000	25438960	021.125	00.000	25439960	IPL	0470
42.	023.125	00.000	25439960	024.000	00.200	25439960	024.625	00.000	25439960	IPL	0770
43.	024.625	00.000	25439960	026.500	00.200	25441460	027.750	00.000	25442785	IPL	1070
44.	026.750	00.000	25442785	027.250	00.200	25443785	028.000	00.000	25445285	IPL	0171
45.	028.000	00.200	25447085	026.750	00.000	25450185	028.375	00.000	25451185	IPL	0471

1.	017.000	00.000	04353045	018.000	00.000	04353045	019.750	00.200	04353045	LAB	1066
2.	021.000	00.000	04353045	021.750	00.000	04353045	024.375	00.200	04353045	LAB	0167
3.	025.625	00.000	04353045	025.500	00.000	04353045	025.750	00.200	04353045	LAB	0467
4.	029.000	00.000	04353045	029.875	00.000	04353045	030.750	00.250	04353045	LAB	0767
5.	014.500	-2.000	08706090	014.500	00.000	08706090	014.625	00.125	08706090	LAB	1067
6.	014.250	00.000	08706090	013.750	00.000	08706090	014.375	00.125	08706090	LAB	0168
7.	017.250	00.000	08706090	017.500	00.000	08706090	017.500	00.125	08706090	LAB	0468
8.	017.625	00.000	08706090	019.250	00.000	08706090	019.250	00.150	08706090	LAB	0768
9.	019.000	00.000	08706090	019.625	00.000	08706090	021.500	00.150	08708358	LAB	1068
10.	023.250	00.000	08708418	025.250	00.000	08708418	023.750	00.150	08747922	LAB	0169
11.	025.000	00.000	08747922	025.500	00.000	08775347	025.500	00.150	08775347	LAB	0469
12.	025.625	00.000	08775497	026.000	00.000	08775497	029.000	00.150	08775672	LAB	0769
13.	028.875	00.000	08775672	029.750	00.000	08775547	029.750	00.150	08775547	LAB	1069
14.	029.500	00.000	08929976	030.000	00.000	08935966	028.500	00.150	08935966	LAB	0170
15.	026.000	00.000	08938935	022.000	00.000	08938935	022.000	00.180	08950355	LAB	0470
16.	024.000	00.000	08951760	022.875	00.000	08951760	021.375	00.180	08951760	LAB	0770
17.	020.750	00.000	08951760	019.250	00.000	08952808	022.375	00.180	08952860	LAB	1070
18	022.625	00.000	08952860	021.875	00.000	08952860	020.125	00.180	08952860	LAB	0171
19.	023.000	00.000	08988688	023.125	00.000	08988688	024.875	00.180	08988938	LAB	0471
20.	024.250	00.000	08988938	025.125	00.000	09005813	021.750	00.180	09006463	LAB	0771
21.	021.875	00.000	09006463	021.000	00.000	09006463	022.500	00.180	09006463	LAB	1071
22.	022.625	00.000	09006463	023.500	00.000	09006468	022.000	00.180	09006468	LAB	0172
23.	024.875	00.000	09006528	027.000	00.000	09006528	027.500	00.180	09019003	LAB	0472
24.	029.000	00.000	09019551	030.000	00.000	09029353	029.875	00.280	09037770	LAB	0772
25.	029.000	00.000	09037770	030.000	00.000	09041390	030.000	00.200	09042780	LAB	1072
26.	030.000	00.000	09042825	028.750	00.000	09043325	027.625	00.200	09044075	LAB	0173
27.	027.125	00.000	09098205	025.250	00.000	09098205	027.125	00.200	09098205	LAB	0473
28.	027.500	00.000	09098205	026.500	00.000	09112900	024.250	00.230	09112900	LAB	0773
29.	025.250	00.000	09130405	021.750	00.000	09130405	023.125	00.230	09130405	LAB	1073
30.	021.375	00.000	08943835	023.000	00.000	08943835	024.000	00.230	08943835	LAB	0174
31.	023.375	00.000	08954013	024.125	00.000	08954013	023.375	00.230	08954013	LAB	0474
32.	021.250	00.000	08954013	017.750	00.000	08990232	016.750	00.250	08990232	LAB	0774
33.	017.750	00.000	08996431	014.375	00.000	08999931	016.500	00.250	08999931	LAB	1074
34.	019.250	00.000	08999931	019.125	00.000	09035936	018.250	00.250	09053316	LAB	0175
35.	016.375	00.000	09053316	016.750	00.000	09053316	018.250	00.250	09089125	LAB	0475
36.	019.250	00.000	09099679	018.750	00.000	09121534	018.875	00.260	09121534	LAB	0775
37.	017.625	00.000	09429816	018.000	00.000	09432220	017.375	00.260	09432220	LAB	1075
38.	016.875	00.000	09689325	018.000	00.000	09698085	017.000	00.260	09698085	LAB	0176
39.	016.500	00.000	09814980	016.750	00.000	09814980	016.625	00.260	09856269	LAB	0476
40.	016.375	00.000	10156110	015.875	00.000	10156110	017.375	00.280	10180614	LAB	0776
41.	017.625	00.000	10180614	015.875	00.000	10490137	017.000	00.270	10604852	LAB	1076
42.	016.500	00.000	10654890	017.000	00.000	10654890	017.750	00.280	10749943	LAB	0177
43.	017.000	00.000	10749943	017.875	00.000	10810732	019.000	00.000	10810732	LAB	0477
44.	018.875	00.270	10881904	017.375	00.000	10899648	018.250	00.290	10899648	LAB	0777
45.	018.500	00.000	10953945	000.000	00.000	00000000	000.000	00.000	00000000	LAB	1077

1.	000.000	00.000	00000000	000.000	00.000	00000000	022.250	00.000	01000000	MPP	0669
2.	920.125	00.000	01000000	919.875	00.300	01000000	020.750	00.000	01000000	MPP	0769
3.	921.750	00.000	01000000	921.750	00.300	01000000	922.500	00.000	01000000	MPP	1069
4.	921.000	00.000	01000000	922.750	00.300	01000000	920.250	00.000	01000000	MPP	0170
5.	017.875	00.000	01000000	917.563	00.300	01000000	916.625	00.000	01000000	MPP	0470
6.	916.938	00.000	01000000	916.625	00.300	01000000	020.000	00.000	01000000	MPP	0770
7.	020.500	00.000	01000000	019.000	00.300	01000000	020.000	00.000	01000000	MPP	1070
8.	022.000	00.000	01000000	021.375	00.300	01000000	920.000	00.000	01000000	MPP	0171
9.	919.250	00.000	01000000	019.250	00.300	01000000	918.813	00.000	01000000	MPP	0471
10.	920.375	00.000	01000000	917.125	00.300	01000000	917.250	00.000	01000000	MPP	0771
11.	915.250	00.000	01000000	014.375	00.300	01000000	016.000	00.000	01000000	MPP	1071
12.	916.750	00.000	01000000	917.875	00.300	01000000	018.500	00.000	01000000	MPP	0172
13.	922.000	00.000	01000000	922.750	00.300	01000000	022.250	00.000	01000000	MPP	0472
14.	-99.000	00.000	01000000	921.750	00.300	01000000	922.750	00.000	01000000	MPP	0772
15.	921.625	00.000	01000000	923.438	00.300	01000000	022.000	00.000	01000000	MPP	1072
16.	923.063	00.000	01000000	923.500	00.300	01000000	025.000	00.000	01000000	MPP	0173
17.	924.250	00.000	01000000	924.250	00.300	01000000	025.000	00.000	01000000	MPP	0473
18.	925.875	00.000	01000000	026.250	00.300	01000000	028.500	00.000	01000000	MPP	0773
19.	930.750	00.000	01000000	029.500	00.500	01000000	027.500	00.000	01000000	MPP	1073
20.	930.500	00.000	01000000	928.563	00.000	01000000	929.875	00.500	01000000	MPP	0174
21.	931.000	00.000	01000000	928.250	00.500	01000000	928.250	00.000	01000000	MPP	0474
22.	929.125	00.000	01000000	928.375	00.000	01000000	026.000	00.500	01000000	MPP	0774
23.	026.500	00.000	01000000	928.000	00.000	01000000	928.125	00.700	01000000	MPP	1074
24.	929.625	00.000	01000000	029.500	00.000	01000000	928.750	00.550	01000000	MPP	0175
25.	028.500	00.000	01000000	930.250	00.000	00827281	929.500	00.550	00827281	MPP	0475
26.	928.813	00.000	00827281	928.875	00.000	00827281	927.250	00.550	00794386	MPP	0775
27.	927.375	00.000	00794386	927.500	00.000	00794386	030.000	00.550	00794386	MPP	1075
28.	030.000	00.000	00794386	930.375	00.000	00794386	931.250	00.550	00794386	MPP	0176
29.	933.750	00.000	00794586	933.563	00.000	00794586	934.875	00.550	00794586	MPP	0476
30.	934.500	00.000	00794586	033.000	00.000	00794586	936.250	00.550	00794586	MPP	0776
31.	935.500	00.000	00789667	029.000	00.726	00789667	928.500	00.000	00789667	MPP	1076
32.	929.500	00.000	00789667	929.250	00.000	00789667	032.750	00.550	00789667	MPP	0177
33.	931.750	00.000	00789667	933.000	00.000	00789367	931.313	00.550	00789367	MPP	0477
34.	933.250	00.000	00789367	933.438	00.000	00789367	934.000	00.550	00789367	MPP	0777
35.	934.125	00.000	00789367	934.375	00.000	00789367	933.250	00.869	00789367	MPP	1077
36.	932.375	00.000	00667265	934.750	00.000	00667265	035.500	00.550	00667265	MPP	0178
37.	039.500	00.000	00667265	940.500	00.000	00666517	940.500	00.550	00666517	MPP	0478
38.	941.500	00.000	00666517	945.000	00.000	00666517	950.000	00.550	00666517	MPP	0778
39.	952.750	00.000	00666517	945.500	06.630	00666517	946.750	00.000	00666517	MPP	1078
40.	948.500	00.000	00666517	017.750	-3.000	03000000	918.250	00.250	03000000	MPP	0179
41.	019.000	00.000	03000000	919.250	00.000	03000000	920.500	00.250	03000000	MPP	0479
42.	018.875	00.000	03000000	919.625	00.000	03000000	921.438	00.250	03000000	MPP	0779
43.	922.375	00.000	03000000	024.000	00.000	03000000	922.750	00.400	03000000	MPP	1079
44.	046.000	00.000	03000000	050.000	00.000	03000000	953.000	00.400	03000000	MPP	0180
45.	950.000	00.000	03000000	-99.000	00.000	03000000	000.000	00.000	00000000	MPP	0480

MACLAREN POWER & PAPER COMPANY - CLASS B

1.	000.000	00.000	00000000	000.000	00.000	00000000	028.625	00.250	01965902	MOL	0963
2.	029.500	00.000	01965902	929.250	00.000	01965952	029.500	00.250	01966042	MOL	1063
3.	029.000	00.000	01966042	031.000	00.250	01966242	930.500	00.000	01966492	MOL	0164
4.	030.875	00.000	01968482	032.500	00.000	01968482	035.000	00.250	01969352	MOL	0464
5.	035.500	00.000	01969352	035.500	00.000	01969677	035.750	00.250	01970027	MOL	0764
6.	036.500	00.000	01970227	039.750	00.000	01970597	040.500	00.350	01970597	MOL	1064
7.	041.000	00.000	01971632	046.000	00.000	01971632	041.000	00.250	01971632	MOL	0165
8.	941.000	00.000	01972092	941.750	00.000	01972387	035.500	00.250	01972387	MOL	0465
9.	938.563	00.000	01972387	039.750	00.000	01972387	037.250	00.250	01972537	MOL	0765
10.	038.000	00.000	01972537	035.375	00.000	01972537	033.500	00.350	01972537	MOL	1065
11.	933.125	00.000	01972537	032.750	00.000	01972537	033.000	00.250	01972537	MOL	0166
12.	932.750	00.000	01974127	035.500	00.000	01974127	035.500	00.320	01974127	MOL	0466
13.	018.000	-2.000	03949344	017.000	00.160	03949344	016.125	00.000	03949344	MOL	0766
14.	917.813	00.000	03950869	018.875	00.160	03950869	019.250	00.000	03950869	MOL	1066
15.	919.750	00.000	03950869	019.750	00.160	03950869	923.000	00.000	03950869	MOL	0167
16.	924.750	00.000	03954644	023.000	00.180	03957764	023.500	00.000	03959689	MOL	0467
17.	022.000	00.000	03960454	023.750	00.180	03961079	022.750	00.000	03961079	MOL	0767
18.	021.000	00.000	03961579	020.000	00.180	03961679	018.000	00.000	03963654	MOL	1067
19.	018.500	00.000	03965884	018.500	00.180	03965884	916.688	00.000	03966084	MOL	0168
20.	019.375	00.000	03966084	022.750	00.180	03966084	026.125	00.000	03966084	MOL	0468
21.	025.750	00.000	03966084	026.000	00.000	03966124	028.250	00.180	03966124	MOL	0768
22.	026.875	00.000	03966124	026.500	00.180	03966124	025.750	00.000	03966124	MOL	1068
23.	027.000	00.000	03966249	926.875	00.180	03966249	027.000	00.000	03966349	MOL	0169
24.	025.000	00.000	03966349	024.375	00.180	03966349	022.000	00.000	03966349	MOL	0469
25.	020.750	00.000	03966349	021.875	00.180	03966349	019.125	00.000	03967039	MOL	0769
26.	018.000	00.000	03967069	022.250	00.180	03967069	020.000	00.000	03967129	MOL	1069
27.	017.500	00.000	03967129	017.500	00.180	03967679	016.875	00.000	03967829	MOL	0170
28.	915.813	00.000	03967879	014.000	00.180	03967879	013.375	00.000	03968079	MOL	0470
29.	913.750	00.000	03968354	013.625	00.180	03968354	014.000	00.000	03968354	MOL	0770
30.	912.625	00.000	03968354	014.750	00.000	03968354	015.750	00.180	03968354	MOL	1070
31.	916.188	00.000	03968354	016.000	00.180	03968354	016.750	00.000	03968604	MOL	0171
32.	918.250	00.000	03968604	016.750	00.180	03969304	017.500	00.000	03969304	MOL	0471
33.	918.250	00.000	03969739	017.625	00.180	03969739	018.000	00.000	03969964	MOL	0771
34.	016.750	00.000	03969964	916.813	00.000	03970414	019.500	00.180	03971539	MOL	1071
35.	022.375	00.000	03972939	023.750	00.180	03972939	922.375	00.000	03972939	MOL	0172
36.	021.750	00.000	03978484	025.375	00.200	03979834	026.375	00.000	03984684	MOL	0472
37.	927.250	00.000	03984684	030.125	00.200	03985509	028.000	00.000	03985509	MOL	0772
38.	028.500	00.000	03985509	029.500	00.200	04087493	928.750	00.000	04094333	MOL	1072
38.1	029.000	00.000	04094333	028.250	00.200	04090408	927.750	00.000	04103613	MOL	0173
39.	926.000	00.000	04106830	024.750	00.200	04106830	027.000	00.000	04106830	MOL	0473
40.	025.000	00.000	04106830	924.500	00.200	04106830	022.375	00.000	04106830	MOL	0773
41.	025.250	00.000	04106830	022.000	00.200	04106830	922.250	00.000	04106830	MOL	1073
42.	921.125	00.000	04088167	022.000	00.200	04088167	021.125	00.000	04090667	MOL	0174
43.	021.000	00.000	04098206	019.625	00.200	04098206	019.000	00.000	04098206	MOL	0474
44.	919.438	00.000	04112520	917.000	00.200	04086966	015.000	00.000	04086966	MOL	0774

1.	000.000	00.000	00000000	000.000	00.000	00000000	031.000	00.000	28287712	MOR	0667
2.	031.500	00.000	28287712	033.000	00.121	28290812	033.375	00.000	28301292	MOR	0767
3.	030.875	00.000	28301292	031.500	00.122	28301952	029.250	00.000	28301952	MOR	1067
4.	028.125	00.000	28325612	027.250	00.000	28325612	027.500	00.122	28325992	MOR	0168
5.	032.000	00.000	28325992	029.875	00.000	28326192	031.375	00.121	28327092	MOR	0468
6.	029.875	00.000	28327092	029.250	00.121	28327092	027.625	00.000	28327092	MOR	0768
7.	029.125	00.000	28327192	030.625	00.000	28327272	032.375	00.121	28327472	MOR	1068
8.	032.750	00.000	28328672	031.125	00.000	28328797	030.750	00.121	28329817	MOR	0169
9.	032.500	00.000	28330667	034.750	00.000	28331167	031.500	00.135	28331167	MOR	0469
10.	031.250	00.000	28337567	033.750	00.000	28337567	033.750	00.135	28344287	MOR	0769
11.	035.875	00.000	28344287	036.625	00.000	28344287	037.375	00.134	28344547	MOR	1069
12.	035.500	00.000	28380742	036.500	00.000	28380742	037.375	00.134	28381972	MOR	0170
13.	035.750	00.000	28381972	030.625	00.000	28832492	029.000	00.155	28835292	MOR	0470
14.	029.500	00.000	28388292	032.000	00.000	28388292	032.125	00.153	28388392	MOR	0770
15.	031.000	00.000	28388392	031.250	00.000	28408592	034.750	00.152	28409092	MOR	1070
16.	034.250	00.000	28413512	034.875	00.000	28413512	037.500	00.151	28410112	MOR	0171
17.	035.875	00.000	28415652	036.125	00.000	28422327	036.625	00.153	28423327	MOR	0471
18.	036.250	00.000	28427527	035.000	00.000	28427527	034.125	00.151	28427677	MOR	0771
19.	033.750	00.000	28431677	034.875	00.000	28431677	038.000	00.150	28431717	MOR	1071
20.	042.375	00.000	28436797	043.750	00.000	28437877	042.250	00.150	28437877	MOR	0172
21.	042.750	00.000	28438727	047.375	00.174	28439027	047.375	00.000	28439127	MOR	0472
22.	048.000	00.000	28439127	047.750	00.174	28439447	048.000	00.000	28440807	MOR	0772
23.	046.375	00.000	28440807	051.125	00.000	28443987	052.500	00.174	28450557	MOR	1072
24.	051.000	00.000	28450557	051.250	00.000	28450637	052.500	00.175	28451157	MOR	0173
25.	051.000	00.000	28465607	049.625	00.199	28465607	049.500	00.000	28467601	MOR	0473
26.	051.875	00.000	28467601	047.750	00.201	28491798	051.000	00.000	28491798	MOR	0773
27.	057.750	00.000	28491798	051.250	00.000	28491798	052.625	00.199	28491798	MOR	1073
28.	050.000	00.000	28499560	052.250	00.000	28499560	048.250	00.194	28499560	MOR	0174
29.	047.125	00.000	28516546	048.125	00.000	28516546	048.500	00.224	28516546	MOR	0474
30.	050.500	00.000	28516546	040.750	00.000	28516546	034.250	00.227	28516546	MOR	0774
31.	039.250	00.000	28516946	039.000	00.000	28516946	040.750	00.297	28516946	MOR	1074
32.	043.500	00.000	28516946	045.000	00.000	28517146	045.125	00.301	28517546	MOR	0175
33.	047.250	00.000	28517546	047.500	00.000	28517546	052.500	00.309	28517546	MOR	0475
34	050.125	00.000	28517546	047.250	00.000	28517546	045.250	00.308	28517546	MOR	0775
35.	046.000	00.000	28517546	049.375	00.000	28517546	047.875	00.305	28517546	MOR	1076
36.	049.000	00.000	28517546	046.125	00.000	28517546	048.125	00.295	28517866	MOR	0176
37.	047.125	00.000	28520646	043.250	00.294	28520646	039.250	00.000	28520646	MOR	0476
38.	041.000	00.000	28520646	038.000	00.294	28520646	034.375	00.000	28520646	MOR	0776
39.	034.125	00.000	28520646	034.625	00.311	28520646	036.750	00.000	28520646	MOR	1076
40.	033.125	00.000	28520646	032.875	00.314	28520646	035.250	00.000	28520646	MOR	0177
41.	032.000	00.000	28520646	031.750	00.315	28520646	030.625	00.000	28520646	MOR	0477
42.	028.375	00.000	28520646	029.750	00.322	28520646	029.125	00.000	28520646	MOR	0777
43.	026.875	00.000	28520646	030.250	00.333	28520646	030.625	00.000	28520646	MOR	1077
44.	029.375	00.000	28520646	032.750	00.368	28520646	033.625	00.000	28520646	MOR	0178
45.	032.375	00.000	28520646	036.500	00.370	28520646	037.750	00.000	28520646	MOR	0478

1.	000.000	00.000	00000000	000.000	00.000	00000000	048.500	00.000	04481039	NOM	0661
2.	051.750	00.000	04481039	053.250	00.500	04482479	050.250	00.000	04482711	NOM	0761
3.	049.750	00.000	04482711	057.125	00.600	04483561	059.750	00.000	04484361	NOM	1061
4.	059.000	00.000	04545123	058.750	00.500	04564482	059.125	00.000	04618086	NOM	0162
5.	062.500	00.000	04628099	059.000	00.550	04631573	029.375	-2.000	09274862	NOM	0462
6.	030.250	00.000	09275012	029.125	00.300	09276162	026.250	00.000	09277561	NOM	0762
7.	027.500	00.000	09278561	030.250	00.300	09278561	033.625	00.000	09280781	NOM	1062
8.	032.625	00.000	09281606	031.625	00.300	09281606	032.375	00.000	09284656	NOM	0163
9.	036.375	00.000	09284656	036.375	00.300	09285706	036.500	00.000	09286156	NOM	0463
10.	036.500	00.000	09287106	037.500	00.300	09291481	038.125	00.000	09292856	NOM	0763
11.	038.000	00.000	09293681	037.500	00.400	09960848	041.250	00.000	09961823	NOM	1063
12.	041.250	00.000	09962606	041.750	00.300	09963981	044.750	00.000	09965556	NOM	0164
13.	045.500	00.000	09966356	046.250	00.350	09966356	045.750	00.000	09968131	NOM	0464
14.	048.750	00.000	09968131	047.750	00.350	09970381	049.125	00.000	09972281	NOM	0764
15.	049.250	00.000	09973831	050.000	00.450	10124381	051.250	00.000	11658828	NOM	1064
16.	056.000	00.000	11704626	055.875	00.400	11706476	055.625	00.000	11707339	NOM	0165
17.	055.750	00.000	11821787	053.750	00.400	11827945	048.000	00.000	11830521	NOM	0465
18.	048.000	00.000	11831641	048.750	00.400	11833166	050.000	00.000	11833376	NOM	0765
19.	053.000	00.000	11833476	051.250	00.500	11824231	053.000	00.000	11835581	NOM	1065
20.	053.250	00.000	11836606	052.250	00.400	11836606	051.750	00.000	11839241	NOM	0166
21.	053.250	00.000	11841541	052.500	00.400	11842466	052.375	00.000	11842991	NOM	0466
22.	053.625	00.000	11843101	048.625	00.450	11844123	048.500	00.000	11845060	NOM	0766
23.	047.000	00.000	11845060	047.500	00.600	11845060	049.500	00.000	11930239	NOM	1066
24.	057.625	00.000	11931514	056.500	00.450	11932304	054.625	00.000	11933866	NOM	0167
25.	052.125	00.000	11934470	051.000	00.450	11934905	053.375	00.000	11935593	NOM	0467
26.	055.625	00.000	11935793	056.500	00.450	11935893	055.250	00.000	11936736	NOM	0767
27.	050.625	00.000	11937136	051.000	00.500	11937136	051.750	00.000	11938299	NOM	1067
28.	047.750	00.000	11939549	045.125	00.500	11939599	048.500	00.000	11939599	NOM	0168
29.	047.375	00.000	11939599	047.125	00.500	11939599	047.000	00.000	11939649	NOM	0468
30.	050.750	00.000	11939649	051.750	00.500	11939649	056.000	00.000	11939649	NOM	0768
31.	058.750	00.000	11940290	062.500	00.550	11940995	034.500	-2.000	23885530	NOM	1068
32.	034.875	00.000	23888090	032.500	00.275	23918930	035.750	00.000	23918930	NOM	0169
33.	035.750	00.000	24146553	035.000	00.275	24148413	031.250	00.000	24148413	NOM	0469
34.	029.875	00.000	24151863	033.250	00.275	24153938	033.000	00.000	24155448	NOM	0769
35.	033.500	00.000	24155448	036.500	00.275	24188453	037.000	00.000	24189583	NOM	1069
36.	035.250	00.000	24182243	035.750	00.275	24194628	036.500	00.000	24194628	NOM	0170
37.	034.250	00.000	24197256	028.250	00.275	24198981	026.750	00.000	24199496	NOM	0470
38.	027.500	00.000	24200121	028.125	00.275	24200121	028.000	00.000	24200846	NOM	0770
39.	025.625	00.000	24201341	029.250	00.300	24202008	029.000	00.000	24202008	NOM	1070
40.	031.750	00.000	24212773	032.000	00.300	24214158	035.750	00.000	24215873	NOM	0171
41.	035.000	00.000	24216623	035.125	00.300	24219301	034.500	00.000	24221253	NOM	0471
42.	035.000	00.000	24223315	033.250	00.300	24233378	028.750	00.000	24234350	NOM	0771
43.	025.000	00.000	24254425	027.250	00.300	24254675	033.000	00.000	24254675	NOM	1071
44.	035.500	00.000	24257425	039.875	00.300	24259988	038.875	00.000	24259988	NOM	0172
45.	038.125	00.000	24262091	041.000	00.300	24264609	036.500	00.000	24267093	NOM	0472

1.	000.000	00.000	00000000	000.000	00.000	00000000	914.500	00.000	00163880	PHE	0662
2.	915.125	00.000	00163880	914.875	00.400	00163880	914.875	00.000	00163880	PHE	0762
3.	915.000	00.000	00163880	015.000	00.000	00163880	914.000	00.000	00163880	PHE	1062
4.	014.500	00.000	00163880	014.500	00.400	00163880	014.500	00.000	00163880	PHE	0163
5.	914.875	00.000	00163880	015.000	00.000	00164340	014.500	00.000	00164340	PHE	0463
6.	914.500	00.000	00164340	915.000	00.400	00164340	915.000	00.000	00164340	PHE	0763
7.	014.500	00.000	00164340	014.250	00.000	00164340	015.500	00.000	00164340	PHE	1063
8.	915.875	00.000	00164340	916.375	00.400	00164340	916.500	00.000	00164340	PHE	0164
9.	915.875	00.000	00164340	917.000	00.000	00164340	918.125	00.000	00164340	PHE	0464
10.	-99.000	00.000	00164340	918.500	00.400	00164340	916.625	00.000	00164340	PHE	0764
11.	-99.000	00.000	00164340	016.000	00.000	00164340	916.063	00.000	00164340	PHE	1064
12.	916.375	00.000	00164340	916.750	00.400	00164340	916.750	00.000	00164340	PHE	0165
13.	016.000	00.000	00164340	016.500	00.000	00164340	915.813	00.000	00164340	PHE	0465
14.	915.750	00.000	00164340	915.500	00.400	00164340	915.625	00.000	00164340	PHE	0765
15.	-99.000	00.000	00164340	915.250	00.000	00164340	915.125	00.000	00164340	PHE	1065
16.	915.313	00.000	00164340	915.000	00.400	00164340	914.500	00.000	00164340	PHE	0166
17.	914.750	00.000	00164340	914.625	00.000	00164340	014.000	00.000	00164340	PHE	0466
18.	013.500	00.000	00164340	913.750	00.400	00164340	912.500	00.000	00164340	PHE	0766
19.	912.250	00.000	00164340	912.625	00.000	00164340	912.750	00.000	00164340	PHE	1066
20.	013.500	00.000	00164340	914.000	00.400	00175000	014.000	00.000	00175000	PHE	0167
21.	914.250	00.000	00175000	915.375	00.000	00175000	913.750	00.000	00175000	PHE	0467
22.	914.875	00.000	00175000	914.875	00.400	00175000	914.875	00.000	00175000	PHE	0767
23.	914.750	00.000	00175000	915.000	00.000	00175000	915.000	00.000	00175000	PHE	1067
24.	915.000	00.000	00175000	913.688	00.400	00175000	913.625	00.000	00175000	PHE	0168
25.	914.250	00.000	00175000	915.125	00.000	00175000	914.125	00.000	00175000	PHE	0468
26.	914.250	00.000	00175000	914.313	00.400	00175000	915.500	00.000	00175000	PHE	0768
27.	016.000	00.000	00175000	918.500	00.000	00175000	918.000	00.000	00175000	PHE	1068
28.	020.000	00.000	00175000	017.000	00.200	00175000	916.625	00.000	00175000	PHE	0169
29.	017.125	00.000	00175000	917.375	00.220	00175000	916.250	00.000	00175000	PHE	0469
30.	914.875	00.220	00175000	916.750	00.000	00175000	017.000	00.000	00175000	PHE	0769
31.	017.000	00.000	00175000	018.250	00.220	00175000	917.500	00.000	00175000	PHE	1069
32.	917.063	00.000	00175000	015.750	00.230	00175000	916.625	00.000	00175000	PHE	0170
33.	917.125	00.000	00175000	915.313	00.230	00175000	917.563	00.000	00175000	PHE	0470
34.	916.500	00.000	00175000	918.500	00.230	00175000	917.063	00.000	00175000	PHE	0770
35.	915.250	00.000	00175000	915.000	00.230	00175000	014.500	00.000	00175000	PHE	1070
36.	015.750	00.000	00175000	915.500	00.230	00175000	916.500	00.000	00175000	PHE	0171
37.	017.000	00.000	00175000	915.750	00.230	00175000	916.563	00.000	00181850	PHE	0471
38.	916.563	00.000	00181850	016.000	00.230	00181850	917.000	00.000	00181850	PHE	0771
39.	916.625	00.000	00181850	019.000	00.280	00181850	919.250	00.000	00181850	PHE	1071
40.	919.000	00.000	00181850	023.000	00.280	00181850	923.500	00.000	00181850	PHE	0172
41.	923.625	00.000	00181850	922.750	00.280	00181850	921.688	00.000	00181850	PHE	0472
42.	924.000	00.000	00181850	-99.000	00.280	00181850	925.250	00.000	00181850	PHE	0772
43.	924.750	00.000	00181850	925.000	00.280	00181850	-99.000	00.000	00181850	PHE	1072
44.	924.313	00.000	00181850	023.250	00.300	00181850	023.500	00.000	00181850	PHE	0173
45.	924.750	00.000	00181850	923.938	00.300	00181850	922.313	00.000	00181850	PHE	0473

1.	000.000	00.000	00000000	000.000	00.000	00000000	042.000	00.500	02191428	PRC	0662
2.	044.375	00.000	02191428	043.000	00.000	02191428	037.500	00.000	02191428	PRC	0762
3.	035.000	00.500	02191428	036.750	00.000	02191428	035.250	00.500	03177544	PRC	1062
4.	038.000	00.000	03177544	035.125	00.000	03177544	037.250	00.500	03177544	PRC	0163
5.	038.750	00.000	03177544	038.125	00.000	03177544	036.125	00.500	03177544	PRC	0463
6.	035.000	00.000	03177544	033.750	00.000	03177544	037.000	00.000	03177544	PRC	0763
7.	036.500	00.500	03177544	036.500	00.000	03177544	039.000	00.500	03177544	PRC	1063
8.	038.750	00.000	03177544	040.500	00.000	03177544	041.000	00.500	03177544	PRC	0164
9.	044.000	00.000	03177544	043.500	00.000	03177544	044.750	00.500	03177544	PRC	0464
10.	046.000	00.000	03177544	047.250	00.000	03177544	047.500	00.000	03177544	PRC	0764
11.	046.000	00.500	03177544	040.500	00.000	03177544	041.500	00.500	03177544	PRC	1064
12.	046.250	00.000	03177544	046.250	00.000	03177544	041.750	00.500	03177544	PRC	0165
13.	043.000	00.000	03177544	042.250	00.000	03177544	039.250	00.500	03177544	PRC	0465
14.	040.000	00.000	03177544	038.125	00.000	03177544	039.000	00.000	03177544	PRC	0765
15.	038.000	00.500	03177544	039.000	00.000	03177544	040.000	00.500	03177544	PRC	1065
16.	041.750	00.000	03177544	044.500	00.000	03177544	044.875	00.217	03177544	PRC	0166
17.	015.250	-3.000	09532632	014.000	00.000	09532632	014.750	00.188	09532632	PRC	0466
18.	014.750	00.000	09532632	013.250	00.000	09532632	013.125	00.000	09532632	PRC	0766
19.	013.000	00.188	09532632	012.125	00.000	09532632	012.250	00.188	09532632	PRC	1066
20.	012.750	00.000	09532632	013.125	00.000	09532632	013.875	00.188	09532632	PRC	0167
21.	012.875	00.000	09532632	012.250	00.000	09532632	011.750	00.188	09532632	PRC	0467
22.	011.750	00.000	09532632	012.375	00.000	09532632	011.875	00.000	09532632	PRC	0767
23.	010.500	00.188	09532632	010.250	00.000	09532632	009.875	00.188	09532632	PRC	1067
24.	009.875	00.000	09532632	009.750	00.000	09532632	008.750	00.188	09532632	PRC	0168
25.	010.500	00.000	09532632	009.250	00.000	09532632	011.000	00.188	09532632	PRC	0468
26.	010.750	00.000	09532709	011.125	00.000	09532709	012.250	00.000	09532709	PRC	0768
27.	012.125	00.188	09532709	013.625	00.000	09532709	014.000	00.188	09532709	PRC	1068
28.	015.125	00.000	09532709	014.750	00.000	09532709	016.000	00.000	09532709	PRC	0169
29.	016.250	00.188	09532709	015.625	00.000	09636809	013.750	00.188	09636809	PRC	0469
30.	013.375	00.000	09636809	014.250	00.000	09636809	015.750	00.000	09636809	PRC	0769
31.	015.500	00.188	09636809	016.125	00.000	09684470	016.750	00.188	09684470	PRC	1069
32.	013.875	00.000	09684470	013.750	00.000	09684470	013.750	00.000	09684470	PRC	0170
33.	012.000	00.188	09684470	010.500	00.000	09684470	007.375	00.000	09684470	PRC	0470
34.	007.500	00.100	09684766	008.750	00.000	09684766	007.750	00.000	09684766	PRC	0770
35.	007.875	00.100	09684766	007.250	00.000	09684766	009.250	00.100	09684766	PRC	1070
36.	008.375	00.000	09684766	008.250	00.000	09684766	007.875	00.100	09684766	PRC	0171
37.	007.875	00.000	09684766	007.250	00.000	09684766	007.875	00.000	09684766	PRC	0471
38.	008.000	00.000	09684766	008.000	00.000	09684766	006.500	00.000	09684766	PRC	0771
39.	005.875	00.000	09684766	005.750	00.000	09684766	007.375	00.000	09684766	PRC	1071
40.	007.875	00.000	09684766	008.375	00.000	09684766	007.250	00.000	09684766	PRC	0172
41.	007.750	00.000	09684766	008.375	00.000	09684766	009.000	00.000	09745834	PRC	0472
42.	010.375	00.050	09745834	010.250	00.000	09745834	009.750	00.050	09745834	PRC	0772
43.	011.000	00.000	09745834	012.500	00.000	09745834	013.250	00.050	09745834	PRC	1072
44.	015.000	00.000	09745834	015.125	00.000	09745834	016.125	00.000	09745834	PRC	0173
45.	014.500	00.050	09745834	014.000	00.000	09745834	014.000	00.050	09745834	PRC	0473

1.	000.000	00.000	00000000	000.000	00.000	00000000	012.000	00.000	00143750	RCH	0663
2.	012.000	00.000	00143750	015.625	00.000	00143750	017.000	00.150	00143750	RCH	0763
3.	916.750	00.000	00143750	015.750	00.000	00143750	014.750	00.000	00143750	RCH	1063
4.	018.500	00.000	00143750	021.000	00.000	00143750	022.500	00.000	00143750	RCH	0164
5.	025.000	00.300	00143750	029.250	00.000	00143750	028.000	00.000	00143750	RCH	0464
6.	030.250	00.000	00143750	027.375	00.000	00143750	027.250	00.000	00143750	RCH	0764
7.	-99.000	00.150	00143750	028.250	00.000	00143750	027.000	00.000	00143750	RCH	1064
8.	028.750	00.000	00143750	028.500	00.000	00143750	030.000	00.000	00143750	RCH	0165
9.	032.000	00.250	00143750	930.750	00.000	00143750	026.750	00.000	00143750	RCH	0465
10.	928.000	00.125	00143750	929.375	00.000	00143750	028.500	00.000	00143750	RCH	0765
11.	927.688	00.125	00143750	927.313	00.000	00143750	027.250	00.000	00143750	RCH	1065
12.	029.500	00.125	00143750	025.375	00.000	00143750	028.125	00.000	00143750	RCH	0166
13.	030.000	00.125	00143750	925.938	00.000	00143750	926.063	00.000	00143750	RCH	0466
14.	026.750	00.125	00143750	022.000	00.000	00143750	025.000	00.000	00143750	RCH	0766
15.	024.250	00.200	00143750	924.438	00.000	00143750	025.500	00.000	00143750	RCH	1066
16.	025.500	00.150	00143750	025.000	00.000	00143750	027.750	00.000	00143750	RCH	0167
17.	031.000	00.150	00143750	029.000	00.000	00143750	031.000	00.000	00143750	RCH	0467
18.	030.125	00.000	00143750	033.250	00.150	00143750	033.000	00.000	00143750	RCH	0767
19.	031.500	00.000	00143750	032.500	00.150	00143750	031.500	00.000	00143750	RCH	1067
20.	030.000	00.150	00143750	026.750	00.000	00143750	027.000	00.000	00143750	RCH	0168
21.	033.375	00.000	00160408	032.000	00.150	00160408	031.000	00.000	00160408	RCH	0468
22.	927.750	00.000	00160408	030.500	00.150	00160408	032.000	00.000	00160408	RCH	0768
23.	036.750	00.000	00160408	039.250	00.180	00160408	913.250	-3.000	00481224	RCH	1068
24.	013.750	00.060	00481224	015.375	00.000	00481224	015.250	00.000	00481224	RCH	0169
25.	015.750	00.000	00481224	014.000	00.060	00481224	911.500	00.000	00481224	RCH	0469
26.	911.750	00.000	00481224	011.500	00.060	00481224	911.625	00.000	00481224	RCH	0769
27.	911.125	00.000	00481224	910.750	00.060	00481224	910.438	00.000	00481224	RCH	1069
28.	908.750	00.000	00481224	008.000	00.000	00481224	009.000	00.000	00481224	RCH	0170
29.	908.250	00.060	00481224	006.500	00.000	00481224	005.750	00.060	00481224	RCH	0470
30.	005.500	00.000	00481224	005.750	00.060	00481224	905.750	00.000	00481224	RCH	0770
31.	906.125	00.000	00481224	906.125	00.060	00481224	006.750	00.000	00481224	RCH	1070
32.	907.375	00.000	00481224	907.313	00.060	00481224	006.500	00.000	00481224	RCH	0171
33.	007.375	00.000	00481224	008.000	00.060	00481224	909.625	00.000	00481224	RCH	0471
34.	009.000	00.000	00481224	909.313	00.060	00481224	908.625	00.000	00481224	RCH	0771
35.	008.750	00.000	00481224	908.875	00.060	00481224	008.750	00.000	00481224	RCH	1071
36.	011.000	00.000	00481224	011.000	00.060	00481224	010.875	00.000	00481224	RCH	0172
37.	016.000	00.080	00481224	018.000	00.000	00481224	018.375	00.000	00481224	RCH	0472
38.	021.750	00.080	00481224	021.500	00.000	00481224	021.625	00.000	00481224	RCH	0772
39.	021.000	00.080	00481224	020.000	00.000	00481224	020.000	00.000	00481224	RCH	1072
40.	021.000	00.100	00481224	020.500	00.000	00481224	018.750	00.000	00481224	RCH	0173
41.	018.250	00.100	00481249	016.500	00.000	00481249	016.250	00.000	00481249	RCH	0473
42.	917.250	00.100	00481249	018.250	00.000	00481249	017.750	00.000	00481249	RCH	0773
43.	019.375	00.100	00481249	016.000	00.000	00481249	017.250	00.000	00481249	RCH	1073
44.	017.250	00.120	00531249	019.250	00.000	00531249	020.500	00.000	00531249	RCH	0174
45.	021.750	00.200	00531249	023.750	00.000	00531249	023.500	00.000	00531249	RCH	0474

1.	035.250	00.200	00.000	10716452	034.500	00.000	00.000	10716452	RIO 0667
2.	032.250	00.000	00.000	10716462	037.375	00.000	00.000	10716622	RIO 0867
3.	034.000	00.000	01.450	12248935	034.500	00.000	00.000	12249049	RIO 1067
4.	034.750	00.200	00.000	12249159	032.750	00.000	00.000	12249174	RIO 1267
5.	031.625	00.000	00.000	12249174	031.000	00.000	00.000	12249174	RIO 0268
6.	032.375	00.000	00.000	12249184	031.500	00.000	00.000	12249184	RIO 0468
7.	032.500	00.200	00.000	12249184	032.750	00.000	00.000	12249184	RIO 0668
8.	032.500	00.000	00.000	12249184	034.500	00.000	00.000	12249184	RIO 0868
9.	034.000	00.000	00.000	12249184	034.250	00.000	00.000	12249184	RIO 1068
10.	031.000	00.200	00.000	12249184	029.000	00.000	00.000	12249184	RIO 1268
11.	027.000	00.000	00.000	12249184	025.250	00.000	00.000	12249584	RIO 0269
12.	025.500	00.000	00.000	12249584	022.750	00.000	00.000	12249584	RIO 0469
13.	019.250	00.200	00.000	12249584	016.875	00.000	00.000	12249584	RIO 0669
14.	019.375	00.000	00.000	12249584	022.375	00.000	00.000	12249584	RIO 0869
15.	020.750	00.000	00.000	12249584	021.000	00.000	00.000	12249584	RIO 1069
16.	018.250	00.200	00.000	12249584	016.250	00.000	00.000	12249584	RIO 1269
17.	019.500	00.000	00.000	12249584	019.125	00.000	00.000	12249584	RIO 0270
18.	017.000	00.000	00.000	12249584	016.250	00.000	00.000	12249584	RIO 0470
19.	017.750	00.200	00.000	12249584	019.375	00.000	00.000	12249584	RIO 0670
20.	019.375	00.000	00.000	12249584	016.375	00.000	00.000	12249584	RIO 0870
21.	014.500	00.000	00.000	12249584	016.500	00.000	00.000	12249584	RIO 1070
22.	015.750	00.200	00.000	12249584	017.500	00.000	00.000	12249584	RIO 1270
23.	018.625	00.000	00.000	12249584	020.750	00.000	00.000	12249584	RIO 0271
24.	019.000	00.000	00.000	12249584	018.000	00.000	00.000	12249584	RIO 0471
25.	016.500	00.200	00.000	12249584	916.250	00.000	00.000	12249584	RIO 0671
26.	015.000	00.000	00.000	12249584	014.750	00.000	00.000	12249584	RIO 0871
27.	013.500	00.000	00.000	12249584	012.750	00.000	00.000	12249584	RIO 1071
28.	015.250	00.200	00.000	12249584	016.750	00.000	00.000	12249584	RIO 1271
29.	017.000	00.000	00.000	12249584	017.250	00.000	00.000	12249584	RIO 0272
30.	017.625	00.000	00.000	12249584	019.500	00.000	00.000	12249584	RIO 0472
31.	020.750	00.200	00.000	12249584	019.000	00.000	00.000	12249584	RIO 0672
32.	021.000	00.000	00.000	12249584	020.375	00.000	00.000	12249584	RIO 0872
33.	020.000	00.000	00.000	12249584	017.750	00.000	00.000	12249584	RIO 1072
34.	019.000	00.200	00.000	12249584	020.000	00.000	00.000	12249584	RIO 1272
35.	025.375	00.000	00.000	12249584	027.000	00.000	00.000	12249584	RIO 0273
36.	025.250	00.000	00.000	12249584	024.625	00.000	00.000	12249584	RIO 0473

RIO ALGOM LIMITED

37.	027.500	00.200	00.000	12249584	030.250	00.000	00.000	12249584	RIO 0673
38.	028.000	00.000	00.000	12249584	027.000	00.000	00.000	12249584	RIO 0873
39.	035.000	00.000	00.000	12249584	034.500	00.000	00.000	12249584	RIO 1073
40.	034.250	00.500	00.000	12249584	034.750	00.000	00.000	12249584	RIO 1273
41.	036.500	00.000	00.000	12249584	033.500	00.000	00.000	12258639	RIO 0274
42.	028.500	00.000	00.000	12258639	027.500	00.000	00.000	12258639	RIO 0474
43.	024.750	00.500	00.000	12258639	029.000	00.000	00.000	12258639	RIO 0674
44.	027.000	00.000	00.000	12258639	021.000	00.000	00.000	12258639	RIO 0874
45.	024.000	00.000	00.000	12261139	020.500	00.000	00.000	12261139	RIO 1074
46.	019.000	00.500	00.000	12261139	024.375	00.000	00.000	12261139	RIO 1274
47.	025.500	00.000	00.000	12261139	022.000	00.000	00.000	12261139	RIO 0275
48.	025.000	00.000	00.000	12261139	026.000	00.000	00.000	12261139	RIO 0475
49.	030.500	00.000	00.680	12261139	031.750	00.500	00.000	12261139	RIO 0675
50.	033.000	00.000	00.000	13487252	031.000	00.000	00.000	13488752	RIO 0875
51.	028.500	00.000	00.000	13488752	028.250	00.000	00.000	13488752	RIO 1075
52.	029.250	00.500	00.000	13489522	033.375	00.000	00.000	13489522	RIO 1275
53.	034.250	00.000	00.000	13489522	034.500	00.000	00.000	13489522	RIO 0276
54.	034.000	00.000	00.000	13489522	031.250	00.000	00.000	13489522	RIO 0476
55.	034.000	00.500	00.000	13489522	035.750	00.000	00.000	13489522	RIO 0676
56.	032.625	00.000	00.000	13487252	032.500	00.000	00.000	13506072	RIO 0876
57.	027.500	00.000	00.000	13506072	026.750	00.000	00.000	13506072	RIO 1076
58.	028.000	00.500	00.000	13506072	027.500	00.000	00.000	13506072	RIO 1276
59.	025.500	00.000	00.000	13506072	027.500	00.000	00.000	13506072	RIO 0277
60.	029.250	00.000	00.000	13506649	028.500	00.000	00.000	13506649	RIO 0477
61.	027.750	00.540	00.000	13506649	027.625	00.000	00.000	13506649	RIO 0677
62.	025.000	00.000	00.000	13506649	022.875	00.000	00.000	13506649	RIO 0877
63.	023.250	00.000	00.000	13506649	024.250	00.000	00.000	13506649	RIO 1077
64.	027.250	00.540	00.000	13509609	026.000	00.000	00.000	13509609	RIO 1277
65.	025.750	00.000	00.000	13509609	028.000	00.000	00.000	13509609	RIO 0278
66.	030.250	00.000	00.000	13509609	031.875	00.000	00.000	13509609	RIO 0478
67.	032.250	00.540	00.000	13509609	000.000	00.000	00.000	00000000	RIO 0678

RIO ALGOM LIMITED (continued)

1.	000.000	00.000	00000000	000.000	00.000	00000000	000.690	00.000	01587000	RON	1261
2.	000.900	00.000	01587000	001.050	00.000	01587000	001.000	00.000	01587000	RON	0162
3.	000.900	00.000	01587000	000.960	00.000	01587000	000.750	00.000	01587000	RON	0462
4.	000.800	00.000	01587000	000.850	00.000	01587000	900.815	00.000	01587000	RON	0762
5.	000.600	00.000	01587000	000.780	00.000	01587000	000.780	00.000	01587000	RON	1062
6.	900.795	00.000	01921000	900.785	00.000	01921000	000.790	00.000	01921000	RON	0163
7.	000.700	00.000	01921000	000.710	00.000	01921000	000.650	00.000	01921000	RON	0463
8.	000.660	00.000	01921000	000.650	00.000	01921000	000.610	00.000	01921000	RON	0763
9.	000.520	00.000	01921000	000.510	00.000	01921000	000.450	00.000	01921000	RON	1063
10.	000.600	00.000	01921000	000.540	00.000	01921000	000.520	00.000	01921000	RON	0164
11.	900.555	00.000	01921000	000.700	00.000	01921000	000.730	00.000	01921000	RON	0464
12.	900.690	00.000	01921000	000.740	00.000	01921000	000.800	00.000	01921000	RON	0764
13.	000.780	00.000	01921000	900.735	00.000	01921000	900.685	00.000	01921000	RON	1064
14.	000.710	00.000	01921000	000.690	00.000	01921000	000.750	00.000	01921000	RON	0165
15.	000.710	00.000	01921000	000.710	00.000	01921000	900.675	00.000	01921000	RON	0465
16.	000.650	00.000	01921000	000.620	00.000	01921000	000.600	00.000	01921000	RON	0765
17.	000.620	00.000	01921000	000.600	00.000	01921000	000.650	00.000	01921000	RON	1065
18.	000.730	00.000	01921000	000.800	00.000	01921000	000.820	00.000	01921000	RON	0166
19.	000.780	00.000	01921000	000.670	00.000	01921000	000.690	00.000	01921000	RON	0466
20.	900.625	00.000	01921000	000.580	00.000	01921000	000.620	00.000	01921000	RON	0766
21.	000.650	00.000	01921000	000.690	00.000	01921000	000.650	00.000	01921000	RON	1066
22.	000.690	00.000	01921000	000.780	00.000	01921000	000.860	00.000	01921000	RON	0167
23.	000.830	00.000	01921000	001.350	00.000	01921000	001.350	00.000	01921000	RON	0467
24.	001.800	00.000	01921000	002.050	00.000	01921000	002.100	00.000	01921000	RON	0767
25.	001.550	00.000	01921000	001.600	00.000	01921000	001.600	00.000	01921000	RON	1067
26.	001.850	00.000	01921000	001.850	00.000	01921000	001.650	00.000	01921000	RON	0168
27.	001.850	00.000	01921000	002.950	00.000	01921000	002.850	00.000	01921000	RON	0468
28.	003.500	00.000	01921000	004.250	00.000	01921000	003.850	00.000	01921000	RON	0768
29.	003.300	00.000	01921000	003.900	00.000	01921000	003.700	00.000	01921000	RON	1068
30.	003.800	00.000	01921000	003.450	00.000	01921000	003.050	00.000	01921000	RON	0169
31.	002.900	00.000	01921000	002.900	00.000	01921000	002.400	00.000	01921000	RON	0469
32.	001.900	00.000	01921000	001.750	00.000	01921000	001.600	00.000	01921000	RON	0769
33.	001.400	00.000	01921000	001.500	00.000	02037490	001.800	00.000	02037490	RON	1069
34.	001.450	00.000	02037490	001.350	00.000	02037490	001.000	00.000	02037490	RON	0170
35.	001.000	00.000	02037490	000.900	00.000	02037490	000.760	00.000	02037490	RON	0470
36.	000.950	00.000	02037490	000.980	00.000	02037490	900.990	00.000	02037490	RON	0770
37.	000.910	00.000	02037490	000.920	00.000	02037490	000.880	00.000	02037490	RON	1070
38.	001.200	00.000	02037490	001.250	00.000	02037490	001.150	00.000	02037490	RON	0171
39.	001.200	00.000	02037490	001.150	00.000	02037490	001.000	00.000	02037490	RON	0471
40.	000.900	00.000	02037490	000.950	00.000	02037490	900.860	00.000	02037490	RON	0771
41.	000.810	00.000	02037490	000.750	00.000	02037490	000.860	00.000	02037490	RON	1071
42.	001.100	00.000	02037490	001.150	00.000	02037490	001.150	00.000	02037490	RON	0172
43.	001.650	00.000	02037490	001.550	00.000	02037490	001.550	00.000	02037490	RON	0472
44.	001.950	00.000	02198430	002.200	00.000	02198430	001.950	00.000	02198430	RON	0772
45.	001.700	00.000	02198430	001.650	00.000	02198430	002.300	00.000	02198430	RON	1072

1.	000.000	00.000	00441212	000.000	00.000	00441212	916.438	00.000	00441212	SIL	0666
2.	916.438	00.200	00441212	915.375	00.000	00441212	915.375	00.000	00441212	SIL	0766
3.	915.250	00.000	00441212	914.625	00.200	00441212	914.625	00.000	00441212	SIL	1066
4.	915.063	00.000	00441212	915.875	00.200	00441212	915.750	00.000	00441212	SIL	0167
5.	916.000	00.000	00441212	916.000	00.200	00441212	915.500	00.000	00441212	SIL	0467
6.	915.500	00.000	00441212	015.000	00.200	00441212	915.813	00.000	00441212	SIL	0767
7.	915.375	00.000	00441212	914.750	00.200	00441212	915.000	00.000	00441212	SIL	1067
8.	915.750	00.000	00441212	015.500	00.200	00441212	915.375	00.000	00441212	SIL	0168
9.	915.625	00.000	00441212	015.250	00.200	00441212	019.000	00.000	00441212	SIL	0468
10.	022.500	00.000	00441212	923.250	00.200	00441212	025.000	00.000	00441212	SIL	0768
11.	027.250	00.000	00441212	026.750	00.200	00441212	926.750	00.000	00441212	SIL	1068
12.	-99.000	00.000	00441212	926.000	00.200	00441212	023.500	00.000	00441212	SIL	0169
13.	025.000	00.000	00441212	025.500	00.200	00441212	922.250	00.000	00441212	SIL	0469
14.	022.000	00.000	00441212	922.688	00.200	00441212	922.563	00.000	00441212	SIL	0769
15.	022.250	00.000	00441212	022.500	00.200	00441212	922.500	00.000	00441212	SIL	1069
16.	921.750	00.000	00441212	921.250	00.200	00441212	019.375	00.000	00441212	SIL	0170
17.	918.188	00.000	00441212	015.500	00.200	00441212	015.000	00.000	00441212	SIL	0470
18.	915.500	00.000	00441212	015.500	00.200	00441212	915.000	00.000	00441212	SIL	0770
19.	914.375	00.000	00441212	914.250	00.200	00441212	013.000	00.000	00441212	SIL	1070
20.	915.625	00.000	00441212	915.750	00.000	00441212	016.000	00.200	00441212	SIL	0171
21.	017.375	00.000	00441212	916.625	00.200	00441212	916.750	00.000	00441212	SIL	0471
22.	016.000	00.000	00441212	915.500	00.200	00441212	915.125	00.000	00441212	SIL	0771
23.	915.500	00.000	00441212	915.125	00.200	00441212	914.938	00.000	00441212	SIL	1071
24.	016.500	00.000	00441212	915.750	00.000	00441212	015.125	00.200	00441212	SIL	0172
25.	014.000	00.000	00441212	914.313	00.200	00441212	913.688	00.000	00441212	SIL	0472
26.	915.375	00.000	00441212	913.750	00.200	00441212	915.375	00.000	00441212	SIL	0772
27.	915.563	00.000	00441212	015.125	00.200	00441212	914.750	00.000	00441212	SIL	1072
28.	916.688	00.000	00441212	916.250	00.200	00441212	916.750	00.000	00441212	SIL	0173
29.	916.000	00.000	00441212	915.375	00.200	00441212	914.875	00.000	00441212	SIL	0473
30.	915.000	00.000	00441212	914.750	00.200	00441212	915.250	00.000	00441212	SIL	0773
31.	914.500	00.000	00441212	913.563	00.200	00441212	912.500	00.000	00441212	SIL	1073
32.	912.313	00.000	00441212	912.250	00.200	00441212	913.188	00.000	00441212	SIL	0174
33.	012.125	00.000	00441212	911.813	00.200	00441212	911.438	00.000	00441212	SIL	0474
34.	911.438	00.000	00441212	910.750	00.200	00441212	910.625	00.000	00441212	SIL	0774
35.	910.250	00.000	00441212	009.625	00.200	00441212	909.125	00.000	00441212	SIL	1074
36.	909.688	00.000	00441212	009.750	00.000	00441212	009.125	00.200	00441212	SIL	0175
37.	911.000	00.000	00441212	910.250	00.000	00441212	909.750	00.200	00441212	SIL	0475
38.	909.750	00.000	00441212	909.500	00.200	00441212	909.500	00.000	00441212	SIL	0775
39.	909.688	00.000	00441212	910.063	00.200	00441212	910.125	00.000	00441212	SIL	1075
40.	010.500	00.000	00441212	910.500	00.000	00441212	910.750	00.200	00441212	SIL	0176
41.	910.250	00.000	00441212	910.750	00.200	00441212	910.500	00.000	00441212	SIL	0476
42.	910.500	00.000	00441212	010.000	00.200	00441212	008.750	00.000	00441212	SIL	0776
43.	908.000	00.000	00441212	908.188	00.150	00441212	909.000	00.000	00441212	SIL	1076
44.	909.125	00.000	00441212	909.125	00.000	00441212	-99.000	00.150	00441212	SIL	0177
45.	908.375	00.000	00441212	908.625	00.150	00441212	908.500	00.000	00441212	SIL	0477

SILVERWOOD INDUSTRIES LIMITED - CLASS B

1.	017.000	00.000	00.000	01556935	017.000	00.000	00.000	01558935	SPS 0666
2.	016.750	00.000	00.000	01560935	016.000	00.000	00.000	01563435	SPS 0866
3.	015.875	00.150	00.000	01565435	014.750	00.000	00.000	01567935	SPS 1066
4.	015.000	00.000	00.000	01569435	016.250	00.000	00.000	01570935	SPS 1266
5.	016.250	00.000	00.000	01573435	017.500	00.000	00.000	01574435	SPS 0267
6.	017.500	00.150	00.000	01574435	916.938	00.000	00.000	01751985	SPS 0467
7.	017.000	00.000	00.450	01751985	018.500	00.000	00.000	01751985	SPS 0667
8.	019.750	00.090	00.000	01925463	022.750	00.000	00.000	02037613	SPS 0867
9.	022.500	00.000	00.000	02045613	023.500	00.090	00.000	02055613	SPS 1067
10.	026.500	00.000	00.000	02061613	026.250	00.000	00.000	02070563	SPS 1267
11.	026.750	00.090	00.000	02077913	027.250	00.000	00.000	02082713	SPS 0268
12.	031.500	00.000	00.000	02087513	030.000	00.090	00.000	02092313	SPS 0468
13.	032.000	00.000	00.000	02098313	031.000	00.000	00.000	02100713	SPS 0668
14.	032.500	00.100	00.000	02109113	032.500	00.000	00.000	02109113	SPS 0868
15.	031.500	00.000	00.000	02112713	033.250	00.100	00.000	02115913	SPS 1068
16.	031.750	00.000	00.000	02115913	030.750	00.000	00.000	02142788	SPS 1268
17.	030.500	00.100	00.000	02146488	031.625	00.000	00.000	02154288	SPS 0269
18.	031.000	00.000	00.000	02177638	031.250	00.120	00.000	02177638	SPS 0469
19.	028.500	00.000	00.000	02177638	025.250	00.000	00.000	02177638	SPS 0669
20.	027.000	00.120	00.000	02177638	027.250	00.000	00.000	02223713	SPS 0869
21.	026.500	00.000	00.000	02223713	027.000	00.120	00.000	02239363	SPS 1069
22.	028.000	00.000	00.000	02243463	024.750	00.000	00.000	02251563	SPS 1269
23.	026.000	00.120	00.000	02257888	025.000	00.000	00.000	02266063	SPS 0270
24.	023.000	00.000	00.000	02274863	019.875	00.120	00.000	02274863	SPS 0470
25.	020.250	00.000	00.000	02377913	020.000	00.000	00.000	02384363	SPS 0670
26.	921.250	00.120	00.000	02384363	021.000	00.000	00.000	02406863	SPS 0870
27.	921.813	00.000	00.000	02418263	921.563	00.120	00.000	02433363	SPS 1070
28.	022.500	00.000	00.000	02446013	024.000	00.000	00.000	02455413	SPS 1270
29.	024.250	00.120	00.000	02460783	024.250	00.000	00.000	02464508	SPS 0271
30.	024.625	00.000	00.000	02532358	024.000	00.120	00.000	02534933	SPS 0471
31.	025.125	00.000	00.000	02540558	027.000	00.000	00.000	02544333	SPS 0671
32.	026.000	00.120	00.000	02549533	026.250	00.000	00.000	02554733	SPS 0871
33.	026.000	00.000	00.000	02555258	026.000	00.120	00.000	02558833	SPS 1071
34.	028.250	00.000	00.000	02560883	032.000	00.000	00.000	02563558	SPS 1271
35.	034.250	00.120	00.000	02568258	035.250	00.000	00.000	02568258	SPS 0272
36.	037.750	00.000	00.400	02605308	040.500	00.125	00.000	02605158	SPS 0472

SIMPSONS-SEARS LIMITED - CLASS A

37.	039.000	00.000	00.000	02605158	040.250	00.000	00.000	02742643	SPS 0672
38.	938.875	00.125	00.000	02742743	039.000	00.000	00.000	02743363	SPS 0872
39.	038.500	00.000	00.000	02743363	043.875	00.125	00.000	02746382	SPS 1072
40.	047.000	00.000	00.000	02756576	049.750	00.000	00.000	02756576	SPS 1272
41.	048.500	00.120	00.000	02768605	052.500	00.000	00.000	02783590	SPS 0273
42.	013.875	-4.000	00.000	11147336	013.375	00.200	00.000	11147336	SPS 0473
43.	011.750	00.000	00.000	11289381	011.125	00.000	00.000	11289381	SPS 0673
44.	011.000	00.050	00.000	11545326	013.000	00.000	00.000	11545326	SPS 0873
45.	013.250	00.000	00.000	11545326	010.625	00.050	00.000	11545326	SPS 1073
46.	011.250	00.000	00.000	11545326	011.250	00.000	00.000	11577039	SPS 1273
47.	012.500	00.050	00.000	11577039	012.500	00.000	00.000	11640830	SPS 0274
48.	010.750	00.000	00.000	11701511	011.000	00.055	00.000	11701511	SPS 0474
49.	011.250	00.000	00.000	11701511	011.000	00.000	00.000	11701511	SPS 0674
50.	009.250	00.055	00.000	11732021	008.000	00.000	00.000	11732021	SPS 0874
51.	009.875	00.000	00.000	11751796	009.250	00.055	00.000	11818656	SPS 1074
52.	009.000	00.000	00.000	11818656	010.625	00.000	00.000	11820916	SPS 1274
53.	011.000	00.055	00.000	11824532	010.625	00.000	00.000	11824532	SPS 0275
54.	010.750	00.000	00.000	11840147	010.000	00.060	00.000	11845119	SPS 0475
55.	010.375	00.000	00.000	11845119	011.125	00.000	00.000	11995409	SPS 0675
56.	011.250	00.060	00.000	11997330	010.000	00.000	00.000	12113439	SPS 0875
57.	009.125	00.000	00.060	12113439	009.875	00.060	00.000	12158187	SPS 1075
58.	010.000	00.000	00.000	12158187	010.625	00.000	00.000	13321657	SPS 1275
59.	011.125	00.060	00.000	13328002	009.875	00.000	00.000	13356139	SPS 0276
60.	010.125	00.000	00.000	13356139	009.875	00.060	00.000	13356139	SPS 0476
61.	009.750	00.000	00.000	13548360	009.375	00.000	00.000	13548360	SPS 0676
62.	009.125	00.060	00.000	13548360	009.000	00.000	00.000	13548360	SPS 0876
63.	009.000	00.000	00.000	13548360	008.000	00.060	00.000	13548360	SPS 1076
64.	008.625	00.060	00.000	13561129	007.875	00.000	00.000	13561242	SPS 1276
65.	007.875	00.000	00.000	13561242	008.125	00.060	00.000	13561242	SPS 0277
66.	007.875	00.000	00.000	13561242	006.875	00.000	00.000	13586554	SPS 0477
67.	007.125	00.000	00.000	13666558	006.750	00.000	00.000	13695825	SPS 0677

SIMPSONS-SEARS LIMITED - CLASS A (continued)

1.	000.000	00.000	00000000	000.000	00.000	00000000	073.250	00.000	04338338	STC	0661
2.	074.000	00.600	04338338	076.250	00.000	05061394	075.000	00.000	05061394	STC	0761
3.	075.250	00.600	05061394	077.000	00.000	05061394	078.125	00.000	05061394	STC	1061
4.	079.625	00.600	05061394	078.750	00.000	05061394	085.250	00.000	05061394	STC	0162
5.	084.000	00.000	05061394	018.250	-4.000	20245576	016.875	00.150	20245576	STC	0462
6.	017.125	00.000	20245576	017.250	00.000	20245576	016.375	00.150	20245576	STC	0762
7.	016.625	00.000	20245576	018.000	00.000	20245576	018.625	00.175	20245576	STC	1062
8.	019.875	00.000	20245576	018.500	00.000	20245576	019.000	00.175	20245576	STC	0163
9.	020.375	00.000	20245576	021.250	00.000	20245576	020.250	00.175	20245576	STC	0463
10.	020.125	00.000	20245576	020.250	00.000	20245576	021.625	00.175	20245576	STC	0763
11.	022.625	00.000	20377595	022.500	00.000	20377595	023.625	00.250	20377595	STC	1063
12.	023.750	00.000	20377595	022.625	00.000	20377595	023.375	00.200	20377595	STC	0164
13.	025.500	00.000	20377595	025.500	00.000	20377595	025.375	00.000	23788294	STC	0464
14.	026.250	00.200	23788294	025.875	00.000	23788294	026.750	00.000	23788294	STC	0764
15.	026.750	00.200	24139052	025.625	00.000	24139052	027.000	00.250	24139052	STC	1064
16.	028.875	00.000	24139052	028.625	00.000	24139052	031.250	00.000	24139052	STC	0165
17.	032.875	00.200	24139052	031.875	00.000	24139052	028.500	00.200	24139052	STC	0465
18.	029.000	00.000	24139052	028.875	00.000	24139052	028.750	00.200	24139052	STC	0765
19.	027.750	00.000	24139052	025.875	00.000	24139052	026.500	00.250	24139052	STC	1065
20.	026.125	00.000	24139052	025.250	00.000	24139052	025.000	00.200	24139052	STC	0166
21.	024.125	00.000	04139052	023.250	00.000	24139052	023.125	00.200	24139052	STC	0466
22.	022.625	00.000	24139052	022.750	00.000	24139052	021.000	00.200	24139052	STC	0766
23.	021.875	00.000	24139052	019.250	00.000	24139052	020.000	00.250	24139052	STC	1066
24.	021.500	00.000	24139052	023.125	00.000	24139052	023.250	00.200	24139052	STC	0167
25.	025.125	00.000	24139052	022.625	00.000	24139052	022.250	00.200	24139052	STC	0467
26.	024.125	00.000	24139052	023.125	00.000	24139052	022.750	00.200	24139052	STC	0767
27.	020.000	00.000	24139052	020.500	00.000	24139052	020.250	00.250	24139052	STC	1067
28.	018.750	00.000	24139052	018.500	00.000	24139052	016.750	00.200	24328847	STC	0168
29.	020.625	00.000	24328847	019.750	00.000	24328847	021.625	00.250	24328847	STC	0468
30.	022.000	00.000	24328847	021.000	00.000	24328847	024.750	00.250	24328847	STC	0768
31.	027.625	00.000	24328847	028.000	00.000	24328847	026.500	00.300	24328847	STC	1068
32.	026.875	00.000	24328847	025.250	00.000	24328847	025.250	00.300	24330347	STC	0169
33.	026.375	00.000	24330347	024.750	00.000	24330347	021.250	00.300	24330347	STC	0469
34.	020.625	00.000	24330347	022.125	00.000	24330347	023.000	00.300	24330347	STC	0769
35.	022.125	00.000	24330347	022.000	00.000	24330347	022.000	00.300	24330347	STC	1069
36.	020.500	00.000	24335347	021.875	00.000	24335347	022.375	00.300	24335347	STC	0170
37.	023.125	00.000	24335347	021.625	00.000	24335347	021.250	00.300	24335347	STC	0470
38.	022.250	00.300	24335347	022.250	00.000	24335347	023.250	00.000	24335347	STC	0770
39.	022.750	00.000	24335347	025.000	00.000	24335347	026.875	00.300	24335347	STC	1070
40.	027.250	00.000	24335347	027.250	00.000	24335347	028.250	00.300	24335347	STC	0171
41.	026.250	00.000	24335347	025.750	00.000	24335347	025.625	00.300	24335347	STC	0471
42.	026.000	00.000	24335347	025.875	00.000	24335347	023.625	00.300	24335347	STC	0771
43.	021.750	00.000	24344827	023.125	00.000	24344827	026.250	00.350	24344827	STC	1071
44.	027.875	00.000	24344827	030.250	00.000	24344827	030.375	00.300	24563899	STC	0172
45.	030.500	00.000	24563899	033.500	00.000	24594699	033.375	00.300	24594699	STC	0472

1.	027.000	00.000	03603552	025.500	00.090	03636244	022.750	00.000	03636244	STB	0166
2.	024.500	00.000	03636444	023.500	00.090	03636644	022.750	00.000	03637544	STB	0466
3.	023.500	00.000	03637644	021.000	00.090	03638044	019.500	00.000	03638044	STB	0766
4.	918.750	00.000	03638044	918.063	00.090	03640844	018.625	00.000	03653044	STB	1066
5.	019.250	00.000	03657444	017.750	00.090	03687760	019.250	00.000	03688260	STB	0167
6.	021.000	00.000	03691560	019.500	00.090	03694360	919.375	00.000	03691860	STB	0467
7.	018.625	00.000	03695060	019.500	00.090	03695560	019.750	00.000	03695760	STB	0767
8.	019.000	00.000	03695760	017.000	00.090	03696664	017.000	00.000	03715639	STB	1067
9.	016.750	00.000	03734664	017.125	00.090	03766611	016.750	00.000	03766611	STB	0168
10.	019.000	00.000	03766711	016.750	00.090	03766711	017.000	00.000	03766711	STB	0468
11.	018.125	00.000	03766711	016.750	00.090	03766711	017.750	00.000	03765711	STB	0768
12.	016.000	00.000	03766711	014.500	00.090	03766811	014.000	00.000	03765811	STB	1068
13.	013.500	00.000	03766811	013.250	00.090	03766811	012.375	00.000	03766811	STB	0169
14.	014.000	00.000	03766811	013.000	00.090	03773501	011.750	00.000	03773501	STB	0469
15.	012.000	00.000	03773501	010.750	00.090	03773501	010.875	00.000	03773501	STB	0769
16.	011.750	00.000	03773501	011.500	00.090	03773501	012.250	00.000	03773501	STB	1069
17.	012.750	00.000	03773501	013.000	00.090	03773801	013.750	00.000	03773801	STB	0170
18.	013.625	00.000	03774201	013.750	00.090	03774201	014.000	00.000	03774201	STB	0470
19.	015.500	00.000	03774201	914.875	00.090	03774201	014.500	00.000	03774201	STB	0770
20.	014.750	00.000	03779667	012.750	00.090	03779667	013.375	00.000	03779667	STB	1070
21.	014.875	00.000	03781617	015.000	00.090	03782317	016.750	00.000	03786192	STB	0171
22.	018.500	00.000	03808607	017.000	00.090	03812757	019.000	00.000	03815407	STB	0471
23.	019.000	00.000	03816732	018.250	00.090	03817332	018.000	00.000	03817807	STB	0771
24.	018.750	00.000	03817807	019.000	00.090	03817807	022.875	00.000	03818432	STB	1071
25.	023.500	00.000	03842257	027.000	00.090	03844907	026.000	00.000	03844807	STB	0172
26.	025.375	00.000	03870286	026.375	00.090	03870286	025.000	00.000	03870911	STB	0472
27.	025.000	00.000	03870911	027.000	00.090	03870911	026.250	00.000	03873536	STB	0772
28.	023.500	00.000	03873536	027.000	00.120	03873686	029.500	00.000	03883336	STB	1072
29.	028.625	00.000	03893336	028.750	00.120	03892611	029.000	00.000	03893436	STB	0173
30.	028.125	00.000	03925275	025.500	00.120	03925275	026.000	00.000	03925275	STB	0473
31.	025.375	00.000	03926275	923.500	00.150	03928525	021.875	00.000	03928525	STB	0773
32.	023.625	00.000	03928525	021.750	00.150	03928525	019.125	00.000	03928525	STB	1073
33.	019.000	00.000	03945325	019.750	00.150	03945325	020.000	00.000	03946325	STB	0174
34.	019.875	00.000	03946575	020.375	00.150	03946575	920.500	00.000	03946575	STB	0474
35.	018.250	00.000	03946575	017.250	00.150	03947300	014.750	00.000	03947300	STB	0774
36.	014.625	00.000	03947300	015.750	00.150	03947300	916.250	00.000	03947300	STB	1074
37.	018.500	00.000	03949175	018.125	00.150	03953000	919.250	00.000	03955756	STB	0175
38.	019.375	00.000	03957656	917.625	00.150	03960781	916.875	00.000	03960781	STB	0475
39.	018.250	00.000	03960781	018.125	00.150	03960781	018.750	00.000	03960856	STB	0775
40.	018.000	00.000	03960856	918.250	00.150	03962156	017.875	00.000	03962156	STB	1075
41.	016.250	00.000	03962156	019.000	00.150	03965956	917.750	00.000	03970168	STB	0176
42.	917.875	00.000	03970968	917.000	00.150	03970968	015.750	00.000	03970968	STB	0476
43.	014.125	00.000	03970968	916.750	00.150	03970968	015.750	00.000	03971343	STB	0776
44.	915.375	00.000	03971343	013.000	00.150	03971343	914.438	00.000	03971343	STB	1076
45.	015.000	00.000	03972043	000.000	00.000	00000000	000.000	00.000	00000000	STB	0177

1.	020.000	00.000	00.000	04531805	020.375	00.125	00.000	04531805	UNG 0961
2.	022.000	00.000	00.000	04531805	023.000	00.000	00.000	04531805	UNG 1161
3.	022.500	00.125	00.000	04531805	022.000	00.000	00.000	04531805	UNG 0162
4.	022.500	00.000	00.000	04531805	021.500	00.125	00.000	04531805	UNG 0362
5.	018.500	00.000	00.000	04531805	017.000	00.000	00.000	04531805	UNG 0562
6.	017.000	00.125	00.000	04531805	019.000	00.000	00.000	04531805	UNG 0762
7.	018.500	00.000	00.000	04531805	018.000	00.125	00.000	04531805	UNG 0962
8.	018.250	00.000	00.000	04531805	018.500	00.000	00.000	04531805	UNG 1162
9.	018.750	00.125	00.000	04531805	018.875	00.000	00.000	04531805	UNG 0163
10.	019.375	00.000	00.000	04531805	020.875	00.125	00.000	04531805	UNG 0363
11.	022.000	00.000	00.000	04531805	021.500	00.000	00.000	04531805	UNG 0563
12.	020.750	00.150	00.000	04531805	020.500	00.000	00.000	04531805	UNG 0763
13.	020.500	00.000	00.000	04531805	021.000	00.150	00.000	04531805	UNG 0963
14.	021.000	00.000	00.000	04531805	022.500	00.150	00.000	04531805	UNG 1163
15.	023.000	00.000	00.000	04531805	022.750	00.000	00.000	04531805	UNG 0164
16.	022.125	00.000	00.000	04531805	021.125	00.150	00.000	04531805	UNG 0364
17.	021.500	00.000	00.000	04531805	021.875	00.150	00.570	04531805	UNG 0564
18.	023.875	00.000	00.000	04531805	024.750	00.000	00.000	04984985	UNG 0764
19.	024.500	00.150	00.000	04984985	024.875	00.000	00.000	04984985	UNG 0964
20.	025.875	00.000	00.000	04984985	026.125	00.000	00.000	04984985	UNG 1164
21.	025.875	00.150	00.000	04984985	026.500	00.000	00.000	04984985	UNG 0165
22.	025.500	00.000	00.000	04984985	026.125	00.175	00.000	04984985	UNG 0365
23.	027.500	00.000	00.000	04984985	027.500	00.000	00.000	04984985	UNG 0565
24.	026.500	00.175	00.000	04984985	029.750	00.000	00.000	04984985	UNG 0765
25.	030.125	00.000	00.000	04984985	031.000	00.175	00.000	04984985	UNG 0965
26.	030.375	00.000	00.000	04984985	031.375	00.000	00.000	04984985	UNG 1165
27.	033.375	00.175	00.000	04984985	031.750	00.000	00.000	04984985	UNG 0166
28.	032.375	00.000	00.000	04984985	032.250	00.175	00.000	04984985	UNG 0366
29.	034.750	00.000	00.000	04984985	011.875	-3.000	00.000	14954955	UNG 0566
30.	011.375	00.068	00.000	14954955	010.250	00.000	00.000	14954955	UNG 0766
31.	009.875	00.000	00.000	14954955	010.375	00.068	00.000	14954955	UNG 0966
32.	010.000	00.000	00.000	14954955	010.500	00.000	00.000	14954955	UNG 1166
33.	010.875	00.068	00.000	14954955	011.250	00.000	00.000	14954955	UNG 0167
34.	012.750	00.000	00.000	14954955	012.500	00.068	00.000	14954955	UNG 0367
35.	011.375	00.000	00.000	14954955	014.500	00.000	00.000	14954955	UNG 0567
36.	015.000	00.080	00.000	14963205	015.250	00.000	00.000	14963205	UNG 0767

37.	015.000	00.000	00.000	14969880	014.375	00.800	00.000	14969880	UNG 0967
38.	016.250	00.000	00.000	14982780	015.375	00.000	00.000	15015930	UNG 1167
39.	015.625	00.090	00.000	15022930	014.875	00.000	00.000	15022930	UNG 0168
40.	013.750	00.000	00.000	15022930	014.500	00.090	00.000	15022930	UNG 0368
41.	015.125	00.000	00.000	15022930	015.875	00.000	00.000	15022930	UNG 0568
42.	014.500	00.110	00.000	15023230	014.875	00.000	00.000	15023230	UNG 0768
43.	017.125	00.000	00.000	15023230	018.375	00.110	00.000	15024405	UNG 0968
44.	017.750	00.000	00.000	15024905	016.625	00.000	00.000	15026580	UNG 1168
45.	015.750	00.110	00.000	15026580	015.000	00.000	00.000	15026580	UNG 0169
46.	015.875	00.000	00.000	15027580	015.125	00.130	00.000	15027580	UNG 0369
47.	015.125	00.000	00.000	15027580	014.250	00.000	00.000	15027580	UNG 0569
48.	013.875	00.130	00.000	15027580	014.000	00.000	00.000	15027580	UNG 0769
49.	016.500	00.000	00.000	15027580	015.875	00.130	00.000	15027580	UNG 0969
50.	015.625	00.000	00.000	15101955	014.500	00.130	00.000	15101955	UNG 1169
51.	014.000	00.000	00.000	15101955	014.250	00.000	00.000	15101955	UNG 0170
52.	014.875	00.000	00.000	15101955	013.250	00.130	00.000	15101955	UNG 0370
53.	012.125	00.000	00.000	15101955	013.125	00.145	00.000	15101955	UNG 0570
54.	013.750	00.000	00.000	15103955	013.875	00.000	00.000	15103955	UNG 0770
55.	014.375	00.145	00.000	15103955	014.375	00.000	00.000	15103955	UNG 0970
56.	015.250	00.000	00.000	15103955	015.625	00.000	00.000	15103955	UNG 1170
57.	015.500	00.145	00.000	15103955	015.375	00.000	00.000	15103955	UNG 0171
58.	015.875	00.145	00.000	15103955	015.000	00.000	00.000	15107955	UNG 0371
59.	015.125	00.000	00.000	15107955	016.000	00.145	00.000	15107955	UNG 0571
60.	015.500	00.000	00.000	15107955	015.125	00.000	00.000	15107955	UNG 0771
61.	014.125	00.145	00.000	15107955	014.000	00.000	00.000	15107955	UNG 0971
62.	013.750	00.000	00.000	15107955	014.750	00.000	00.000	15107955	UNG 1171
63.	014.250	00.145	00.000	15111705	013.500	00.000	00.000	15111705	UNG 0172
64.	014.500	00.000	00.000	15111705	014.375	00.160	00.000	15111705	UNG 0372
65.	013.750	00.000	00.000	15111705	013.750	00.000	00.000	15111705	UNG 0572
66.	013.875	00.160	00.000	15111705	013.375	00.000	00.000	15111705	UNG 0772
67.	013.500	00.000	00.000	15111705	000.000	00.000	00.000	00000000	UNG 0972

UNION GAS COMPANY OF CANADA (Continued)

1.	000.000	00.000	00000000	000.000	00.000	00000000	024.000	00.150	00610338	CWH	0662
2.	-99.000	00.000	00612338	023.500	00.000	00612339	926.063	00.150	00612339	CWH	0762
3.	-99.000	00.000	00612339	027.250	00.000	00612339	028.875	00.150	00612339	CWH	1062
4.	029.000	00.000	00612339	028.000	00.000	00612339	026.000	00.000	00612339	CWH	0163
5.	029.625	00.000	00612339	028.000	00.000	00612339	032.000	00.000	00612339	CWH	0463
6.	029.000	00.000	00612339	027.500	00.000	00612339	030.500	00.000	00612339	CWH	0763
7.	931.625	00.000	00612341	030.500	00.000	00612341	029.000	00.000	00612341	CWH	1063
8.	032.500	00.000	00612341	038.000	00.000	00612341	037.750	00.150	00614266	CWH	0164
9.	038.500	00.000	00614266	040.000	00.000	00614266	939.875	00.150	00617241	CWH	0464
10.	044.000	00.000	00617241	039.500	00.000	00617241	039.000	00.150	00617241	CWH	0764
11.	044.000	00.000	00617241	047.000	00.000	00617241	050.000	00.150	00618366	CWH	1064
12.	056.000	00.000	00621691	069.000	00.400	00627966	072.500	00.000	00631441	CWH	0165
13.	082.500	00.000	00632716	977.750	00.400	00632716	064.500	00.000	00634966	CWH	0465
14.	064.000	00.000	00634966	068.500	00.400	00634966	076.000	00.000	00635366	CWH	0765
15.	083.000	00.000	00635366	080.000	00.400	00636418	095.000	00.000	00639293	CWH	1065
16.	092.000	00.000	00641693	979.375	00.500	00642393	092.000	00.000	00642393	CWH	0166
17.	922.250	-4.000	02572572	020.000	00.125	02572572	022.500	00.000	02574572	CWH	0466
18.	922.750	00.000	02579672	020.000	00.125	02579672	018.375	00.000	02579672	CWH	0766
19.	919.625	00.000	02580422	020.000	00.125	02580422	019.875	00.000	02582072	CWH	1066
20.	019.000	00.000	02582700	918.563	00.125	02582700	020.250	00.000	02583972	CWH	0167
21.	021.500	00.000	02583972	022.000	00.125	02590272	020.125	00.000	02595772	CWH	0467
22.	019.000	00.000	02595772	917.875	00.125	02595772	019.000	00.000	02597472	CWH	0767
23.	016.500	00.000	02597472	015.000	00.125	02597472	013.250	00.000	02597472	CWH	1067
24.	013.500	00.000	02597972	916.125	00.125	02597972	015.000	00.000	02597972	CWH	0168
25.	915.500	00.000	02597973	013.000	00.125	02597973	013.625	00.000	02597973	CWH	0468
26.	014.000	00.000	02597973	014.625	00.125	02597973	015.500	00.000	02597973	CWH	0768
27.	-99.000	00.000	02597973	017.000	00.125	02597973	016.750	00.000	02597973	CWH	1068
28.	017.500	00.000	02597973	016.375	00.125	02597973	017.500	00.000	02597973	CWH	0169
29.	015.250	00.000	02597973	014.375	00.125	02597973	013.250	00.000	02597973	CWH	0469
30.	012.000	00.000	02599976	012.375	00.125	02599976	011.125	00.000	02599976	CWH	0769
31.	012.250	00.000	02599976	012.000	00.125	02599976	011.750	00.000	02599976	CWH	1069
32.	911.750	00.000	02599976	911.938	00.125	02599976	012.000	00.000	02599976	CWH	0170
33.	010.000	00.000	02599976	010.000	00.125	02599976	909.000	00.000	02599976	CWH	0470
34.	909.000	00.000	02599976	909.375	00.125	02599976	908.750	00.000	02599976	CWH	0770
35.	008.000	00.000	02599976	008.250	00.125	02599976	009.750	00.000	02599976	CWH	1070
36.	012.000	00.000	02599976	013.875	00.125	02599976	014.250	00.000	02599976	CWH	0171
37.	016.000	00.000	02599976	015.500	00.125	02599976	015.625	00.000	02599976	CWH	0471
38.	015.250	00.000	02599976	015.750	00.125	02600501	013.875	00.000	02600501	CWH	0771
39.	012.250	00.000	02600501	013.125	00.125	02601176	014.500	00.000	02601176	CWH	1071
40.	018.500	00.000	02601176	019.750	00.125	02601176	018.250	00.000	02603804	CWH	0172
41.	019.000	00.000	02604554	023.000	00.125	02604554	022.375	00.000	02608054	CWH	0472
42.	021.000	00.000	02610104	020.750	00.125	02610104	021.250	00.000	02622354	CWH	0772
43.	021.250	00.000	02622354	025.500	00.125	02626854	026.000	00.000	02627104	CWH	1072
44.	926.313	00.000	02627104	925.313	00.125	02627804	023.750	00.000	02628254	CWH	0173
45.	023.500	00.000	02628379	019.500	00.125	02628379	020.000	00.000	02630179	CWH	0473

1.	013.125	00.000	02124596	014.000	00.000	02124596	013.500	00.000	02124596	WWD	0762
2.	013.250	00.250	02124596	015.750	00.000	02124596	017.250	00.000	02124596	WWD	1062
3.	017.000	00.000	02124596	915.750	00.000	02124596	017.000	00.000	02124596	WWD	0163
4.	018.500	00.300	02124596	020.000	00.000	02124596	019.250	00.000	02124596	WWD	0463
5.	019.250	00.000	02124596	019.375	00.000	02124596	020.500	00.000	02124596	WWD	0763
6.	021.375	00.300	02124596	020.500	00.000	02125891	021.250	00.000	02125891	WWD	1063
7.	022.750	00.000	02125891	022.500	00.000	02125891	024.250	00.000	02125891	WWD	0164
8.	024.500	00.350	02125891	025.250	00.000	02125891	025.000	00.000	02125891	WWD	0464
9.	027.000	00.000	02125891	-99.000	00.000	02125891	026.500	00.000	02125891	WWD	0764
10.	025.500	00.350	02333171	025.250	00.000	02333171	024.875	00.000	02333171	WWD	1064
11.	024.625	00.000	02333171	026.875	00.000	02333171	027.875	00.000	02333171	WWD	0165
12.	028.500	00.350	02334377	027.375	00.000	02334377	024.250	00.000	02334377	WWD	0465
13.	024.500	00.000	02334377	025.500	00.000	02334377	026.750	00.000	02334377	WWD	0765
14.	026.500	00.350	02334377	024.000	00.000	02334377	026.375	00.000	02334377	WWD	1065
15.	025.750	00.000	02335315	025.000	00.000	02335315	024.000	00.000	02335315	WWD	0166
16.	026.000	00.400	02335315	024.250	00.000	02335315	024.750	00.000	02335315	WWD	0466
17.	026.000	00.000	02335315	024.250	00.000	02335315	024.250	00.000	02335449	WWD	0766
18.	024.500	00.350	02335449	024.375	00.000	02335449	023.750	00.000	02335449	WWD	1066
19.	024.000	00.000	02335449	026.750	00.000	02335449	029.000	00.000	02335449	WWD	0167
20.	029.000	00.450	02335449	029.750	00.000	02335449	015.750	-2.000	04690730	WWD	0467
21.	015.375	00.000	04690730	015.500	00.000	04690730	017.000	00.000	04690730	WWD	0767
22.	016.750	00.180	04690730	017.125	00.000	04690730	917.875	00.000	04690730	WWD	1067
23.	019.000	00.000	04690730	017.375	00.000	04690730	016.625	00.000	04690730	WWD	0168
24.	017.625	00.260	04690730	017.625	00.000	04690730	016.875	00.000	04693730	WWD	0468
25.	019.750	00.000	04693730	020.375	00.000	04693730	021.000	00.000	04693730	WWD	0768
26.	020.500	00.200	04693730	020.125	00.000	04694480	018.625	00.000	04694480	WWD	1068
27.	018.375	00.000	04694480	018.500	00.000	04694480	018.000	00.000	04694480	WWD	0169
28.	018.000	00.300	04694480	019.500	00.000	04694480	017.500	00.000	04694480	WWD	0469
29.	017.250	00.000	04694480	016.750	00.000	04694480	017.750	00.000	04694480	WWD	0769
30.	018.250	00.220	04694480	019.500	00.000	04694480	020.000	00.000	04694480	WWD	1069
31.	018.500	00.000	04694480	018.625	00.000	04694480	017.750	00.000	04694480	WWD	0170
32.	017.500	00.330	04694480	015.000	00.000	04694480	015.125	00.000	04694480	WWD	0470
33.	015.000	00.000	04694480	015.750	00.000	04694480	016.625	00.000	04694480	WWD	0770
34.	016.250	00.220	04694480	016.500	00.000	04694480	018.500	00.000	04694480	WWD	1070
35.	019.125	00.000	04694480	020.000	00.000	04694480	021.875	00.000	04694480	WWD	0171
36.	023.000	00.330	04694480	022.250	00.000	04694480	024.125	00.000	04694480	WWD	0471
37.	023.750	00.000	04694480	023.625	00.000	04694480	022.750	00.000	04694480	WWD	0771
38.	021.500	00.250	04699480	023.000	00.000	04699480	024.625	00.000	04699480	WWD	1071
39.	026.500	00.000	04699480	028.375	00.000	04699480	026.250	00.000	04699480	WWD	0172
40.	028.250	00.400	04699480	027.625	00.000	04721230	028.500	00.000	04721230	WWD	0472
41.	029.375	00.000	04721230	028.750	00.000	04725430	027.000	00.000	04725430	WWD	0772
42.	026.500	00.250	04725430	030.000	00.000	04725430	031.500	00.000	04725430	WWD	1072
43.	029.500	00.000	04725430	031.000	00.000	04725430	029.500	00.000	04725430	WWD	0173
44.	027.500	00.450	04725430	024.875	00.000	04725430	025.125	00.000	04739080	WWD	0473
45.	022.500	00.000	04739080	000.000	00.000	00000000	000.000	00.000	00000000	WWD	0773

APPENDIX E
Information Relevant to Establishing Sub-samples

Company Name	Year[4]	Unfunded Past Service Obligation (UPO) (000's)	Total Assets (TA) (000's)	Retained Earnings (RE) (000's)	Net Income After Tax 2 (NIAT) (000's)	UPO as % of TA	UPO as % of RE	UPO as % NIAT
ABITIBI[1]	1966	$ 3,350	$ 264,210	$125,620	$15,928	1.3	2.7	21.0
ACKLANDS[1]	1974	1,700	137,154	18,006	7,397	1.2	9.4	23.0
ALGOMA CENTRAL RAILWAY	1972	1,340	72,426	25,682	3,549	1.9	5.2	37.8
ASBESTOS CORP.	1972	1,000	162,074	42,147	1,376	0.6	2.4	72.7
B.C. FOREST PRODUCTS	1967	1,500	169,869	38,885	5,852	0.9	3.9	25.6
BRIDGE AND TANK	1967	845	18,020	2,249	327	4.7	37.6	258.4
CALGARY POWER	1970	1,795	339,558	76,705	11,686	0.5	2.3	15.4
CANADA MALTING	1972	610	51,980	12,913	2,836	1.2	4.7	21.5
CANADIAN PACIFIC LTD.	1971	354,643	2,356,244	777,489	63,661	15.1	45.6	557.1
CANADIAN SALT	1969	518	31,166	23,943	2,264	1.7	2.2	22.9
CANADIAN UTILITIES	1967	403	73,984	9,309	2,917	0.5	4.3	13.8
CANRON	1971	898	122,009	30,578	4,220	0.7	2.9	21.3
CASSIAR ASBESTOS	1971	540	78,989	20,546	4,628	0.7	2.6	11.7
COMINCO	1967	9,500	429,694	257,514	38,484	2.2	3.7	24.7
CONSUMERS GAS	1967	1,801	342,544	45,201	15,932	0.5	4.0	11.3
R.L. CRAIN INC.	1972	1,600	14,348	9,179	1,233	11.2	17.4	129.8
DOMINION BRIDGE	1967	2,746	130,870	55,571	5,017	2.1	4.9	54.7
DOMINION STORES	1970	10,273	134,824	66,854	9,318	7.6	15.4	110.2
DOMTAR	1970	6,600	531,609	102,566	17,618	1.2	6.4	37.5
FALCONBRIDGE NICKEL	1971	9,186	704,574	203,946	16,217	1.3	4.5	56.6
FEDERAL PIONEER	1971	425	370,083	11,131	2,163	1.1	3.8	19.6
FRASER COMPANIES[1]	1974	3,322	135,194	86,761	14,892	2.5	3.8	22.3
GAZ METROPOLITIAN	1971	334	194,830	13,777	5,071	0.2	2.4	6.6
GREAT LAKES PAPER	1967	1,200	84,679	25,463	4,210	1.4	4.7	28.5
HUDSON BAY MINING AND SMELTING	1972	5,000	216,431	45,936	11,379	2.3	10.9	43.9
JOHN INGLIS[1]	1966	1,955	17,752	(1,181)	1,526	11.0	262.8	128.1
INLAND NATURAL GAS	1970	207	52,091	6,289	2,142	0.4	3.3	9.7

APPENDIX E
Information Relevant to Establishing Sub-samples
(continued)

Company Name	Year[4]	Unfunded Past Service Obligation (UPO) (000's)	Total Assets (TA) (000's)	Retained Earnings (RE) (000's)	Net Income After Tax 2 (NIAT) (000's)	UPO as % of TA	UPO as % of RE	UPO as % NIAT
INTERPROVINCIAL PIPE LINE[1]	1965	$ 800	$ 234,943	$ 45,051	$20,337	0.3	1.8	3.9
JOHN LABATT	1972	3,600	281,378	61,805	17,260	1.3	5.8	20.9
MACLAREN POWER AND PAPER[2]	1974	1,511	107,227	59,315	16,071	1.4	2.5	9.4
MOLSON LTD.	1969	2,700	150,798	77,817	15,028	1.8	3.5	17.9
MOORE CORP.[3]	1972	20,000	389,558	257,687	46,022	5.1	7.8	43.5
NORANDA MINES[1]	1966	3,600	349,039	169,780	43,420	1.0	2.0	8.3
PHOTO ENGRAVERS	1967	163	5,302	2,425	282	3.1	6.7	57.8
PRICE COMPANY	1967	4,300	300,898	87,626	9,300	1.4	4.9	46.2
REICHHOLD CHEMICALS	1968	99	10,629	2,631	322	0.9	3.8	30.7
RIO ALGOM MINES	1972	2,824	275,705	84,455	16,980	1.0	3.3	16.6
RONYX LTD.	1967	376	4,371	328	765	8.6	114.6	49.2
SILVERWOOD INDUSTRIES	1971	250	52,557	14,732	1,410	0.5	1.7	17.7
SIMPSONS-SEARS	1972	8,990	542,919	87,967	18,951	1.7	10.2	47.4
STEINBERG LTD.	1971	416	266,685	75,169	9,459	0.2	0.6	4.4
STEEL COMPANY OF CANADA[1]	1966	48,000	708,189	304,630	42,744	6.8	15.8	112.3
UNION GAS[1]	1967	2,315	212,045	31,963	8,833	1.1	7.2	26.2
WESTINGHOUSE OF CANADA LTD.	1967	23,000	115,666	49,437	1,815	19.9	46.5	1267.2
WOODWARD STORES	1968	8,767	108,541	36,056	5,996	8.1	24.3	146.2

1. Companies not used in sample of 36 firms when plotting cumulative average residuals for 48 months.
2. Net income after taxes but before extraordinary items.
3. Expressed per the statements in U.S. dollars.
4. The CICA Handbook recommendations on pension plans first appeared on December, 1968. Three statistics pertaining to the years when unfunded past service obligations might be of interest. The mean year is 1969.44, the median year is 1970 and the mode year is 1967.

APPENDIX F

The Firms Listed According to Their Inclusion in the Naive Income Rule

Income Increased by More Than 5%	Income Decreased by More Than 5%	Income Increased Less Than 5% and Decreased Less Than 5%
Acklands	Asbestos Corp.	Abitibi
Calgary Power	B.C. Forest Products	Algoma Central Rail
Canron	Bridge and Tank	Dominion Stores
Canada Malting	Cassiar Asbestos	Domtar Ltd.
Consumer' Gas	Canadian Salt	Inland Natural Gas
Canadian Pacific	Cominco	Steinberg's Ltd.
Canadian Utilities	Dominion Bridge	Steel Co. of Canada
R.L. Crain, Inc.	Falconbridge Nickel Mines	
Federal-Pioneer	Fraser Companies	
Gaz Metropolitain	Great Lakes Paper	
John Inglis, Ltd.	Hudson Bay Mining and Smelting	
Interprovincial Pipe Line	Price Company	
John Labatts, Ltd.	Reichhold Chemicals	
Molson, Ltd.	Westinghouse of Canada	
Moore Corporation		
MacLaren Power and Paper		
Noranda Mines		
Photo Engravers		
Rio Algom Mines		
Ronyx Corp.		
Silverwood Industries		
Simpsons-Sears		
Union Gas		
Woodward, Ltd.		
Total Firms 24	14	7

APPENDIX G
Survey Questions and Summarized Answers

Question 1: Of the three major financial statements (balance sheet, income statement and statement in changes in financial position), which statement do you attend to the most?

Answers:

	Balance Sheet	Income Statement	Statements of Changes in Financial Position
No. of Individuals Who Answered	2	7	1

Question 2: With respect to the _____ statement (the one listed in Q1) how much time do you spend on the footnotes which relate to it?

Answers: One individual spent more time on the footnotes than on the actual statements.

Two of those surveyed spent as much time on the associated footnotes as on the statements. This meant reading all of the footnotes sometimes.

Three said they spent zero to five percent of the total time in reading the statements in examining the associated footnotes.

One person indicated the time varied.

Three individuals spent very little time on the footnotes except for exceptional items.

Question 3: Now let's turn our attention to the footnotes. Are there any footnotes which attract your attention right away? If so, which one(s)?

Answers:

Topic	No. of Those Mentioning Topic
Accounting Changes and practices	5
Auditor's report	3
Contingencies	2
Deferred taxes	1
Depletion	1
Depreciation	1
Extraordinary events	3
Foreign currency translation	2
Leases	1
Long-term debt and convertible shares	1
Subsequent events	2
Unfunded past service obligations	1

Question 4: When you glance at the footnote on accounting policies, which policies attract your attention?

Answers:

Topic	No. of Those Mentioning Topic
Capitalization of expenditures	5
Consolidation principles	1
Depletion	4
Depreciation	3
Foreign currency translation	4
Inventories	5
Joint ventures	1
No policies attract attention	3

Question 5: From the following list of footnote subjects, would you please rank the topics in order of the amount of attention you generally give each one of them?

Inventories
Contingent liabilities
Depreciation policies
Pension plans
Foreign currency translation

Answers:

Subjects[a]	Number of Times Ranked as: #1	#2	#3	#4	#5
Inventories	1	5[b]	3	0	1
Contingent liabilities	1	1	2[c]	4	2
Depreciation policies	4	2[b]	3	0	1
Pension plans	0	0	1[c]	4	5
Foreign currency translation	4	3	1	1	1
	10	11	10	9	10

[a] Several of the interviewed put a qualifier on their ranking. The stated that the ranking would depend upon how "ordinary" each of the footnotes appeared. In one case the individual stated that if the unfunded past service obligation was extremely large, then it would rank higher.

[b] One person ranked these two topics as equal.

[c] One individual ranked these two subjects as equal.

(From the above rank order pick three items and ask:)

Question 6: (a) What do you specifically look at when you examine the footnote concerned with _____?

(b) What do you specifically look at when you examine the footnote concerned with _____?

(c) What do you specifically look at when you examine the footnote concerned with _____?

Answer: (Although three topics were discussed with each interviewee, only the answers regarding pension plans are summarized here.)

Three of those surveyed stated that they did not look at the pension plan footnote in general.

The remaining seven stated that they looked at the size of the unfunded pension liability. Also, six of the seven said that they were interested in how large the unfunded past service obligation was in relationship to net income.

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