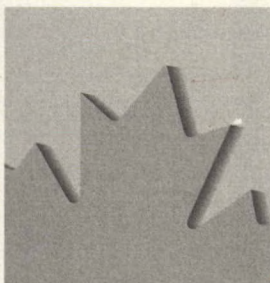


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An Evaluation Report

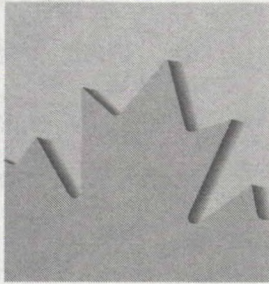
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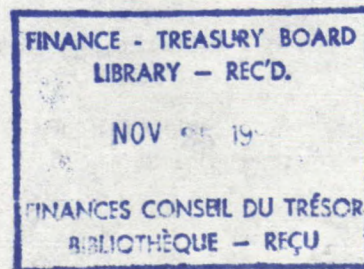
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FLOW-THROUGH SHARES

An Evaluation Report

October 1994



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EXECUTIVE SUMMARY

An Overall Perspective

Over the period 1983 to 1991, flow-through shares were generally relevant, effective and cost-effective in meeting the federal government's policy objectives of encouraging exploration in Canada, stimulating equity-based investments in mining and petroleum companies, and assisting junior exploration companies.

In terms of relevance, the evaluation found that the flow-through share financing mechanism responded to a need identified by mining and petroleum companies and was consistent with government priorities during the 1983 to 1991 evaluation period. The mechanism was conceived by industry to allow junior companies to obtain the funding or expertise necessary to explore and develop a promising mineral or petroleum prospect, and provided a practical and efficient commercial forum for recognizing and accommodating the differing contributions of the issuing company and its investors. Flow-through shares occupy a unique place among the various specialized financing alternatives available to facilitate investments in exploration and development by mining and petroleum companies. Their features render them the most readily accessible of these financing alternatives and result in their relatively widespread commercial application. Flow-through shares help to stimulate exploration and development by, in essence, allowing mining and petroleum companies to transfer otherwise unusable or unused tax deductions relating to these investments to investors in exchange for a premium over the market price of the company's common shares.

Evaluation findings are mixed in respect of the effectiveness of flow-through shares in achieving its objectives. On the positive side, flow-through shares:

- raised equity-based financing primarily for mining and petroleum exploration, especially gold exploration;
- accounted for a large share of all funding for mining exploration (averaging 60 per cent for the period 1987 to 1991);
- resulted in significant incremental spending on mining and petroleum exploration and significant incremental exploration drilling activity;
- benefitted the economies of Alberta, British Columbia, Ontario and Quebec; and
- benefitted non-taxpaying junior exploration companies.

However, incremental exploration activity generated by flow-through shares was not particularly high, inflated exploration drilling costs were experienced in the mining industry, and there was little evidence that the incremental exploration spending and drilling activity resulted in incremental discoveries attributable to this financing mechanism. Flow-through shares were also often tax-motivated investments which focused on more valuable exploration write-offs and which were characterized by relatively rapid spending by issuing companies and share disposition by investors. The evaluation also found that the effectiveness of flow-through shares in raising financing depended crucially on resource-commodity price levels (especially world prices for gold and silver), general economic conditions (e.g., the 1990 economic recession), the economic prospects of the issuing company, the fiscal treatment of the exploration and development expenditures renounced to investors, and the bargaining power of investors relative to the issuing companies.

As in the case of effectiveness, evaluation findings in respect of the cost-effectiveness of flow-through shares are mixed. On one hand, flow-through shares resulted in substantially more incremental exploration spending than federal tax revenues foregone between 1987 and 1991: each dollar of federal tax expenditure resulted in incremental expenditures of, on average, \$3 in the case of mining exploration and \$2 in the case of petroleum exploration. Economic theory indicates that flow-through shares are the most cost-effective equity-based financing option for non-taxpaying exploration companies. Furthermore, empirical evidence reveals that they provided a significant incentive for exploration by non-taxpaying firms. On the other hand, flow-through shares performed poorly as equity investments in mining and petroleum.

Numerous factors affected the cost and accessibility of flow-through shares between 1983 and 1991. The level and the share of exploration spending financed by flow-through shares were found to move in concert with fiscal and market conditions. However, the quantitative impact of individual factors affecting flow-through shares and exploration activities is not separately identified in this evaluation.

During the 1983 to 1987 period of favourable commodity and stock prices for gold and silver, key factors that exerted a positive influence on flow-through shares, and thus on exploration activity, included the mining earned depletion allowance which was introduced in 1983, the increasing participation of large limited-partnership intermediaries in flow-through share investments between 1983 and 1987, the lifetime capital gains exemption which was introduced in 1985, and income tax changes in 1986 which limited investor liability in flow-through shares. Empirical evidence indicates that the tax

benefits of flow-through shares were shared between investors and issuing companies and that this sharing tended to vary inversely with firm size due, in part, to the influence of the limited partnerships.

At the same time that commodity and stock prices for gold and silver began to fall, the 1987 reform of the income tax system exerted a negative impact on flow-through shares by, for example, phasing out the mining earned depletion allowance, reducing personal income tax rates and introducing the cumulative net investment loss rules. As a result, flow-through share financing moved more in line with historic levels by 1991. In addition, empirical evidence reveals that flow-through shares performed very poorly when compared to an equity investment in the TSE sub-index for mining and petroleum companies between 1986 and 1990. This poor investment performance would have directly affected the demand for flow-through shares as well. Compounding this, the 1990 economic recession adversely affected the general environment for exploration and flow-through shares.

Large amounts of equity-based financing for exploration were raised by flow-through shares between 1983 and 1991 so that the mechanism was effective in this sense. However, the effectiveness of flow-through shares in generating incremental mining and petroleum exploration was reduced due, for example, to disproportionate increases in gold exploration activity, to overheating (i.e. inflated drilling costs) in mining exploration, to downward pressure being exerted by large limited partnerships on the premium received by junior companies, and to tax-motivated flow-through share investments during the mid-1980s. Flow-through shares were a cost-effective means to finance exploration in that they induced incremental exploration spending in excess of federal tax expenditures, but the same factors that reduced effectiveness also reduced their cost-effectiveness. Regardless, flow-through shares were a cost-effective financing mechanism for non-taxpaying companies throughout the period and as effective as any possible equity-based financing alternative designed to achieve the same objectives.

While the fiscal regime and market conditions combined to make flow-through shares appear to be an attractive investment in the mid-1980s, flow-through share investments made at that time did not perform well. This finding, together with the existence of a much less favourable environment, implies that interest in flow-through shares, especially by individual investors, was considerably lower in 1991 than in 1987. Of course, the degree of investor interest and its underlying determinants directly impact on the role for limited partnerships in facilitating the flow-through share transaction. In particular, reduced demand for flow-through share investments due to economic conditions and the experience of investors, together with the smaller tax value

of deductions for exploration and development, significantly reduced participation by limited partnerships in 1991. With diminished investor interest and involvement by limited partnerships, the effectiveness of flow-through shares in assisting junior companies and in financing a high share of exploration spending was compromised as well.

Within the much less favourable investment climate that existed in 1991, the motivation for investing in flow-through shares tended to be their underlying investment potential as opposed to their tax features as was the case in the mid-1980s. This meant that flow-through share investors were less concerned with relatively quick exploration successes and, therefore, that their investment horizons in 1991 more closely matched those of the issuing companies. Flow-through share agreements also began to move beyond their preoccupation with the search for gold to encompass a more balanced portfolio of minerals. With these changes, the pace of exploration activities and the occurrence of discoveries can be expected to slow as companies analyze exploration results more fully before continuing with an exploration program and the quality of exploration work improves. This, in turn, would likely lead to an increase in the average size of discoveries and allow these discoveries to be brought more quickly into production. Furthermore, the more even pace of exploration effort by issuing companies across a given year would largely eliminate the negative impacts of overheating during the winter season. This would have a significant positive impact on effectiveness in terms of incremental exploration drilling activity stimulated by flow-through shares, and would further enhance their cost-effectiveness in terms of federal tax expenditures associated with this form of financing.

What Is a Flow-Through Share?

Flow-through shares are one way for mining and petroleum companies to finance their exploration and development activities in Canada. These tax-advantaged equity instruments are issued by means of flow-through share agreements between resource companies and their investors. For every flow-through share purchased from a mining or petroleum company under such an agreement, investors receive an equity interest in the company plus the right to income tax deductions associated with new expenditures on exploration and development.

For mining and petroleum companies, flow-through shares can provide a less costly means of raising equity-based financing for exploration and development. In addition, by permitting a widespread share issue, they allow access to a broad range of investors while minimizing the impact on corporate management and control. Although flow-through shares are available to all mining and petroleum companies, the mechanism is designed to be of principal benefit to

non-taxpaying junior exploration companies, i.e. companies which are unable to utilize income tax deductions for exploration and development and whose access to alternative sources of financing are limited.

For investors, flow-through shares are an alternative type of resource investment which offers substantial liquidity, is tax-advantaged relative to other forms of risk capital, and can reduce the risk associated with mining and petroleum investments depending on how investments in flow-through shares are structured. Under a flow-through share agreement, the investor enjoys limited liability, a specified share in any profits of the corporation, and a residual right in the property of the corporation upon dissolution.

Who Uses Flow-Through Shares?

Corporate income tax data for 1987 to 1990 indicate that a "typical" issuing company was a non-taxpaying Canadian public corporation based in either British Columbia, Alberta, Ontario or Quebec. However, a marked distinction existed between mining and petroleum companies. Mining companies were more likely to be non-taxpaying public corporations based in either British Columbia, Ontario or Quebec. Petroleum companies were more likely to be taxpaying Canadian controlled private corporations either based in Alberta or with a multi-jurisdictional base of operations. These differences reflect both the differing nature of the two industries and the geographical location of mineral and petroleum resources in Canada.

Based on personal income tax data for 1989 and 1990, a "typical" flow-through share investor was a married male in his forties residing in Quebec or Ontario, an employee of either the private or public sector, and in the top income tax bracket. However, none of these characteristics was displayed by more "aggressive" investors, i.e. those who invested the largest share of their income in flow-through shares. While there was no "typical" aggressive investor, they were more likely to be: married females; under 30 years of age; residents of either the Yukon, Saskatchewan, Manitoba or New Brunswick; medical doctors or dentists; and subject to the lowest income tax rates.

What Is the Purpose of Flow-Through Shares?

There is no statement of general policy intent relating to flow-through shares in federal budget documents. However, government policy statements in respect of tax-based incentives (e.g., earned depletion) and direct grants (e.g., Canadian Exploration Incentive Program grants) indicate that flow-through shares are used to support economic and social policy by:

- encouraging additional exploration and development in Canada;

- promoting equity investments in mining and petroleum companies; and
- assisting junior (typically non-taxpaying) exploration companies whose access to internal sources of financing (i.e. cash flow) may be limited.

Since flow-through shares allow investors to access income tax deductions for exploration and development more quickly than the companies which issue them, they result in a tax cost to government. The net federal tax cost of exploration financed by flow-through shares is estimated at \$563 million for the period 1987 to 1991; it fell each year from \$283 million in 1987 to \$14 million in 1991.

Why Are Flow-Through Shares Being Evaluated?

The purpose of this evaluation is to investigate the performance of the flow-through share mechanism in relation to its policy objectives and various design, fiscal and market factors that affect its performance. The time period for empirical analysis is principally from 1987 to 1991, but goes back to 1983 in some cases.

This report discusses the flow-through share financing mechanism, outlines the issues for evaluation, presents the methodologies used to evaluate different aspects of the performance of the flow-through share mechanism, and sets forth the findings and conclusions of the evaluation.

What Are the Evaluation Issues?

The performance of flow-through shares is assessed in terms of their relevance, effectiveness and cost-effectiveness in meeting their policy objectives.

Relevance

To what extent did flow-through shares realistically address an actual need and to what extent were they consistent with government priorities between 1983 and 1991?

Budget papers and other government documents issued between 1983 and 1991 indicate that it was government policy to help the mining and petroleum industries attract financing for exploration and development, to encourage risk-taking and equity investments in mining and petroleum companies, and to assist junior exploration companies. Flow-through shares were one means by which these policy objectives were pursued. In addressing the issue of relevance, the evaluation thus considers the origins of the flow-through share mechanism, and the extent to which flow-through shares offered an alternative

to other financing options for exploration and development available to mining and petroleum companies, and provided opportunities for attaining the government's policy objectives.

Effectiveness

To what extent were flow-through shares effective in meeting their policy objectives without unwanted outcomes between 1983 and 1991?

The effectiveness (or success) of flow-through shares is explored by examining:

- the amounts of flow-through share equity raised for exploration and development by mining and petroleum companies;
- the role of partnership intermediaries in facilitating the flow-through share transaction;
- the degree to which this financing was spent on, and enhanced, exploration and development activities;
- the benefits flow-through shares provided to junior companies; and
- whether investment decisions made by both issuing companies and investors were based more on economic merit than tax considerations.

Cost-Effectiveness

Were flow-through shares cost-effective in achieving their government policy objectives between 1983 and 1991, and to what extent were flow-through shares cost-effective relative to alternative financing mechanisms that could have achieved the same objectives?

Cost-effectiveness is investigated by comparing federal tax expenditure estimates for exploration financed by flow-through shares to the amount of incremental exploration expenditures generated by these equity-based investments. Analysis of rates of return realized by flow-through share investors in certain limited partnerships provides background information necessary for calculating these federal tax expenditures. The rate-of-return calculations also provide a perspective on the cost-effectiveness of flow-through shares from the viewpoint of the investor or buyer. From the viewpoint of the other party to the transaction, i.e. the issuing firm or seller, the cost-effectiveness of flow-through shares is explored by considering the extent to which flow-through shares reduced the relative cost of raising equity-based financing for exploration and development. In addition, the cost-effectiveness of flow-through shares for society in general is considered by examining costs and rates of gold discovery in Canada since 1946.

Other than flow-through shares, no equity-based financing mechanism has ever existed that would afford the same opportunity for junior companies to realize the tax value of new exploration and development expenditures before the companies become taxpaying. Consequently, it is not possible to compare empirically the cost-effectiveness of flow-through shares to alternative financing mechanisms designed to achieve the same policy objectives. Nevertheless, theoretical alternatives to flow-through shares are explored.

What Are the Conclusions of the Evaluation?

Relevance

The evaluation found that flow-through shares addressed an actual need and were consistent with government priorities during the evaluation period from 1983 to 1991. Flow-through shares are one means by which the federal government pursues its policy objectives of stimulating exploration and development, encouraging risk-taking and equity investments in mining and petroleum companies, and assisting junior exploration companies. Flow-through shares help to stimulate exploration and development by, in essence, allowing mining and petroleum companies to transfer otherwise unusable or unused tax deductions relating to these investments to investors in exchange for a premium over the market price of the company's common shares.

Flow-through shares occupy a unique place among the various specialized financing alternatives available to facilitate investments in exploration and development by mining and petroleum companies. Four alternatives are considered in this evaluation: joint ventures, joint exploration corporations, partnerships and limited partnerships. These financing options allow investors to claim income tax deductions for Canadian exploration expense (CEE), Canadian development expense (CDE) or Canadian oil and gas property expense (COGPE) in the manner most suitable to the particular circumstances and preferences of investors; their distinct characteristics appeal to different types of investors. The flow-through share mechanism stands in marked contrast to each of these financing alternatives, possessing a unique combination of features which render it the most readily accessible financing structure and result in its relatively widespread commercial application.

The flow-through share financing mechanism responded to a need identified by mining and petroleum companies. It was conceived by them after exploration and development expenditures became fully deductible in calculating income tax in 1947. The mechanism allowed junior companies to obtain the funding or expertise necessary to explore and develop a promising mineral or petroleum prospect. It provided a practical and efficient commercial forum for recognizing

and accommodating the differing contributions of the issuing company and its investors, and facilitated financing for exploration and development by allowing investors to realize directly and immediately the tax value associated with resource expenditures. This expenses-for-shares transaction was subsequently recognized in income tax legislation for the 1954 taxation year, at which time certain restrictions were introduced to define its scope and operation. Income tax conditions on flow-through shares have evolved substantially since that time.

Effectiveness

Evaluation findings are mixed in respect of the effectiveness of flow-through shares in achieving its objectives. On the positive side, flow-through shares:

- raised equity-based financing primarily for mining and petroleum exploration, especially gold exploration;
- accounted for a large share of all funding for mining exploration (averaging 60 per cent for the period 1987 to 1991);
- resulted in significant incremental spending on mining and petroleum exploration and significant incremental exploration drilling activity;
- benefitted the economies of Alberta, British Columbia, Ontario and Quebec; and
- benefitted non-taxpaying junior exploration companies.

However, incremental exploration activity generated by flow-through shares was not particularly high, inflated exploration drilling costs were experienced in the mining industry, and there was little evidence that the incremental exploration spending and drilling activity resulted in incremental discoveries attributable to this financing mechanism. Flow-through shares were also often tax-motivated investments which focused on more valuable exploration write-offs and which were characterized by relatively rapid spending by issuing companies and share disposition by investors. The evaluation also found that the effectiveness of flow-through shares in raising financing depended crucially on resource-commodity price levels (especially world prices for gold and silver), general economic conditions (e.g., the 1990 economic recession), the economic prospects of the issuing company, the fiscal treatment of the exploration and development expenditures renounced to investors, and the bargaining power of investors relative to the issuing companies.

Premia and Sharing

The maximum premium over the price of a common share that a flow-through share investor would be willing to pay equals the value to that investor of the tax deductions and incentives for exploration or development. However, the normal functioning of capital markets generally results in the premium actually received by issuing companies (i.e. the observed premium) being less than the maximum possible. Specific reasons advanced for this capital-market sharing between investors and issuing companies include tax-induced investor surplus, incremental liquidity risk, incremental transaction costs, and the market power of broadly-based limited-partnership intermediaries.

It has been proposed by other authors that the degree of sharing between issuing companies and investors can be used to assess the relative effectiveness of flow-through shares as a mechanism for delivering the value of tax benefits to issuing companies. Specifically, sharing is evidence of ineffectiveness. However, it is demonstrated here that the existence of sharing does not mean that flow-through shares are ineffective. Rather, such so-called "effectiveness measures" fail to reflect the true nature and intent of flow-through shares. Furthermore, it is argued that this financing mechanism is as effective as any equity-based financing alternative designed to achieve the same objectives, and is a more effective delivery mechanism where firms are non-taxpaying and investors are subject to low tax rates and cannot access the lifetime capital gains exemption.

Levels of Flow-Through Share Financing

Amounts of CEE flowed through to investors (i.e. renunciations of CEE) equalled \$3.0 billion or 93 per cent of all expenses renounced between 1987 and 1991. Renunciations of mining-related CEE equalled 75 per cent of all renunciations over this period. About 75 per cent of companies that issued flow-through shares between 1987 and 1991 were mining companies. The bulk of renunciations were made by a disproportionately small number of issuing companies and the general trend after 1987 was for fewer companies to renounce smaller amounts of both CEE and CDE.

Renunciations of mining-related CEE, in 1991 dollars, rose from \$45 million in 1983 to a peak of \$1.1 billion in 1987 due to the combined effects of:

- improvements to the basic design of this financing mechanism (e.g., income tax changes affecting investor liability and the increasing involvement of broadly-based limited partnerships in the transaction);
- favourable market conditions for mining (e.g., relatively high prices for gold and silver, and for mining stocks); and

- bonus deductions for mining exploration (i.e. the mining exploration depletion allowance) and the lifetime capital gains exemption.

The attractiveness of flow-through shares was significantly reduced after 1987 due to:

- a deterioration in market conditions (e.g., falling commodity and share prices for gold and silver, and the 1990 economic recession); and
- the 1987 income tax reform which reduced their tax-advantaged status (e.g., by reducing personal income tax rates, phasing out the mining earned depletion allowance and introducing the cumulative net investment loss rules).

Nevertheless, the \$65 million of mining-related CEE renounced in 1991 was almost 50 per cent higher than the \$45 million (in 1991 dollars) renounced in 1983.

Due to the location of mineral deposits and petroleum reserves in Canada, flow-through shares had important regional impacts. Ontario, British Columbia and Quebec were the principal beneficiaries in the case of mining; Alberta was the principal beneficiary in the case of oil and gas. Of the 2,035 companies that issued flow-through shares between 1987 and 1991, 98 per cent were located in British Columbia, Alberta, Ontario and Quebec, with the provinces ranked in that order. These companies accounted for 95 per cent of the \$3.3 billion renounced over this period. However, the provincial ranking was reversed in terms of the average amount renounced per company.

Partnership Intermediaries

Flow-through shares were facilitated significantly by the participation of limited partnerships in the transaction. Partnership intermediaries were the dominant means of issuing flow-through shares. They accounted for 61 per cent (\$2.0 billion) of renunciations between 1987 and 1991, and raised funds almost entirely for exploration and primarily for mining. In contrast, direct issuance was the dominant mode for all categories of expenses renounced by petroleum companies. Mining companies that employed both partnership intermediaries and direct issuance accounted for the largest amount of renunciations from 1987 to 1991. Most petroleum companies used only direct issuance.

Most renunciations by means of partnership intermediaries occurred in 1987 and 1988, although these renunciations remained high in proportion to total renunciations from 1987 to 1990. The number of partnerships, companies renouncing to partnerships and amounts renounced to partnerships declined

significantly each year after 1987. The bulk of expenses were renounced to a disproportionately small number of partnerships which included the "broadly-based" limited partnerships. Partnerships that were the most successful in raising flow-through share financing also achieved the greatest amount of asset diversification and risk reduction by entering into agreements with large numbers of companies.

Impacts on Exploration and Development

The pattern of mining exploration expenditures from 1983 to 1991 mirrors the pattern of renunciations of mining-related CEE through flow-through shares. Levels of exploration expenditure increased generally from 1983, peaked in 1987 and 1988, and fell thereafter. After 1986, annual renunciations of mining-related CEE averaged 60 cents per dollar of mining exploration and ranged from a high of 82 cents per dollar in 1988 to a low of 17 cents per dollar in 1991. Thus, flow-through shares played a significant role in financing mining exploration, but their importance declined precipitously after 1988.

Over the period 1983 to 1991, the annual average amount of exploration expenditures in the petroleum industry was about four times that in the mining industry. The pattern of exploration expenditures was also markedly different from the mining industry with petroleum exploration peaking in 1984 and 1985 and declining sharply thereafter. Renunciations of petroleum-related CEE accounted for a relatively constant annual average of only 6 cents per dollar of petroleum exploration. There is evidence that world oil price levels and government incentives were more important factors influencing petroleum exploration spending than the availability of flow-through share financing.

Renunciations of CDE and COGPE were relatively insignificant from 1987 to 1991, and flow-through shares were not an important source of financing for either development or petroleum properties.

Incremental mining exploration expenditures attributable to flow-through shares are estimated at 49 per cent of all exploration spending between 1987 and 1991 by the mining companies that participated in the case studies. Incrementality for petroleum exploration expenditures equalled 30 per cent of all exploration spending by the petroleum companies in the sample. Due to overheating in mining, physical incrementality (i.e. incremental drilling activity) for mining exploration is estimated to have been 11 percentage points lower than incremental mining exploration spending.

While empirical estimates of incremental discoveries could not be generated, anecdotal evidence suggests that some incremental discoveries were directly attributable to flow-through shares. Furthermore, information obtained through exploration financed by flow-through shares may lead to incremental discoveries in the future.

Junior Exploration Companies

Junior companies benefitted significantly from flow-through shares. Their share of mining exploration more than tripled from 15 per cent in 1983 to over 51 per cent in 1987, but fell after 1988 to 21 per cent in 1991. The bulk of this exploration spending was financed by flow-through shares. Due to the participation of limited partnerships, flow-through share funding for junior companies could also be raised with relative ease although these companies often received only a small premium on their shares.

Underlying Investment Rationale

In considering a potential investment in flow-through shares, an investor would be interested in both its tax features and its longer-term investment potential. However, evidence strongly suggests that the issuance of flow-through shares between 1983 and 1991 was based more on tax considerations than the economic merit of the underlying resource activity. Mutual fund managers reported that investors were almost solely interested in the tax write-offs available from flow-through shares. One indication of this is the finding that investors usually did not purchase flow-through shares until the end of any given year, at which time they were more aware of their tax situations. In order to ensure that resource expenses were eligible for deduction in the same calendar year, resource companies generally sought to incur and renounce exploration expenditures (which were more valuable for tax purposes) in that year or within the first 60 days of the subsequent calendar year. As noted above, there was considerable evidence of overheating in the mining industry in terms of increased drilling costs and declines in project quality. In contrast, there was no evidence that the petroleum industry was affected by overheating. A key reason for this difference may have been significant excess capacity in the petroleum industry caused by the adverse effects of the 1986 world oil price decline.

Another indication of tax-motivated investments was the fundamental mismatch between the investment horizons of investors and issuing companies. Investors tended to sell their shares at the earliest opportunity while companies, particularly junior explorers, were more interested in a longer-term source of funds. The enormous downward pressure on share prices exerted by this investor behaviour presented major problems for issuing companies that had

not yet attained some measure of exploration success. While substantial quantities of gold were discovered between 1983 and 1990 relative to the period from 1946 to 1979, the small size of the deposits suggests that exploration effort may have been concentrated on already-known and less-promising mineral deposits in order to meet the needs of flow-through share investors within a relatively short time frame.

Cost-Effectiveness

As in the case of effectiveness, evaluation findings in respect of the cost-effectiveness of flow-through shares are mixed. On one hand, flow-through shares resulted in substantially more incremental exploration spending than federal tax revenues foregone. Economic theory indicates that they are the most cost-effective equity-based financing option for non-taxpaying exploration companies. Furthermore, empirical evidence reveals that they provided a significant incentive for exploration by non-taxpaying firms. On the other hand, flow-through shares performed poorly as equity investments in mining and petroleum.

Incremental Spending Per Dollar of Federal Tax Expenditure

Federal tax expenditures for mining and petroleum exploration financed by flow-through shares declined dramatically from \$283 million in 1987 to \$14 million in 1991. Over 80 per cent of the tax expenditures over this period were in respect of mining. Between 1987 and 1991, each dollar of federal tax expenditure resulted in incremental expenditures of, on average, \$3 in the case of mining exploration and \$2 in the case of petroleum exploration.

Cost-Effectiveness for Investors

From the perspective of the investor, the investment performance of flow-through shares was not very attractive. The analysis of rates of return earned by investors in certain limited partnerships reveals that, although the pricing of flow-through shares favoured the investor in 1986, it moved in favour of the firm or the partnership between 1987 and 1990. If there were no incremental transaction costs associated with issuing flow-through shares, then most of the tax benefits were captured by issuing firms. Moreover, these benefits accrued to firms whose shares performed worse than an average share in the corresponding industry.

Cost-Effectiveness for Issuing Companies

From the viewpoint of the firm, flow-through shares can be cost-effective and promote exploration. The actual level of incentive depends on:

- tax parameters applicable to investors and issuing companies. The former determine the maximum premium obtainable from issuing flow-through shares. Both categories of tax parameters determine the tax rate on an additional dollar invested in exploration and development (i.e. the marginal effective tax rate or METR); and
- the extent of sharing of the flow-through share premium between issuing companies and investors.

Income tax considerations affecting the maximum premium include personal income tax rates, rates of deductibility for renounced expenses, the capital gains inclusion rate, the availability of the lifetime capital gains exemption and the operation of the cumulative net investment loss rules. METRs are affected by the flow-through share premium, corporate income tax rates, the rate of resource allowance, the taxpaying status of the firm and the dividend tax credit rate.

Mining and petroleum companies are subject to the lowest METR on exploration and development financed by flow-through shares (i.e. the theoretical METR) when they receive the maximum premium possible from their investors. Theoretical METRs are lowest for non-taxpaying firms both absolutely and relative to METRs for exploration financed by either retained earnings or common shares. This implies that flow-through shares are the most cost-effective equity-based financing option for non-taxpaying firms. Theoretical METRs for taxpaying firms can be negative, which implies that the tax system encourages exploration by them, and less than METRs for common shares, which implies that flow-through shares are relatively more cost-effective. However, retained earnings are the most cost-effective financing option for taxpaying firms.

To the extent that the premium actually received by resource companies falls below the maximum premium, the METR on their resource investments (i.e. the actual or empirical METR) increases. However, while sharing increases the METR, illustrative empirical METR calculations support the proposition that flow-through shares still provided significant incentive for exploration by firms that were not fully taxpaying. Based on METR considerations alone, flow-through shares would not be a favoured option for fully taxpaying firms as they are the least cost-effective financing option. Incentive grants and bonus deductions were found to increase cost-effectiveness and promote exploration by reducing METRs regardless of the financing option employed.

Cost-Effectiveness for Society in General

In terms of the overall benefit to the Canadian economy, there were substantial discoveries of smaller gold deposits between 1983 and 1990 relative to earlier periods, but they have not yet been fully appraised due to existing unfavourable market conditions. In addition, due in part to overheating, the unit cost of discoveries between 1985 and 1990 was about 2.5 times as high as during "typical" periods. The ratio of the value of gold discoveries to the cost of exploration was about one-half the ratio for typical periods. Taken together, these findings suggest that flow-through share financed exploration between 1983 and 1990 may not have been as cost-effective as exploration efforts in earlier periods.

Chapter I

INTRODUCTION

A. Flow-Through Shares

A Financing Mechanism

A flow-through share is a mechanism whereby a mining or petroleum company can obtain financing for expenditures on exploration, development or certain resource properties from an investor who receives an equity interest in the company plus the right to income tax deductions in respect of new resource expenditures based on the value of the equity interest. For mining and petroleum companies, the mechanism provides a less costly means of raising external (i.e. equity-based) financing for exploration and development. For investors, it offers an alternative investment opportunity that can reduce the risk associated with mining and petroleum investments and that is tax-advantaged relative to other forms of risk capital.

The flow-through share financing mechanism can be thought of as consisting of three fundamental components:

- a financing structure, specifically the flow-through share agreement entered into between the mining or petroleum company and the investor;
- an expenses-for-shares transaction which itself consists of three components: the exchange of consideration for new shares; the incurring of eligible expenses in respect of exploration or development by the mining or petroleum company; and the transfer or renunciation of the eligible expenses to the investor; and
- income tax recognition of the renunciation of eligible expenses under the flow-through share agreement where certain conditions are met concerning the expenses-for-shares transaction and the reporting of information in respect of both the agreement and the renunciation.

Objectives

Federal budget documents do not contain any statement of general policy intent in respect of flow-through shares. Based on the wording of the 1955 federal Budget in which it was originally introduced, it can be inferred that this financing mechanism was considered to be of minor consequence, technical in nature and of limited applicability at that time. Subsequent changes to the design of

the flow-through share mechanism, to the fiscal regime applicable to exploration and development, and in market conditions affecting mining and petroleum altered this view significantly.

Government policy objectives concerning the evolved flow-through share mechanism can be surmised from policy statements on related fiscal provisions in respect of exploration and development expenditures. Specifically, the flow-through share mechanism supports economic and social policy in respect of:

- encouraging additional exploration and development in Canada;
- promoting equity investments in mining and petroleum companies; and
- assisting junior (typically non-taxpaying) exploration companies whose access to internal sources of financing (i.e. cash flow) may be limited.

Design, Fiscal and Market Influences

Many factors affect the attractiveness of flow-through shares for issuing companies and for investors. These factors can be allocated to three general categories. The first includes design influences on the flow-through share mechanism. The manner in which flow-through shares are issued (for example, through a partnership intermediary or directly to investors) can dramatically alter the degree of risk associated with mining or petroleum investments and the threshold for participation by individual investors, and can serve to alleviate investor concerns as to potential liability for third-party claims in respect of a company's exploration and development program. Other considerations within this general category include the specific terms of the flow-through share agreement, the type of expenses actually incurred by companies and available for renunciation to investors, and those income tax provisions which govern renunciations and bear on the issue of investor liability.

A second general category consists of fiscal measures and incentives. These fiscal influences may be of either general application or targeted to flow-through shares. Income tax measures of general application include the definition and deductibility of exploration and development expenditures, tax rates and surtaxes, and the treatment of capital gains realized on disposition of corporate shares. The additional allowances for exploration currently available in Quebec are examples of targeted income tax provisions. Similarly, federal and provincial incentive programs for exploration or development may exert either an indirect (e.g., the former Petroleum Incentives Program and Canadian

Exploration and Development Incentive Program) or a direct (e.g., the former Canadian Exploration Incentive Program and the existing Mineral Exploration Incentive Program in Manitoba) impact on flow-through shares¹.

Market conditions and investor preferences constitute a third general category of factors that can affect the attractiveness of flow-through shares. The "track record" of the issuing company, including the results of any previous activities financed by flow-through shares, affects its ability to raise funding in this manner. The general performance of mining or petroleum stocks affects the amount of funding directed to that sector. Commodity price levels influence the type of mineral deposits or petroleum reserves sought after as well as the degree of effort devoted to exploration or development activities. Investor preferences pertaining to risk, investments in particular types of minerals, or equity-based mining or petroleum investments versus other types of investments, help determine the overall level of funding available.

B. Purpose of the Evaluation and This Report

The purpose of this evaluation is to investigate the performance of the flow-through share mechanism in relation to its policy objectives and various design, fiscal and market factors that affect its performance². The time period for empirical analysis is principally from 1987 to 1991, but goes back to 1983 as the availability of data permits.

This report discusses the flow-through share financing mechanism, outlines the issues for evaluation, presents the methodologies used to evaluate different aspects of the performance of the flow-through share mechanism, and sets forth the findings and conclusions of the evaluation.

C. Evaluation Issues

The performance of flow-through shares is assessed in terms of their relevance, effectiveness, and cost-effectiveness in meeting their policy objectives. Each of these avenues for investigation is outlined in this section.

¹ A discussion of federal and provincial tax measures and incentive programs affecting flow-through shares is provided in Appendix III.

² While information is provided on how flow-through shares were administered for income tax purposes, evaluating the performance of administrative procedures and structures for flow-through shares is beyond the purview of the Department of Finance.

Relevance

To what extent did flow-through shares realistically address an actual need and to what extent were they consistent with government priorities between 1983 and 1991?

The expenses-for-shares transaction was originally conceived by mining and petroleum companies in response to the introduction of full income tax deductibility for qualifying expenditures on exploration and development in 1947. This transaction was subsequently recognized in the *Income Tax Act* (beginning with the 1954 taxation year) and has evolved to become the flow-through share mechanism of today.

Budget papers and other government documents issued between 1983 and 1991 indicate that it was government policy to help the mining and petroleum industries attract financing for exploration and development, to encourage risk-taking and equity investments in mining and petroleum companies, and to assist junior exploration companies. Flow-through shares were one means by which these policy objectives were pursued. In addressing the issue of relevance, the evaluation thus considers the origins of the flow-through share mechanism, and the extent to which flow-through shares offered an alternative to other financing options for exploration and development available to mining and petroleum companies, and provided opportunities for attaining the government's policy objectives.

Effectiveness

To what extent were flow-through shares effective in meeting their policy objectives without unwanted outcomes between 1983 and 1991?

The effectiveness (or success) of flow-through shares is explored by examining:

- the amounts of flow-through share equity raised for exploration and development by mining and petroleum companies;
- the role of partnership intermediaries in facilitating the flow-through share transaction;
- the degree to which this financing was spent on, and enhanced, exploration and development activities;
- the benefits flow-through shares provided to junior companies; and
- whether investment decisions made by both issuing companies and investors were based more on economic merit than tax considerations.

Cost-Effectiveness

Were flow-through shares cost-effective in achieving their government policy objectives between 1983 and 1991 and to what extent were flow-through shares cost-effective relative to alternative financing mechanisms that could have achieved the same objectives?

Cost-effectiveness is investigated by comparing federal tax expenditure estimates for exploration financed by flow-through shares to the amount of incremental exploration expenditures generated by these equity-based investments. Analysis of rates of return realized by flow-through share investors in certain limited partnerships provides background information necessary for calculating these federal tax expenditures. The rate-of-return calculations also provide a perspective on the cost-effectiveness of flow-through shares from the viewpoint of the investor or buyer. From the viewpoint of the other party to the transaction, i.e. the issuing firm or seller, the cost-effectiveness of flow-through shares is explored by considering the extent to which flow-through shares reduced the relative cost of raising equity-based financing for exploration and development. In addition, the cost-effectiveness of flow-through shares for society in general is considered by examining costs and rates of gold discovery in Canada since 1946.

As they were originally conceived, flow-through shares offered an alternative source of external financing for exploration and development by junior mining or petroleum firms. This alternative became viable precisely because exploration and development expenditures were made deductible for income tax purposes and, consequently, gained an income tax value. The tax value of these expenditures is reflected in the selling price of new common shares on capital markets under a flow-through share agreement.

Other than flow-through shares, no equity-based financing mechanism has ever existed that would afford the same opportunity for junior companies to realize the tax value of new exploration and development expenditures before the companies become taxpaying. Consequently, it is not possible to compare empirically the cost-effectiveness of flow-through shares to alternative financing mechanisms designed to achieve the same policy objectives. Nevertheless, theoretical alternatives to flow-through shares are explored.

D. Assistance from External Sources

In undertaking this evaluation, assistance was obtained from a variety of sources both within and outside government. Assistance in terms of data collection and analysis was provided by groups within the Department of National Revenue, the Ottawa Taxation Centre, and the Department of Natural

Resources³. Data bases on flow-through shares at the Ottawa Taxation Centre are a direct consequence of the reporting requirements for companies and partnerships established under the *Income Tax Act*. Information on the administrative aspects of flow-through shares (i.e. filing, audit and reassessment) was obtained from the Department of National Revenue. The Department of Natural Resources supplied statistics on exploration and development expenditures in the mining and petroleum industries, data on levels of assistance provided to the petroleum industry, information and analyses of flow-through shares in the case of the mining industry, and preliminary information on costs and rates of gold discoveries over time in Canada.

Three consultants were hired to provide specialized expertise on different aspects of the evaluation. The work of two of these consultants is contained in separate background reports to this evaluation⁴. Summaries of their work appear primarily in Chapter V of this report together with the research conducted by the third consultant.

One of the background reports focuses on estimating the incremental impacts and financing effectiveness of flow-through shares for exploration and development from 1987 to mid-1992. This was accomplished through case studies of some of the mining and petroleum companies and limited partnerships/mutual funds that were involved with flow-through shares at that time. Part of the case-study approach involved direct and confidential contact with these stakeholders to gather the information necessary to assess incrementality. Of interest, for example, were the views and expectations of the case-study participants with respect to flow-through shares and the decision-making process they employed at the time they undertook the exploration or development financed by flow-through shares. This information was then used in conjunction with information from other sources (e.g., annual reports, prospectuses, and company and partnership data on flow-through shares from Revenue Canada files) to conduct independent analyses of the performance of flow-through shares in these respects.

The case studies were also used to collect information bearing on other aspects of this evaluation. One such aspect was to enhance understanding of how the exploration and development process for mining compared with that for oil and gas between 1987 and mid-1992. A broad range of issues raised by the

³ Formerly Department of Energy, Mines and Resources.

⁴ See Peat Marwick Stevenson & Kellogg (1993) and McKenzie (1994).

case-study participants concerning flow-through shares were also noted, and additional information was gathered on the structure of flow-through share agreements entered into between the issuing companies and their investors.

The second background report concerns the ability of the flow-through share mechanism to deliver the value of tax benefits to mining and petroleum companies and the incentive effects of flow-through shares in promoting exploration and development. To address the former objective, there is substantial discussion of the interaction of tax parameters with the flow-through share premium, the influence of capital markets on that premium and the basic purpose of flow-through shares. The latter objective was pursued by drawing on the considerable literature that exists on marginal effective tax rates. The empirical portion of this study employs data on flow-through shares obtained directly from mining and petroleum companies. This information was gathered, by means of separate data questionnaires, from the same companies that volunteered to participate in the case studies.

The third consultant⁵ conducted an economic analysis of the investment performance of flow-through shares from the perspective of individual investors in certain large limited partnerships and participated in the overall development of this report. The rationale for this work is that, while investors receive an immediate tax benefit from claiming eligible expenses that are renounced to them, rational investors must also weigh the risk inherent in the flow-through share investment against its return over the longer term. This work appears under the title *Cost-Effectiveness for Investors* in Chapter V of this report.

E. Organization of the Report

While this evaluation considers the performance of flow-through shares in terms of relevance, effectiveness and cost-effectiveness, the logical progression of the study dictated a different organization for this report. However, the concluding section of the report brings together the key findings and conclusions of the individual chapters in terms of these evaluation issues.

Chapter II describes the features, functioning, origins and role of the flow-through share financing mechanism and the general environment for flow-through shares from 1983 to 1991. Specifically, it explores:

- the fundamentals of a flow-through share (the corporate-share component, special income tax features, pricing, beneficiaries, and modes of issuance and renunciation);

⁵ Vijay Jog, Carleton University.

- the origins of the expenses-for-shares transaction, and the scope and consequences of income tax conditions and reporting requirements for flow-through shares;
- the expenses eligible for renunciation; and
- how key design, fiscal and market factors combined to affect the attractiveness of flow-through shares as an investment opportunity over the period 1983 to 1991.

In addition, the relevance of flow-through shares in terms of their unique role as a financing mechanism is investigated.

The analytics of the evaluation are contained in Chapters III, IV and V. It should be noted that all analyses of performance consider the extent to which flow-through shares were affected by the combined influence of all design, fiscal and market factors; the influence of individual factors is not identified separately.

Chapter III addresses evaluation issues associated with the effectiveness of flow-through shares. Amounts of renounced expenses in aggregate, by sector and by type of expense are reported; regional and corporate distributions of these amounts are provided; and renunciations by means of partnership intermediaries and direct issuance are identified; the extent to which renunciations influenced exploration and development activities is examined as are the types of mining exploration and companies which benefitted most. This chapter also helps to establish the relevance of this evaluation by revealing that large amounts of money were transferred through the flow-through share mechanism so that the associated tax implications may have been significant.

Chapter IV continues to explore the issue of effectiveness in terms of the beneficiaries or users of flow-through shares. Drawing on income tax data, profiles of the issuing corporations are further developed and profiles for individual investors are established. The focus of this chapter is on identifying key financial, tax and demographic characteristics of flow-through share users. This information is necessary for the economic analyses of issuing companies and investors, and the federal tax expenditure estimates for flow-through shares in Chapter V.

Chapter V contains the economic analyses of the evaluation and provides additional evidence on the corporate beneficiaries of flow-through shares. The effectiveness of flow-through shares is further explored by:

- investigating the extent to which investment decisions by issuing companies and investors were motivated by tax or economic considerations;
- examining the degree of, and reasons for, sharing of the flow-through share premium between issuing companies and investors or, stated alternatively, the ability of flow-through shares to deliver the value of tax deductions to issuing corporations; and
- considering the extent to which flow-through shares were successful in achieving incremental exploration and development spending and in discovering new economic reserves.

The cost-effectiveness of this financing mechanism is examined from the perspective of:

- the federal government – by estimating tax expenditures associated with flow-through shares;
- the investor – by comparing rates of return earned over time on actual investments in flow-through shares;
- the firm – by analyzing the relative costs of alternative financing options for exploration and the ability of flow-through shares to promote exploration, through analysis of marginal effective tax rates; and
- society in general – by relating costs and rates of gold discovery over time.

Five appendices are also provided. The first contains a more precise discussion of the key concepts and reporting requirements pertaining to flow-through shares today. The second describes the special administrative procedures and structures for flow-through shares established by the Department of National Revenue, outlines various policy-related issues identified through that administration, and provides data on costs of administering flow-through shares and revenues raised through filing, audit and reassessment. The third presents a legislative history of the flow-through share mechanism since its inception in 1954, and indicates how it has evolved over time and interacted with various federal and provincial fiscal incentives. The fourth presents background data used in this report on exploration and development expenditures in mining and oil and gas. The fifth contains an algebraic description and analysis of the flow-through share premium.

Chapter II

THE FLOW-THROUGH SHARE MECHANISM

This chapter describes the features, functioning, origins and role of the flow-through share financing mechanism, and the general environment for flow-through shares from 1983 to 1991. Unless otherwise noted, the present provisions of the *Income Tax Act* relating to flow-through shares are taken to apply.

Section A deals with the basics of flow-through shares, i.e. the corporate-share component, special income tax features, pricing, beneficiaries, and modes of issuance and renunciation. Section B examines the origins of the expenses-for-shares transaction, and the scope and consequences of income tax conditions and reporting requirements for flow-through shares. Section C describes the expenses eligible for renunciation. Section D investigates the relevance of flow-through shares in terms of their unique role relative to alternative financing structures available to the petroleum and mining industries. Section E considers how key design, fiscal and market factors combined to affect the attractiveness of flow-through shares as an investment opportunity over the period 1983 to 1991.

A. Basics of a Flow-Through Share

The purpose of this section is to convey a general sense of how a "typical" flow-through share would function in an ideal world. Consequently, distortions that may arise due to, for example, transactions costs (e.g. legal expenses, broker commissions and advertising costs) and the particular circumstances of issuing companies, are left to the discussion in Chapter V. It is of particular importance here that capital markets are assumed to function perfectly, both in valuing corporate shares and in facilitating the expenses-for-shares transaction.

The Corporate-Share Component

The characterization of a flow-through share provided in the previous chapter distinguished between the corporate share itself and certain tax features associated with this share. Like any corporate share, the flow-through share is a share of the capital stock of the issuing company. As with a common share, it is intended that the flow-through share represent genuine risk capital in that, since it is subject only to market influences and has no guaranteed return in any form, it enjoys the same rewards and suffers the same risks as common equity.

Flow-through shares are new corporate shares issued under a flow-through share agreement between a mining or petroleum company and an investor. Investors may be individuals, corporations (mining, petroleum or other) or partnerships. The issuing company uses the funds raised to finance new exploration or development activities, i.e. activities which commence after the agreement has been entered into by the two parties. The incurring of eligible expenses by the company and the renunciation of eligible expenses by the company to the investor, while integral parts of the expenses-for-shares transaction, are separate aspects of the flow-through share agreement and confer no special status on the corporate shares *per se*.

Rights of the Contracting Parties

The fundamental principles of corporate law apply equally to flow-through shares as to and other types of corporate shares. Corporate law provides the purchaser of a corporate share under a flow-through share agreement certain rights with respect to other shareholders, the corporation and its management, and the rest of the world. In accordance with the specific terms of the flow-through share agreement, the shareholder enjoys limited liability, certain voting rights, prescribed participation in profits and a residual right in the property of the corporation upon dissolution.

General Conditions on Issuance

Similarly, the issuing corporation remains subject to the same securities laws that govern any corporate share issue. The securities act in force in each province in Canada regulates the sale of corporate securities in that province. These statutes contain a general prohibition against any trade in a security unless the person trading is registered to trade. The provisions of securities law further prohibit trade in new issues of securities unless both a preliminary prospectus and a final prospectus have been produced in respect of the new securities, and receipts have been obtained from the securities commission for both documents. In the prospectus, the issuer is required to provide full, true and plain disclosure of all material facts relating to the securities issued. Thus, unless the statute contains a specific exemption for the particular type of trade being undertaken, any trade in new corporate securities must take place through a registered dealer and the issuer must furnish the prescribed prospectus disclosure.

Private Placements

The burden of compliance with securities legislation falls most heavily on smaller issuing companies which collectively can be very significant sources of share capital. To accommodate their needs and to facilitate the flow of capital, certain exemptions have been put in place. Two of these, relating to private

placements in general and to private placements in the form of seed capital, are of particular relevance to flow-through shares. Largely because of short lead times associated with private placements, and costs of stock promotion and producing prospectuses associated with public offerings, flow-through shares were issued almost entirely by means of private placements from 1983 to 1991.

Private placements of new share issues have the characteristic that the sale is not accompanied by advertising. The general prospectus requirements are waived under a private placement if the investor purchases as principal and the acquisition cost to the investor exceeds \$150,000. Such trades are exempt on the basis that the investor is either a person who is sufficiently sophisticated in financial matters to be able to evaluate the prospective investment or is able to afford advice from market professionals.

The seed capital exemption also allows the corporation to issue shares without fulfilling the general prospectus requirements. While there is no minimum-dollar threshold for investors under this type of private placement, it is required that not more than 50 investors be solicited and not less than 25 investors purchase shares. Furthermore, the ability of corporations to use this exemption is limited to one share issue per year. The rationale behind the seed capital exemption is that the small number of knowledgeable investors will typically establish the specific details of the share issue through active negotiation with the issuing company.

Securities acquired by way of trades that are exempt from the general prospectus requirements are, however, also subject under securities law to certain restrictions on resale. Of significance for this evaluation, shares issued via private placements are generally subject to a twelve-month holding period during which time the issuing corporation must be a reporting issuer to a recognized stock exchange in Canada. The general intent of this rule is to provide at least one set of audited financial statements before resale and, thereby, prevent the resale from accomplishing a distribution to the public without the benefit of information comparable to that available in a prospectus.

Public Offerings

The issuance of corporate securities through a public offering does not qualify for exemption from the general prospectus requirements of securities legislation since its purpose is to effect a distribution across a much broader range of potential investors. Moreover, in order for the share issue to have significant appeal to the investing public, the mining or petroleum company will usually need to be listed on a recognized stock exchange in Canada in order to provide an acceptable degree of liquidity.

The mechanics of a corporate share issue to the investing public are relatively straightforward. In general, the petroleum or mining company assesses its resource prospects and determines the financing requirements for an exploration budget. The corporation secures legal advice as to an appropriate share structure which minimizes the dilution of corporate control, and consults with a brokerage house as to an appropriate price for the share issue. The share issue then proceeds as either a bought deal, where the investment dealer purchases the shares as principal and then resells them into the marketplace, or as a best efforts underwriting, where the investment dealer sells as agent for the issuing corporation.

Through a public offering, the investing public is able to research the issuing company and to select only those with an acceptable financial record, corresponding to the investor's particular level of risk aversion, portfolio preference and income tax situation. However, a detailed research and selection process often lies beyond the capabilities, time constraints, and diversification concerns facing many investors. Therefore, from the perspective of a mining or petroleum company, these investment constraints can present significant obstacles to undertaking a share issue to the investing public. These constraints are particularly acute in the case of junior exploration companies without an established reporting record.

Special Income Tax Features

In contrast to other types of corporate shares, special income tax features are associated with flow-through shares. These features relate to the deductibility of eligible expenses incurred under a flow-through share agreement, the determination of the capital gain on disposition of a flow-through share, and access to the lifetime capital gains exemption for investors in flow-through shares. Due to the combined effect of these tax features, the price of a flow-through share generally includes a premium over the price of comparable common equity.

Deducting Eligible Expenses

In general, qualifying expenditures on exploration and development incurred by a mining or petroleum company are included in the relevant expense pool of the company for income tax purposes. These expenses are then available to reduce the income tax otherwise payable by the company.

If the exploration and development expenditures are incurred by a mining or petroleum company under a flow-through share agreement, however, the expenses may be eligible for renunciation to the shareholder. If so, they are renounced and added to the shareholder's expense pools and can be used to

reduce the shareholder's income otherwise subject to tax. The particular type of expenditure that is incurred follows the specific terms of the flow-through share agreement; the amount of expenses renounced per share equals the price paid for the flow-through share. The ability of the shareholder to utilize income tax deductions arising from new exploration or development expenditures incurred under a flow-through share agreement is governed by provisions of the *Income Tax Act* relating to the expenses-for-shares transaction and the reporting of information in respect of flow-through shares¹. Since this maximizes their present value, the deductions are of greatest benefit to the investor if they are used "immediately", i.e. in the same taxation year as that in which the share is purchased.

Determining the Capital Gain

Capital gains (or losses) are realized on the disposition of any corporate share. For corporate shares other than flow-shares, the amount of capital gain is determined with reference to their adjusted cost base. The adjusted cost base essentially equals the acquisition cost of the corporate share adjusted to reflect, for example, contributions or repayments of capital. If the proceeds of disposition are greater (less) than the adjusted cost base, a capital gain (loss) is incurred by the investor. Three-quarters of a capital gain (loss) is defined as a taxable capital gain (allowable capital loss). An allowable capital loss can be used only to offset a taxable capital gain for income tax purposes; a net taxable capital gain is included in income and is subject to tax at the statutory income tax rate applicable to the investor.

Although a flow-through share is like any other corporate share in that it can give rise to income in the form of a capital gain on disposition, it is unlike other corporate shares in that it provides, through the renunciation of an amount of eligible expense equal to its acquisition cost, a second benefit to the investor in the form of an immediate deduction in computing taxable income. In recognition of this second benefit, the adjusted cost base of a flow-through share is deemed to be nil for income tax purposes. Consequently, the capital gain realized on disposition of the share equals the full proceeds of disposition; due to the zero adjusted cost base, a capital loss cannot be incurred in respect of a flow-through share. Once determined, the taxation of a capital gain in respect of a flow-through share then proceeds in a manner identical to the taxation of a net capital gain arising from the disposition of any other corporate share. Specifically, 75 per cent of the capital gain arising from the sale of the

¹ Conditions imposed by income tax legislation on flow-through shares are discussed in the next section.

flow-through share is included in income subject to tax. This taxable capital gain is then subject to tax at the statutory income tax rate applicable to the investor.

The zero adjusted-cost-base provision ensures an appropriate matching of income and expense by preventing investors from using the same deduction twice, i.e. first, on the ordinary income sheltered from tax due to the renunciation of eligible expenses and, second, on the capital gain derived from the subsequent sale of the flow-through share. This treatment is also consistent with that of other flow-through mechanisms such as partnerships and joint exploration corporations.²

Accessing the Lifetime Capital Gains Exemption³

The lifetime capital gains exemption is available to individuals (other than trusts) who are residents of Canada. The general exemption equals \$100,000 of net capital gains (or, alternatively, \$75,000 of net taxable capital gains).

Availability of the lifetime capital gains exemption in a year is limited where an individual deducts an amount in respect of expenses that have been incurred and renounced under a flow-through share agreement. Under the cumulative net investment loss (CNIL) rules, the individual's net capital gain otherwise eligible for the exemption in a given year must be reduced by an amount equalling 50 per cent of any deductions claimed in respect of expenses renounced under a flow-through share agreement. In general, the 50 per cent CNIL inclusion rate ensures that the amount added to an individual's CNIL pool, due to deductions claimed in respect of flow-through shares, is less than the taxable capital gain that would be realized on a disposition based on the underlying value of the corporate share at the time the flow-through share is acquired. This treatment is provided so that the purchase and sale of a flow-through share in the same year does not restrict access to the lifetime capital gains exemption for net taxable capital gains arising from non-flow-through share investments.

² In each of these cases, expenses renounced either by a partnership to a partner or by a joint exploration corporation to a shareholder corporation, must reduce the cost base of the partner's or shareholder corporation's investment, as applicable, by the amount of the renunciation.

³ The 1994 federal budget eliminated the \$100,000 lifetime capital gains exemption for gains accruing after February 22, 1994.

The CNIL rules do not reduce the total amount of the lifetime capital gains exemption available to an individual; rather they change the timing of the individual's access to the lifetime capital gains exemption. For flow-through share investors as well as for investors who incur certain other types of investment losses, sufficient offsetting investment income must be realized before the lifetime capital gains exemption can be accessed.

Pricing the Flow-Through Share

In recognition of the tax value of the expenses renounced under a flow-through share agreement, the selling price of a flow-through share is typically higher than the selling price of an ordinary common share of the same mining or petroleum company. In addition to any fiscal benefits due to flow-through shares, however, a rational investor would also be interested in the economic return on the underlying investment in the shares of the issuing company.

The price of ordinary common shares is determined in accordance with demand and supply on capital markets, and reflects:

- the expected economic performance of the company;
- the income tax treatment afforded common equity; and
- the particular preferences of the investor such as for asset diversification and risk aversion; and
- the particular circumstances of the issuing company, for example, in respect of accessing other market-based financing options such as debt and equity.

The additional amount or "premium" paid for a flow-through share relative to an ordinary common share of the same company is dependent on:

- the type of eligible expenses incurred and renounced under the flow-through share agreement;
- the fiscal treatment afforded the exploration and development expenses, the underlying corporate share and the various parties to the agreement;
- the ability of both the investor and the company to utilize income tax deductions in respect of exploration and development expenses;
- the particular preferences of the investor – for example, in respect of the incremental impact on asset diversification and risk aversion; and
- the particular circumstances of the issuing company – for example, in respect of accessing alternative equity-based financing options.

Higher transaction costs for flow-through shares relative to alternative investment opportunities can reduce the flow-through share premium. The premium can also be reduced by any liquidity risk stemming from the requirement of provincial securities legislation that shares issued via private placements that are exempt from general prospectus requirements cannot be marketed immediately. However, this holding period requirement can benefit the issuing company by effectively lengthening the investment horizon of investors.⁴

The Maximum Premium

From the viewpoint of an investor who is able to fully utilize renounced expenses for income tax purposes, the maximum premium that the investor would be willing to pay for a flow-through share depends on:

- the amount of any federal or provincial assistance receivable⁵ in respect of expenditures on exploration or development; plus
- the income tax savings due to the tax treatment of exploration and development expenses; minus
- the income tax payable on capital gains arising on disposition of the flow-through share.

The Minimum Premium

From the viewpoint of the issuing company, the income tax value of the exploration and development expenditures depends largely on the company's taxpaying situation. The tax treatment afforded the expenditures and the availability of any assistance in respect of the expenditures are also important considerations.

Other things equal, a non-taxpaying mining or petroleum company would be willing to accept a lower premium for its flow-through shares than a taxpaying company. This simply reflects the fact that income tax deductions relating to the exploration and development expenditures can neither be used immediately by non-taxpaying companies to reduce taxable income nor be used to create a

⁴ The case studies conducted by Peat Marwick Stevenson & Kellogg Management Consultants found that investors tended to dispose of their flow-through share investments at the earliest possible opportunity.

⁵ Depending on the specific terms of the flow-through share agreement, assistance may be either retained by the issuing company or renounced, along with the eligible expenses, to the investor. Other things equal, the maximum premium payable by the investor would be higher in the latter case than in the former.

business loss⁶. Expenditures are added to the appropriate expense pool and, if they are not immediately usable, can be carried forward indefinitely until drawn upon to reduce taxable income. The longer the expense pools remain unused, the smaller the present value of the tax deductions. However, even firms that are currently non-taxpaying can expect to eventually access the deductions if they remain in the industry.⁷ Thus, if an alternative financing option were available to the firm to undertake the same exploration and development program as would be financed by flow-through shares, there would be a minimum positive premium that any issuing company would be willing to accept. If this company-specific threshold were exceeded, it would be beneficial to the firm to issue flow-through shares.⁸

Setting the Premium

The minimum premium acceptable to the issuing company is typically lower than the maximum premium payable by investors. This reflects differences in the taxpaying status and the income tax treatment of the various parties to a flow-through share agreement, and in the financing alternatives available to issuing companies.

As is the case for common equity, the price of flow-through shares is established in capital markets through the interaction of demand and supply. If capital markets function efficiently, the selling price of a flow-through share can be expected to equal the selling price of an ordinary common share of the company plus an additional amount ranging between the minimum premium acceptable to the company and the maximum premium acceptable to the investor. In such a situation, the flow-through share premium is shared between the issuing company and the investor, and both benefit. The investor gains in purchasing more flow-through shares for a lower price than would have

⁶ These are referred to as non-capital losses for income tax purposes. Such losses can be carried forward seven years or back three years from the time they are incurred to offset a corporate income tax liability. If not used within this period of time, they are "lost" or cease to be claimable against income tax otherwise payable.

⁷ Expense pools are not "lost" if the original company is subsequently acquired by another firm; however, the expenses are "ring-fenced" and so are deductible by the successor corporation only against income from the property in respect of which they were originally incurred.

⁸ If no alternative financing option were available to the firm, then it is conceivable that the premium could be zero or even negative.

otherwise been the case. The issuing company gains in achieving a given level of funding with less corporate dilution and at a lower cost compared to an ordinary common share issue.⁹

Beneficiaries

Mining or petroleum companies that issue flow-through shares are either unable, or choose not, to use the income tax deductions associated with the eligible expenses they incur to reduce their own taxable income. Instead, these companies elect to obtain a value for their expenses on capital markets.

It is typically the case that issuing companies are "non-taxpaying", i.e. do not have sufficient net production revenues¹⁰ to fully utilize the income tax deductions associated with exploration or development expenditures. Often, such companies are junior exploration companies which lack sufficient internally-generated cash flow to finance additional exploration or development, and which typically do not have access to debt financing due, in part, to the high degree of risk associated with the mining and petroleum industries and to their lack of "success" to date. The same two factors can also effectively limit the amount of ordinary common equity financing that these firms can raise. Flow-through share financing may thus be the only option available for such firms. It is precisely such a scenario that gave rise to the original expenses-for-shares transaction; junior exploration companies did not have easy access to alternative sources of funds to finance their activities and lacked sufficient production revenues to make full use of deductions in respect of exploration expenditures.

However, the availability of flow-through shares is not limited to junior, non-taxpaying firms. More senior, taxpaying companies may also choose to issue flow-through shares and renounce their right to use the expenditures for income tax purposes. Of course, they would do so only where the benefits of issuing these shares outweigh the combined costs of the foregone tax deductions and the additional equity dilution.

Flow-through shares can be the preferred option for senior companies for a variety of reasons. These include tax planning, accelerating an exploration program, or obtaining government assistance that is specifically tied to the issuance of flow-through shares. Tax planning could be a motive where a senior company has business losses from a previous taxation year which would

⁹ Details of the flow-through share pricing mechanism are explored more fully in Chapter V.

¹⁰ That is, production revenues after deductions for, among other things, operating costs, general and administrative expenses, capital cost allowance and the resource allowance.

expire if additional exploration expenditures were incurred.¹¹ Accelerating an exploration program via flow-through share financing may allow activities to be undertaken which are additional to those to which the company is already committed and for which funding has been obtained; this could ensure that the issuing company retains skilled exploration personnel or title to the property to be explored. With respect to government assistance, certain grant-based incentive programs, such as the former Canadian Exploration Incentive Program and the current Manitoba Mineral Exploration Incentives Program, are targeted specifically to flow-through share financing. Such assistance, which may be either retained by the company or renounced to investors under a flow-through share agreement, could make this financing option the least costly means to raise funds for an exploration program.

Thus, the primary beneficiary of the flow-through share financing mechanism is intended to be junior mining or petroleum companies engaged primarily or solely in exploration and development. Nevertheless, flow-through shares can also be advantageous for senior companies and can be mutually beneficial to both issuing companies and investors.

Modes of Issuance and Renunciation

There are two general ways in which mining or petroleum companies can issue flow-through shares and renounce expenses; either directly to investors or indirectly through an intermediary such as a partnership or limited partnership.

Direct Issuance

Direct issuance by a single mining or petroleum company may involve either a private placement of the new share issue with a select group of investors or a widespread public offering to investors at large. Private placement generally represents a closely-negotiated agreement under which knowledgeable investors acquire a substantial or controlling interest in the issuing company through the purchase of flow-through shares. A prospectus is not required under a private placement if the investor acts as principal and the minimum threshold requirements are satisfied. A public offering is used to access a much broader range of investors and so minimize the impact on corporate control and share structure. However, compared to a private placement,

¹¹ Prior to December 2, 1992, the income tax deduction in respect of exploration expenses was mandatory to the extent of income for mining and petroleum companies. As announced in the December 1992 *Economic and Fiscal Statement*, the deduction is to become permissive for taxation years ending after that date. Once enacted, the amendment will eliminate the necessity of issuing flow-through shares for the tax planning purpose of accessing a business loss when exploration expenses exist.

especially one that is exempt from the general prospectus requirements, a public offering has higher issue costs and longer lead times associated with it. In addition, junior companies without established track records can experience substantial difficulty in raising desired levels of funding from investors at large.

Partnership Intermediaries

Partnerships and limited partnerships can significantly facilitate access to flow-through share capital for mining and petroleum companies. Importantly, each can achieve a pooling of investor capital that may permit an exemption from the general prospectus requirements for private placements.¹² Such an exemption allows for a more rapid placement of monies at a lower cost. The focus of each of these intermediaries differs, however, with the result that partners and limited partners possess different characteristics and objectives. In terms of participants and renunciations, the limited partnership was a particularly popular vehicle for raising flow-through share funding from 1983 to 1991.

The participants in a partnership typically seek to take an active role in, and thus exercise some degree of control over, the exploration and development program being undertaken by the issuing company. Generally, there are few partners who own a substantial share of the issuing company's flow-through shares and possess a good knowledge of the mining or petroleum industry. Often the partners are themselves more senior mining or petroleum companies whose expertise may be employed at various stages in exploring or developing the potential prospect.

In contrast, limited partners are not interested in taking an active role in the exploration and development program of the issuing company. The basic idea of a limited partnership is to formulate a financing structure that allows a pooling of investor capital over a large number of investors and several issuing companies. The limited partner benefits by having a reduced threshold for participation, protection from potential liability for third-party claims, and reduced uncertainty and risk relative to investing in the exploration and development program of a single company. The participation of senior companies in the partnership structure can further reduce uncertainty and risk for investors, and can thereby facilitate financing for junior companies. At the same time, the attractive tax features of flow-through shares are retained under a limited

¹² Where a limited partnership purchases flow-through shares valued at in excess of \$150,000, the issue of exemption from the usual prospectus requirements turns on the issue of whether the partnership purchases as principal, i.e. whether the imposition of a general partner managing the investment decision supplants the identity of the partnership as being comprised of numerous small investors.

partnership. Thus, limited partnerships can provide access to a more widespread market for flow-through share issues than either private placements or public offerings of a single issuing company, and can benefit both investors and issuing companies.

The limited partnership intermediary generally operates in the following way:

- investors are solicited to join the limited partnership through a public offering of partnership units;
- investors contribute a lump-sum capital payment to subscribe as limited partners. Limited partners take no part in managing the affairs of the partnership, thereby avoiding any liability beyond their original partnership contribution and their pro rata share of any undistributed partnership income;
- the financial management company acts as the general partner and is responsible for coordinating and promoting the fund and securing the placement of monies raised. The general partner is responsible for managing the daily affairs of the partnership and entering into flow-through share purchase agreements, typically through private placements, with individual mining or petroleum companies. The general partner usually charges a management fee which is deducted from the partnership capital along with other sundry operating charges. The net result is that about 90 per cent of the partnership capital is invested in flow-through share agreements with issuing companies;
- the lump-sum capital payments from the limited partners are pooled and distributed among the various resource companies and projects, thereby lowering the investment threshold and reducing the uncertainty and risk factors for the investor. Alternatively, the limited partnership may be structured to invest in specific types of resource activities, such as gold ventures, thus providing the investor with a reduced investment threshold but a smaller degree of asset diversification;
- eligible expenses are incurred by the mining and petroleum companies;
- eligible expenses are renounced and flow-through shares issued to the limited partnership; and
- the limited partnership attributes the renounced expenses to the limited partners who can then utilize the expenses in computing their taxable income.

The limited partnership agreement generally stipulates a predetermined holding period during which all flow-through share agreements are to be completed and all expenses renounced to the limited partners. At the end of the holding

period, the assets of the limited partnership, principally the flow-through shares, are transferred to a mutual fund and the partnership dissolved with each limited partner receiving a pro rata number of shares in the mutual fund which is listed on a Canadian stock exchange. As per the terms of the partnership agreement, the mutual fund may be open-end or closed-end. An open-end fund does not have a set capitalization and the management company will issue or redeem shares upon request. A closed-end fund issues a fixed number of shares which are traded on a stock exchange and are not generally redeemed by the management company itself.

B. The Expenses-for-Shares Transaction

As indicated above, the share component of a flow-through share is subject to applicable corporate and securities laws and an investor acquires a flow-through share in accordance with the terms of the flow-through share agreement entered into with a mining or petroleum company. Such a legislative and contractual framework is a prerequisite for the expenses-for-shares transaction. The expenses-for-shares transaction itself involves three fundamental components:

- the exchange of consideration for new shares;
- the incurring of eligible exploration and development expenses; and
- the renunciation of the eligible expenses to the shareholder.

Income tax recognition of the renunciation of eligible expenses under a flow-through share agreement is provided where certain conditions established in the *Income Tax Act* are met concerning each of the three components of the expenses-for-shares transaction as well as the reporting of information in respect of both the agreement and the renunciation. This section considers why and by whom the expenses-for-shares transaction was created and the extent to which income tax provisions regulate its use.

Origins

The expenses-for-shares transaction is rooted in the unique nature of the exploration and development process for mining and petroleum¹³ and in the provision of income tax deductibility for exploration and development

¹³ This process is described in some detail in the report prepared by Peat Marwick Stevenson & Kellogg.

expenditures. The process of locating and proving reserves of non-renewable resources is complex, highly uncertain and risky, and expensive. Many steps are involved in locating a potential prospect such as:

- searching for surface evidence;
- staking claims;
- drilling for discovery and then delineation;
- conducting an initial financial analysis;
- testing samples to assess production and financial feasibility; and
- establishing production facilities.

More often than not, a potential prospect will fail to yield an economic reserve. This is particularly the case for mining where both the costs of mine development and the potential pay-off from the prospect are typically much higher than for a petroleum prospect.¹⁴ To maximize the chances of being successful and profitable, the exploration process requires the dedication and expertise of a variety of participants, ranging from prospectors to senior corporate executives, and the best information available on potential mining and petroleum properties. In turn, the exploration process itself contributes to the stock of information on mining and petroleum properties, and helps to maintain a level of expertise that is essential to the longer-term viability of the Canadian petroleum and mining industries.

It is this unique set of operating parameters – complexity of process, variety of participants, uncertainty and risk, cost, and informational requirements – that leads mining and petroleum companies to seek out specialized structures for financing exploration and development activities. The expenses-for-shares transaction is one such specialized financing structure. The origins of this transaction are described below with the assistance of two stylized sketches of how the exploration and development process could change for a junior mining or petroleum company with the provision of full income tax deductibility for exploration and development expenditures.

The Exploration and Development Process Before 1947

Prior to the 1947 taxation year, and except for certain special tax credits provided during the 1942 to 1946 taxation years, exploration and development expenditures were generally considered to be on account of capital and,

¹⁴ These characterizations of relative risk, cost and return are substantiated in the case studies conducted by Peat Marwick Stevenson & Kellogg.

consequently, not deductible in calculating taxable income. Who undertook the exploration and development expenditures was of no significance for income tax purposes since the expenditures had no inherent value as tax deductions.

Under these circumstances, the exploration and development process could proceed in the following way for a junior company or a group of individuals that had discovered a promising prospect but lacked the necessary funds and expertise to determine its extent and quality:

Sketch I

The finding party approaches a senior exploration company or a producing corporation to obtain the requisite funds and expertise. Neither party is particularly interested in an outright sale of the property since the finding party wants to retain a claim to any future profits while the financing party wants to conduct further exploration activity before committing unequivocally to the project. A need arises for a commercial structure to define and protect the rights of both parties that is flexible enough to accommodate any change in circumstances over the life of the project.

One possible commercial structure for satisfying both parties is a new corporate entity. The finding party receives shares in the new company in return for transferring the resource property to the new corporation, while the financing party receives shares in return for capital contributions to the new corporation. The corporate share structure affords the participants ample opportunity to set out the various rights and obligations of each party and also provides the participants with limited liability. Following incorporation, the new company draws on its funds to further explore and develop the prospect. Given the high-risk nature of the industry, both parties are well aware of the strong possibility that the potential prospect will fail to be economic and, consequently, that the new corporation will fail to generate any income against which to deduct the exploration and development expenditures.

The Exploration and Development Process After 1946

Commencing with the 1947 taxation year, exploration and development expenditures were deemed to be on account of income and became fully deductible by mining and petroleum companies in calculating taxable income. This fundamental shift in the income tax treatment of these expenditures provided the impetus for the development of the expenses-for-shares transaction. Exploration and development expenditures acquired an inherent

value as income tax deductions beyond their economic value in helping to locate potential prospects. It was now a matter of some significance that the expenditures not be allowed to languish unused in a new corporation that did not generate sufficient production income against which they could be deducted for income tax purposes. The financing party, with production revenue from other operations, clearly had a vested interest in directly and immediately realizing the tax value of the exploration and development expenditures. The expenses-for-shares transaction allowed the financing party to achieve this objective. It provided a practical and efficient commercial forum for recognizing and accommodating the differing contributions from various parties, and facilitated financing for exploration and development by allowing direct and immediate realization of the tax value associated with resource expenditures.

The provision of income tax deductibility would change the circumstances for the junior company in the sketch outlined above. The corporate structure used for effecting additional exploration and development might be modified as follows:

Sketch II

As before, the finding party transfers the resource property in exchange for shares in a new corporation. However, the financing party now wants to incur the exploration and development expenditures on its own behalf so as to deduct the expenses against production income from its other operations and thereby minimize its costs. To do so, a contract is established with the new corporation under which the financing party agrees to incur certain exploration and development expenditures on the resource property in return for shares, the right to acquire shares, or share options in the new corporation.

This innovative use of the corporate structure allows the financing party to undertake exploration and development activity on the property of another taxpayer, to treat the expenditures as tax deductible expenses on its own behalf, and to acquire an ownership stake in the corporation controlling the resource property. An alternative view is that the financing party acquires the shares in return for services rendered, while claiming the costs of those services as tax deductible expenses against other sources of income. Regardless of the interpretation, the transfer of expenses between taxpayers allows the tax value of those expenses to be realized immediately thereby facilitating the exploration process.

Income Tax Conditions on the Expenses-for-Shares Transaction¹⁵

As originally conceived, the expenses-for-shares transaction was neither recognized nor regulated under the *Income Tax Act*. Instead, the contract between the resource company and investors for incurring exploration and development expenses in exchange for shares operated within the general income tax provisions after 1946. It was not until the 1954 taxation year that express income tax recognition was given to the expenses-for-shares transaction and certain restrictions were imposed to define its scope and operation. The latter have evolved substantially over time. The scope and consequences of income tax conditions imposed today on each of the three components of the expenses-for-shares transaction and on the flow-through share agreement are outlined below.

Exchange of Consideration for New Shares

The first step in the expenses-for-shares transaction is the exchange of consideration for new shares. As concerns the characteristics of the shares, income tax legislation sets forth various qualifications on the share itself and on the obligations of the contracting parties in respect of the share. The legislation also specifies that the price cannot be set more than 60 days after the flow-through share agreement is entered into. The essential purpose of these restrictions, which are prescribed by regulation, is to ensure that flow-through shares represent genuine risk capital.

No conditions are imposed by income tax legislation on the form of consideration. Consequently, consideration can include, for example, legal tender, work commitments on the part of the investor, or the rental of equipment owned by the investor.

With regard to the actual exchange, the flow-through share provisions of the *Income Tax Act* require only that the mining or petroleum company agree to issue a share in exchange for consideration.¹⁶ The legislation specifies neither the structure of the payment schedule nor the timing of payments to the mining or petroleum company in relation to receipt of the flow-through shares

¹⁵ A more detailed and precise discussion of current income tax conditions imposed on the expenses-for-shares transaction is contained in Appendix I.

¹⁶ Among other things, the *Income Tax Act* does provide that the renunciation of eligible expenses cannot occur unless consideration has been received by the issuing corporation. This is discussed below in the section on the renunciation of eligible expenses.

by the investor. Consequently, payment for a flow-through share can be made in one lump sum or in a number of instalments and the share can be issued at any time as established by agreement.

Incurring of Eligible Expenses

The specific expenditures incurred by the issuing company on exploration, development or petroleum properties follow the terms of the flow-through share agreement. Once incurred, the expenditures are allocated to expense categories¹⁷, as defined for income tax purposes, before they are renounced. In addition, income tax legislation provides that the eligible expenses must be incurred during a period of, at most, 25 months from the date the flow-through share agreement is entered into.

The relationship between the exchange of consideration for shares and the incurring of eligible expenses is not specified in income tax legislation. Thus, subject to the terms of the agreement, the exchange may occur before the resource activities commence, while they are underway or after they are completed.

Renunciation of Eligible Expenses

When an issuing company incurs eligible expenses within the 25-month qualifying period (and satisfies the reporting requirements in respect of the share issue; discussed below), the expenses may be renounced to an investor in that company's flow-through shares provided that two additional income tax conditions are met. First, renunciation requires that the issuing company receive consideration from the investor. Second, the renunciation must occur either during the 25-month qualifying period or within 30 days after the end of that period.¹⁸ More than one renunciation may take place so long as the total amount renounced to an investor under the agreement does not exceed the consideration paid by the investor for the flow-through share.

If assistance in respect of the eligible expenses is retained by the issuing company under the terms of a particular flow-through share agreement, the amount renounced must be reduced by a corresponding amount; otherwise, the

¹⁷ These are described in the next section.

¹⁸ Proposed changes announced in the *Economic and Fiscal Statement* of December 2, 1992, would allow renunciation to take place before March of the calendar year immediately following the year in which the 25-month period for incurring eligible expenses expires.

assistance is renounced to the investor without affecting the renunciation of eligible expenses. In the latter situation, the investor reduces the amount of expenses available for deduction by the amount of any assistance received.

The effect of the renunciation is to "deem" the eligible expenses to have been incurred by the shareholder, not by the resource company, on the date on which the renunciation takes place. Income tax recognition that the eligible expenses were originally incurred by the mining or petroleum company has the important additional implication that investors are effectively sheltered from potential third-party liability claims in respect of the issuing company's exploration and development program.¹⁹

Reporting²⁰

Income tax legislation requires completion of three distinct filing instruments in respect of flow-through shares. When a mining or petroleum company first seeks to issue flow-through shares, the issuing company is required to file an information return with the Department of National Revenue together with a copy of either the prospectus or the signed flow-through share agreement, as applicable. The prospectus must describe the terms of the agreement including the price and number of shares. Only after this reporting requirement has been satisfied can a renunciation of eligible expenses take place.

Additional reporting requirements relating to actual renunciations are set out for both issuing corporations and investors that are either partnerships or limited partnerships. If any of these reporting requirements is not met within the time periods allowed by the legislation, then the renunciation is not recognized for income tax purposes. The only exception is where the corporation or partnership complies with the provisions for late filing (i.e. concerning penalties and, possibly, the approval of the Minister of National Revenue) in respect of the information return.

For each renunciation that occurs, the issuing company must file, at the time of the renunciation, a return that summarizes the broad details of the renunciation including the total amount of each type of expense renounced as well as the total amount and type of any assistance received in respect of the expenses.

¹⁹ This deeming provision became effective for all flow-through share agreements entered into after 1986. Under previous income tax legislation, the investor was treated as having incurred the eligible expense and, consequently, could be subject to liability claims in excess of their initial capital contribution. Limited partnerships were a means by which certain flow-through share investors could reduce their liability exposure under the former regime.

²⁰ Reporting procedures for flow-through shares are discussed in Appendix I.

In addition, income tax receipts which provide a breakdown of eligible expenses and applicable assistance, must be forwarded to each flow-through share investor and filed with the Department of National Revenue.

Similarly, within three months after the fiscal period of the partnership, flow-through share investors that are partnerships must file returns and income tax receipts with the Department of National Revenue that are the counterparts of those required from the issuing companies. These filings indicate the share of expenses and assistance, as applicable, attributable to each partner or limited partner under the partnership agreement. A copy of each income tax receipt that the partnership receives from an issuing company must also accompany these filings.

C. Eligible Expenses²¹

To be eligible for renunciation, an expenditure must qualify as a Canadian exploration expense, a Canadian development expense, or a Canadian oil and gas property expense as those terms are defined in the *Income Tax Act*. Of these three categories of expenses, Canadian exploration expense is the most valuable since it is deductible at a rate of 100 per cent from any income. Canadian development expense is deductible at the rate of 30 per cent on a declining balance basis; Canadian oil and gas property expense can be amortized at a rate of 10 per cent. Types of expenditures eligible for inclusion in these expense categories are discussed in this section.

Expenditures that qualify as Canadian exploration and development overhead expense (CEDOE) are not eligible for renunciation to investors. These are Canadian exploration expense or Canadian development expense incurred by the Issuing company in respect of, for example, administration, management or financing; compensation to persons who are not primarily involved in exploration or development; and the maintenance and rental of, or taxes or insurance on, property that is not primarily used for exploration or development.

Canadian Exploration Expense

For the petroleum industry, Canadian exploration expense (CEE) distinguishes among the following three basic types of expenses:

- *finding costs*, i.e. the costs of locating oil and gas and delineating the reserve such as geological, geophysical and geochemical (Geo-3) costs and costs of an exploratory probe;

²¹ A more detailed and precise discussion of the categories of eligible expenses, as they currently exist, is contained in Appendix I.

- *exploration drilling costs*, i.e. the costs of, and certain costs associated with, drilling or completing specific types of oil or gas wells, namely, discovery wells, shut-in wells, dry holes and high-cost wells; and
- *pre-production development costs*, i.e. the costs of developing the ability to produce oil and gas from an underground location including overburden removal costs, costs of sinking a mine shaft and costs of drilling a well from the underground location.

As it concerns mining, CEE consists of two general categories:

- *grass-roots mining expenses*, i.e. costs of finding and delineating mineral deposits (that would be associated with a new mine) including costs of prospecting, Geo-3 surveys, diamond drilling, rock work and preliminary sampling; and
- *pre-production development costs*, i.e. once the mineral deposit has been found, costs of bringing a new mine into commercial production including overburden removal costs and costs of sinking a mine shaft.

Table 2.1 lists the general categories of CEE incurred in the petroleum and mining industries, and provides examples of expenditures in each.

Table 2.1
Expenditures qualifying as CEE

Petroleum	Mining
<ul style="list-style-type: none"> • finding costs: <ul style="list-style-type: none"> – Geo-3 surveys – exploratory probes • exploration drilling costs: <ul style="list-style-type: none"> – discovery wells – dry holes – shut-in wells – high-cost wells • pre-production development costs: <ul style="list-style-type: none"> – overburden removal – sinking a mine shaft – underground wells 	<ul style="list-style-type: none"> • grass-roots mining expenses: <ul style="list-style-type: none"> – prospecting – Geo-3 surveys – diamond drilling – rock work – preliminary sampling • pre-production development costs: <ul style="list-style-type: none"> – overburden removal – sinking a mine shaft

Canadian Development Expense

Canadian development expense (CDE) for the petroleum industry can be grouped into three general categories:

- *development drilling costs*, i.e. costs of, and certain costs associated with, drilling or completing oil or gas wells other than discovery wells, dry holes, shut-in wells and high-cost wells;
- *recompletion costs*, i.e. costs of drilling or recompleting a well which has produced oil or gas;
- *other drilling costs*, i.e. costs of drilling or converting a waste disposal well, an injector well or a monitoring well, and costs of drilling a water or gas well for injection; and
- costs of a right to store oil or gas underground other than Crown rental payments.

CDE for the mining industry can be grouped into two general categories:

- *post-production development costs*, e.g. costs of sinking or extending a mine shaft in a producing mine; and
- costs of acquiring or maintaining an interest in a mineral property other than Crown royalty or rental payments.

Table 2.2 lists the general categories of CDE incurred in the petroleum and mining industries, and provides examples of expenditures in each.

Table 2.2

Expenditures qualifying as CDE

Petroleum	Mining
<ul style="list-style-type: none"> • development drilling costs • recompletion costs • other drilling costs: <ul style="list-style-type: none"> – water or gas wells – waste disposal wells – injector wells – monitoring wells • costs of underground storage rights (other than Crown rentals) 	<ul style="list-style-type: none"> • post-production development costs (e.g. extending a mine shaft) • mineral property costs (other than Crown royalties and rentals)

Canadian Oil and Gas Property Expense

Canadian oil and gas property expense (COGPE) consists of costs of acquiring or maintaining an interest in an oil and gas property other than Crown royalty or rental payments, but including net royalty payments to the government of Saskatchewan.²²

"60-Day Amounts"

Income tax provisions allow certain types of CEE that are incurred in the first 60 days of any year to be deducted from a shareholder's taxable income for the immediately preceding calendar year. This is accomplished by deeming these "60-day amounts" to have been incurred and renounced effective December 31 of that previous year. Eligible expenses under this provision are restricted to petroleum finding and exploration drilling costs, and grass-roots mining expenses incurred in respect of a flow-through share agreement.

In order that the eligible CEE qualify as a 60-day amount, it is further required that:

- the flow-through share agreement be entered into, and the investor pay for the shares, in the preceding calendar year;
- the investor and the corporation deal with each other at arm's length throughout the first 60 days of the year; and
- the corporation both renounce the 60-day amount within the first 90 days of the year and indicate the effective date of renunciation as December 31 of the preceding calendar year.²³

Deemed Canadian Exploration Expense

Income tax amendments announced in the *Economic and Fiscal Statement* of December 2, 1992, would in essence deem petroleum-related CDE, to a maximum of \$2 million per petroleum company or associated group of companies, to be CEE upon renunciation. Such "deemed CEE" treatment would be limited to qualifying CDE incurred after December 2, 1992, by a petroleum corporation in respect of a flow-through share agreement. This proposed change is intended "to facilitate financing and to promote investment in the junior oil and gas sector".

²² Net royalty payments are considered a cost of acquiring a petroleum or natural gas lease as they were negotiated in lieu of a land bonus payment.

²³ Reporting requirements also require issuing companies to indicate to the Department of National Revenue, the total amount of CEE that is renounced as a 60-day amount.

D. The Unique Role of Flow-Through Shares

As alluded to above, the flow-through share mechanism is one of a number of specialized financing structures available to the mining and petroleum industries to facilitate investment in exploration and development activity.²⁴ These specialized financing structures allow investors to utilize income tax deductions in respect of CEE, CDE or COGPE in the manner most suitable to their particular circumstances and preferences.²⁵ Each financing structure exhibits certain distinct characteristics with respect to the computation and taxation of income, property ownership and investor participation. Four alternative financing structures (i.e. joint ventures, joint exploration corporations, partnerships and limited partnerships) are outlined below and compared with flow-through shares.

Joint Venture

A joint venture is a negotiated agreement (i.e. a matter of contract law) whereby two or more taxpayers contribute the use of their own assets to a particular project and share the expenses and output of the project in agreed-upon proportions. The joint venture itself is neither recognized as a distinct legal entity nor as a taxpayer for income tax purposes. Instead, the parties to the joint venture are recognized as separate and distinct legal entities, each of which is liable only for its own actions and subject to income tax on its own behalf.

There is no overall financial accounting for the joint venture nor does the joint venture have a separate fiscal period. Receipts and expenditures ascribed to each party are tabulated in that party's financial statements and income tax

²⁴ This section does not include any discussion of the successor rules in income tax legislation. The successor rules are effective where the owner of a Canadian resource property disposes of all or substantially all of the property to a corporation and require taxpayers to track the level of their expenditures on exploration, development and resource properties on a property-by-property basis. In essence, the successor can only deduct those expenditures previously incurred by the predecessor to the extent of production income from the property in respect of which ownership changed. The successor rules do not relate to new financing for exploration and development activity but are intended to prevent tax-loss trading with respect to unamortized resource expenses.

²⁵ Income tax legislation also provides special treatment where prospectors or grubstakers dispose of their interest in a mining property in exchange for shares of a corporation. However, these provisions do not relate to the direct and immediate realization of exploration and development expenditures, and the shares so acquired are not flow-through shares. Rather, the shares represent compensation for the disposition of a mining interest and the special income tax treatment allows prospectors and grubstakers to delay their liability for taxation until such time as they dispose of the shares.

returns, separate and distinct from all other parties involved. Each party to the joint venture agreement must report receipts and expenditures in accordance with its own year-end for tax purposes. CEE, CDE or COGPE remain deductible solely in the hands of the party that incurs the expense. Property ownership remains vested in the party contributing the property, and that party can deal with the property (subject to the specifics of the agreement) as it sees fit. Accordingly, each party claims capital cost allowance on its own assets.

Joint Exploration Corporation

A joint exploration corporation is recognized as a distinct legal entity in accordance with its corporate status, and derives its ability to renounce exploration or development expenses from income tax provisions. A joint exploration corporation is defined as a mining or petroleum corporation that has not, at any time since its incorporation, had more than 10 shareholders.

The joint exploration corporation can renounce CEE, CDE or COGPE only to a shareholder corporation in an amount not exceeding the funding provided by the latter for the exploration and development. The shareholder corporation must reduce the adjusted cost base of its shares by the amount of any renunciation from the joint exploration corporation.

Beyond the ability to renounce resource expenditures, a joint exploration corporation operates under the same set of rules as any other corporation. Shareholders enjoy limited liability and participate in management functions in accordance with the corporate share structure. The joint exploration corporation has its own fiscal year end, owns and controls the assets and property, and claims capital cost allowance and resource allowance on its own behalf.

Partnership

The partnership structure has evolved over several centuries of common law development and has been subject to substantial codification over the course of the last century, finding legislative expression today in provincial partnership acts. Regardless of its source of legislative authority, however, the partnership

structure has long been recognized as a distinct legal entity²⁶ which does not supplant the legal identity of the partners, but rather supplements that identity and adds another dimension to taxation, liability and property ownership.

Special income tax provisions apply to partnerships and partners.

- It is not the partnership, but rather the partners that are subject to income tax. In general, profit or loss is calculated at the partnership level and subsequently allocated among the various partners in accordance with their respective partnership interests. An exception to this general rule pertains to the income tax treatment of resource expenditures incurred by the partnership: Exploration and development expenditures must be attributed directly to individual partners before the calculation of partnership profit or loss.²⁷
- The partnership and the partners retain distinct fiscal periods for income tax purposes. This can allow partners to achieve some measure of tax deferral. For example, if a partnership's fiscal period ends on January 31 of a particular year, a non-corporate partner would not have to account for partnership income until April 30th of the following year. A corporate partner would report the partnership income for its taxation year which includes January 31.

The major drawback of the partnership structure stems from the fact that partners are jointly and severally liable for the contractual, tortious and criminal actions of all other partners representing the interests of the partnership. As well, the consensual nature of decision making and the concept of utmost good faith tend to place a practical limit on the number of active partners that can form an effective ongoing entity.

²⁶ The essence of the partnership structure is the concept of "carrying on a business in common with a view to profit". In every case, it is a question of fact as to whether or not a partnership structure exists – the distinction between partnership and other business organizations is very often subtle and must be determined in light of all the relevant facts. The existence or lack of a partnership agreement, whether oral or written, is just one of the facts to be considered and is in no way unequivocal evidence. Generally, the fact of carrying on a business in common requires a more significant intertwining of economic fate among the partners than is entailed by a common ownership of assets or a sharing of profits.

²⁷ Where resource activities are carried on by a partnership, draft income tax regulations released on March 18, 1993, provide that the partnership cannot claim the resource allowance in determining net income for allocation to partners. Instead, the resource allowance is claimable only by partners. This change is to be effective for the fiscal periods of partnerships commencing after December 20, 1991.

Property employed by the partnership can be either owned by the partnership or owned by a partner and leased or rented to the partnership. In the former case, capital cost allowance is taken at the partnership level and the property can only be disposed of where there is agreement among the partners. In the latter case, capital cost allowance is claimable by the partner and the property may be dealt with as the partner sees fit (subject, of course, to the specifics of the lease or rental agreement with the partnership).

Limited Partnership

The limited partnership structure represents an attempt to overcome certain of the limitations restricting widespread commercial application of the partnership structure. Fundamental differences between the two relate to potential liability exposure and the degree of investor participation in managing the affairs of the partnership. In other respects, limited partnerships are subject to the same general income tax treatment as partnerships.²⁸

Comparison with Flow-Through Shares

The specialized financing structures outlined above facilitate investment in exploration and development by allowing the investor flexibility in claiming income tax deductions in respect of those expenditures. A comparison of these financing options and flow-through shares is provided in Table 2.3. Their distinct characteristics cause these financing structures to appeal to different types of investors.

The joint venture is well suited to those investors who are familiar with the resource industry, maintain their own asset base, are capable of negotiating in their own best interest and have the desire to participate actively in the resource undertaking. The detailed nature of the joint venture agreement and their close working relationship tends to limit the number of parties that can participate in any given project and effectively precludes the ready sale of an operating interest.

²⁸ The allocation of income (or loss) and resource expenses to a limited partner is limited to their "at risk" amount.

Table 2.3
Characteristics of alternative financing structures

	Joint venture	Joint exploration corporation	Partnership	Limited partnership	Flow- through shares
Eligible investors	any person	statutory maximum of 10 share- holders	any person	any person	any person
Limit on investors	effective limit due to need for working relationship	statutory maximum of 10 share- holders	effective limit due to need for working relationship	no limit on number of limited partners	no limit on number of shareholders
Management	as per agreement	voting rights as per share structure	as per agreement	only general partner(s)	voting rights as per share structure
Liability	unlimited, several	limited to share value	unlimited, joint and several	unlimited for general partner; limited for limited partners	limited to share value
Legal status	not a legal entity	separate legal entity	separate legal entity	separate legal entity	not a legal entity
Tax status	not a tax filer	separate tax filer	not a tax filer	not a tax filer	not a tax filer

The joint exploration corporation allows a maximum of 10 shareholders to contribute funds towards resource activities and resource expenses to be renounced to shareholder corporations which enjoy limited liability. The joint exploration corporation often requires a significant capital commitment on the part of its shareholders and is particularly useful in financing large scale or unique undertakings by a group of established resource concerns. The use of a corporate structure provides greater opportunity for disposing of an equity interest without necessarily requiring that the particular undertaking be discontinued.

The partnership also requires some knowledge of the mining or petroleum industry, a willingness to participate actively in the resource undertaking and a significant contribution of capital or property. The intimate nature of the partnership agreement and the requirement of utmost good faith tend to restrict the number of partners that can constitute an effective and ongoing working relationship. As well, the prospect of joint and several liability tends to limit the range of potential partners and resource undertakings.

The limited partnership is designed to reduce investor concerns as to potential liability claims, thereby achieving a wider pool of investors with a lower investment threshold. However, status as a limited partner effectively precludes any voice in the direction of the partnership, and disposition of a limited partnership interest may not be easily accomplished.

The flow-through share mechanism stands in marked contrast to each of these financing structures, embracing a unique combination of features which render it the most readily accessible financing structure and provide for the most widespread commercial application.

- Unlike the joint venture, joint exploration corporation or partnership structures, the expenses-for-shares transaction is not subject to any practical or legislative restriction with respect to the number of investors. A share issue with broad distribution achieves a much lower cost per unit of investment and allows the resource corporation to attract a broader pool of potential investors. As well, widespread distribution of the share issue among a large number of investors will generally avoid any impact on existing management and decision-making structures within the issuing corporation.
- The flow-through share mechanism allows the investor to access the resource sector and the renunciation of resource expenses without having to assume active participation in the resource undertaking. The flow-through share investor receives an equity interest that affords certain voting rights, provides liquidity insofar as the shares are traded on a recognized stock exchange, and also provides limited liability in the event of tortious, contractual or criminal mishap.
- The relatively low cost per unit of investment allows the investor to acquire an equity interest without necessarily skewing his or her investment portfolio towards an excess amount of project- or sector-specific risk. Where the investor acquires an interest in shares through a limited partnership, the investment threshold will often be slightly lower than for an outright share purchase, and the investor will achieve a greater degree of diversification for any given investment amount.

In sum, the flow-through share mechanism occupies a unique place within the realm of specialized financing structures available to the petroleum and mining industries. The ready accessibility of a widespread share issue allows petroleum and mining corporations to access the broadest possible range of investors with minimal impact on corporate management and control, while those same investors are able to acquire an equity interest in the petroleum and mining industries which affords voting rights, limited liability and substantial liquidity.

E. The General Environment for Flow-Through Shares: 1983-91

Evolving Income Tax Treatment

The income tax treatment of flow-through shares has evolved considerably over time. Legislative provisions were originally introduced, effective after 1953, in express recognition of "expenses-for-shares" agreements that had arisen in the normal course of business between resource companies; these agreements were one way in which exploration and development work could continue on a promising but unproven prospect originally discovered by a smaller resource company which lacked sufficient funds for additional exploration. The 1972 income tax reform extended the income tax recognition of expenses-for-shares agreements to all investors, thereby enhancing the ability of mining and petroleum companies to obtain such financing. Subsequent changes to the categories of CEE, CDE and COGPE over the remainder of the 1970s favoured exploration activities financed by flow-through shares.

The combined effect of income tax amendments implemented between 1983 and 1986 dramatically enhanced the attractiveness of flow-through shares as an investment opportunity. Some of these amendments were targeted specifically to flow-through shares and included both design and fiscal factors; others, such as those affecting exploration and development and equity investments of all types, applied more widely. Key legislative amendments pertained to mining exploration, capital gains taxation, and flow-through share liability. The increasing attractiveness of flow-through share investments due to the various tax changes as well as to direct assistance programs also increased the participation of partnership intermediaries, especially limited partnerships, which were able to dramatically expand the market for share issues.

The first significant tax change occurred in 1983. In that year, claimability of the depletion allowance in respect of grass-roots mining exploration was extended from 25 per cent of resource income to a maximum of 25 per cent of any income. This enhanced incentive was called the mining exploration depletion allowance. As stated in the April 1983 federal budget,

The availability of the depletion allowance is being enhanced in order to encourage increased investment in mining exploration. This proposal will help the mining industry attract exploration financing and will be of particular benefit to junior mining companies.

The next significant change was announced in May 1985. The federal government introduced the lifetime capital gains exemption to:

encourage risk-taking and investments in small and large businesses... support equity investments and broaden participation by individuals in equity markets... [and] improve the balance sheets and financial health of Canadian companies. (bracketed word added)

Introduced in a Department of Finance Press Release dated December 2, 1985, the deeming provision for 60-day amounts originally applied only to grass-roots mining expenses incurred after 1985, other than those in respect of oil sands deposits. This change was to:

[extend] the mining exploration season and not the period in which to raise funds for such activity... to remove obstacles where investment decisions may be dictated by the tax system rather than by sound business practices... [and to] lead to more efficient exploration activity during the winter months. (bracketed words added)

During the 1987 tax reform, this special treatment was extended to petroleum exploration expenses incurred after 1987 to "remove this difference" between mining and petroleum.²⁹

An additional key income tax amendment, introduced in the February 1986 federal budget (in which the term "flow-through shares" was first introduced into legislation), meant that a flow-through share investor no longer had to "incur" expenses in order to receive income tax recognition for them. Rather the renounced expenses were "deemed" to have been incurred by the investor and all shareholders were thereby protected from potential liability

²⁹ As a transitional measure applicable to 1988 only, 60-day amounts in respect of petroleum exploration expenses incurred in January or February of 1988 and renounced prior to October 14, 1988, were deemed to have been incurred and renounced on December 31, 1987.

for third party claims in respect of exploration and development programs carried out by issuing companies. Reasons for the exemption included making:

the existing flow-through share provisions for the mining sector and the oil and gas sector simpler and more effective... While procedures exist whereby investors can be protected [from potential third-party liability claims], these can be costly and complex, particularly for smaller issuers. (bracketed phrase added)

The income tax changes stemming from tax reform in 1987 reduced the attractiveness of flow-through shares investments after 1987 in a number of ways. Base-broadening through the elimination or reduction of selective tax preferences and the lowering of income tax rates were major elements of these reforms. As part of this, the mining exploration depletion allowance was phased out, commencing in 1988. Personal tax rates were lowered and, consequently, income tax deductions for exploration and development expenses became less valuable. The cumulative net investment loss rules were also introduced with the effect of limiting access to the lifetime capital gains exemption for flow-through share investors with insufficient offsetting investment income.

In summary, the fiscal treatment afforded flow-through shares, exploration and development, and equity investments served to promote flow-through share investments between 1983 and 1987, especially for mining, but made them relatively less attractive as investment opportunities between 1987 and 1991.

Market Conditions

Market conditions exerted an important economic influence on flow-through shares. In particular, changes in mineral prices on world markets, particularly for gold and silver which were the focus of many flow-through share agreements, as well as changes in mining and petroleum stocks reinforced the pattern of fiscal encouragement for flow-through shares. Chart 2.1 shows gold prices rising from 1985, peaking in 1987 and falling continuously to 1991. Silver prices also peaked in 1987 and have fallen since that time. Chart 2.2 reveals a similar pattern for share prices of gold and silver mining stocks between 1983 and 1991.

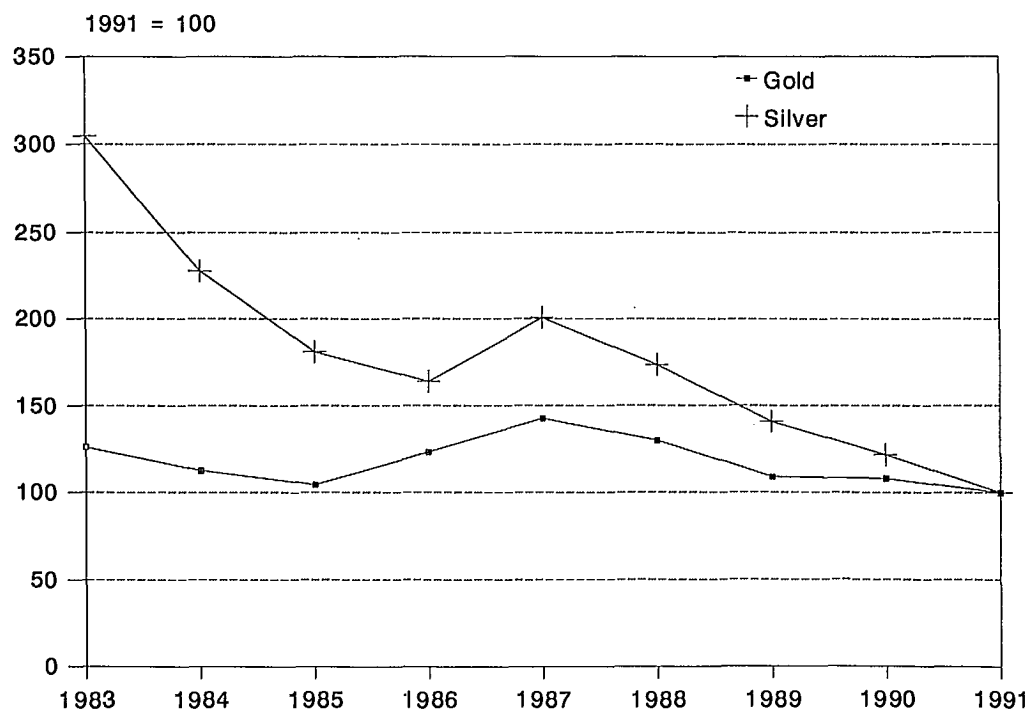
Oil and Gas versus Mining

The structure of the petroleum industry, the fiscal treatment afforded petroleum exploration and development, and market conditions influencing petroleum activity differed in certain key respects from those for mining. As indicated

above, petroleum exploration typically entails much lower risk and costs than mining exploration, but the potential return from an oil and gas discovery is significantly smaller than from a mining prospect. Over the period of the evaluation, incentives for petroleum exploration and development tended to take the form of incentive grants. Since grants could deliver funds directly to the petroleum companies, the need for junior companies to resort to flow-through share financing was reduced. The petroleum industry as a whole was also relatively more affected by world events; in particular, depressed oil prices following the fall in world oil prices, by over 60 per cent, in 1986. In marked contrast to gold and silver and metals and minerals indices, Chart 2.2 reveals a poor performance, both absolutely and relatively, for oil and gas producers over the decade. Due to these differing structural, fiscal and market influences, the response of petroleum companies to flow-through shares can be expected to be very different from that of mining.

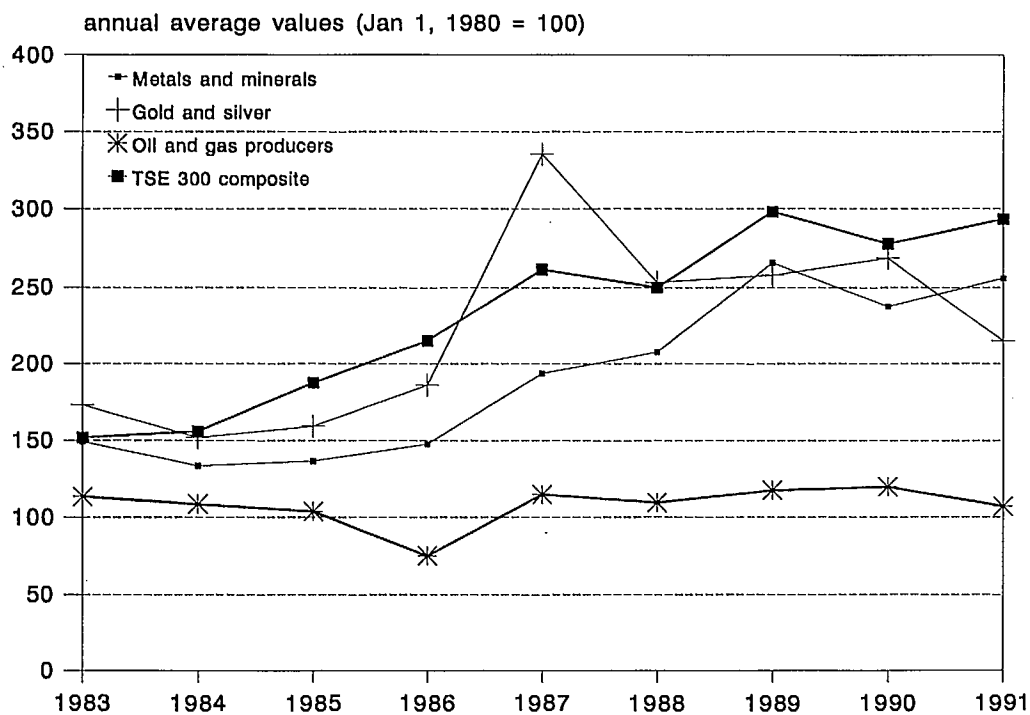
Chart 2.1

Annual average gold & silver price indices



Handy & Harmen.

Chart 2.2
TSE total return indices



Source: TSE 300 Indices Manual.

Chapter III

FLOW-THROUGH SHARE FINANCING AND RESOURCE ACTIVITY

This chapter addresses evaluation issues associated with the effectiveness of flow-through shares. Amounts of renounced expenses in aggregate, by sector and by type of expense are reported; regional and corporate distributions of these amounts are provided; and renunciations by means of partnership intermediaries and direct issuance are identified; the extent to which renunciations influenced exploration and development activities is examined as are the types of mining exploration and companies which benefitted most. This chapter also reveals that large amounts of money were transferred through the flow-through share mechanism so that the associated tax implications might have been significant. The discussion focuses on the period 1987 to 1991, but goes back to 1983 as data permit.

To assist in interpreting the information provided, the meaning of the terms "resource company" and "junior company" as they are used here is explained in Section A. Section B provides information on renunciations, considers the influence of flow-through shares on exploration and development spending in Canada, and indicates general trends in the use of this financing mechanism by mining and petroleum companies. Section C explores the importance of flow-through shares for mining and petroleum exploration from a regional perspective. Section D deals with the issuing companies: their regional distribution; their size and importance in terms of amounts renounced; the special significance of flow-through shares for junior companies; and the extent to which companies issued flow-through shares to renounce CEE (and 60-day amounts), CDE and COGPE, and the relative importance to them of these expenditure categories. Section E examines exploration spending by mineral commodity grouping to determine if flow-through share funding favoured the search for any specific mineral. Section F provides perspective on the importance and use of partnership intermediaries relative to direct issuance for flow-through shares, addresses the size and importance of partnerships in terms of amounts renounced, and discusses how asset diversification assisted in raising this financing. A summary of the key findings is contained in a concluding section.

A. Types of Resource Companies

For purposes of analyzing the data on renunciations of CEE, CDE or COGPE through flow-through share agreements, issuing firms are categorized as either mining, petroleum or "mixed resource" companies. Mining companies are

defined as having incurred and renounced CEE or CDE related solely to mining. Petroleum companies are defined as having incurred and renounced COGPE, or CEE or CDE related solely to oil and gas. Mixed resource companies are those involved in both mining and petroleum activities.

The distinction between junior and senior companies varies between the petroleum and mining industries. Junior petroleum companies are typically defined as being predominantly exploration oriented and generating individually less than 1 per cent of industry upstream revenues.¹ Junior mining companies, on the other hand, possess only mineral prospects or claims (new juniors) or saleable assets such as mineral deposits for which tonnage and grade have been established (established juniors). Senior mining companies have production revenues and may also have significant revenues from petroleum production or from other sources.² The distinction between junior and senior mining companies means that all eligible exploration and development expenditures incurred by junior mining companies are CEE for income tax purposes. Furthermore, the distinction between junior petroleum and mining companies means that flow-through shares are relatively more advantageous for the latter since development expenditures incurred by junior mining companies are treated as CEE.

Data on actual renunciations are available for 1987 to 1991; estimates of flow-through share "financing levels" (defined below) for mining exist only for 1983 to 1986. The category of mixed resource companies is used to link these data series so as to approximate a consistent time series for "renunciations of mining-related CEE" for the entire period from 1983 to 1991 (as in Chart 3.2, below). In this context, the junior-senior company definitions are also important for interpreting mixed resource companies. For 1983 to 1986, they are senior mining companies with both mining and petroleum production revenues. For 1987 to 1991, they are firms that incurred and renounced CEE, CDE or COGPE in respect of both mining and petroleum, and so can include both

¹ This is consistent with the definition used by the Department of Natural Resources (see, for example, the *Canadian Petroleum Industry 1991 Monitoring Report*, Annual). Two other categories of petroleum companies are also commonly used, namely "senior producers" and "integrated companies". The former are predominantly exploration and production oriented and individually generate more than 1 per cent of industry upstream revenues; the latter have significant upstream and downstream revenues.

² These definitions of junior and senior mining companies are also consistent with those employed by the Department of Natural Resources.

junior and senior companies. However, since mixed resource companies were small in terms of their share of renunciations from 1987 to 1991, they are often subsumed in the ensuing discussions as either mining or petroleum companies, as and when applicable.

Overall, 2,053 mining, petroleum and mixed resource companies renounced CEE, CDE or COGPE totalling \$3.3 billion from 1987 to 1991. Of these, 1,549 were mining companies, 429 were petroleum companies, and 57 were mixed resource companies. Their respective shares of the total amount renounced over the period were 72.3 per cent, 23.3 per cent, and 4.4 per cent. Of the \$144.0 million of expenses renounced by mixed resource companies, 63 per cent was in respect of mining-related CEE and 35 per cent was in respect of petroleum-related CEE.

B. Renunciations

Annual Amounts

1987 to 1991

Chart 3.1 provides annual data for 1987 to 1991 on renunciations of CEE, CDE and COGPE (in current dollars) by mining and petroleum companies. All amounts were drawn from T101 Information Returns or "Summaries" filed with the Department of National Revenue.³

Chart 3.1 reveals that renunciations of CEE, CDE and COGPE combined:

- totalled \$3.3 billion from 1987 to 1991; and
- fell significantly each year from about \$1.3 billion in 1987 to \$200 million in 1991.

Renunciations of CEE dominated all categories of eligible expenses, amounting to \$3.0 billion or 93 per cent of all amounts renounced over the period.

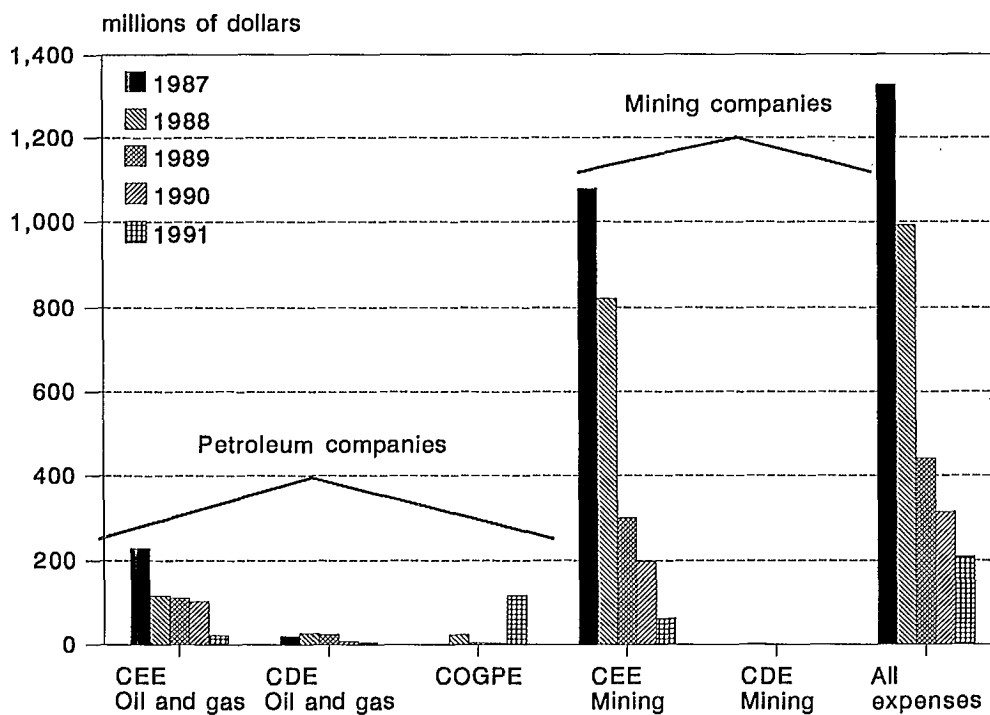
Renunciations of mining-related CEE:

- equalled \$2.5 billion or 75 per cent of all renunciations from 1987 to 1991;
- accounted for 99.8 per cent of all renunciations by mining companies from 1987 to 1991 (i.e. mining companies effectively renounced only CEE);

³ 1987 is the first full year for which Revenue Canada collected this information. Additional information on reporting requirements for flow-through shares is contained in Appendix I.

Chart 3.1

Annual renunciations by type of expense and company: 1987-91



Source: T101 Summaries, Revenue Canada.

- dwarfed all other categories of renounced expenses from 1987 through 1990; and
- fell significantly over time both in absolute terms and relative to total annual renunciations, the latter from about 82 per cent of total annual renunciations in 1987 and 1988 to about 63 per cent in 1990.

Renunciations of petroleum-related CEE:

- equalled \$586.2 million or 18 per cent of all renunciations from 1987 to 1991;
- while the second largest category of renounced expenses for the period, were less than one-quarter as large as renunciations of mining-related CEE;
- accounted for 72 per cent of the \$819.7 million in renunciations by petroleum companies from 1987 to 1991, i.e. while still the dominant expense renounced, petroleum companies also renounced significant amounts of both petroleum-related CDE (10 per cent) and COGPE (18 per cent); and
- while falling significantly in absolute terms, more than doubled as a proportion of total annual renunciations from an average of 15 per cent in 1987 and 1988 to 33 per cent in 1990.

One-half of all non-CEE amounts renounced from 1987 to 1991 (i.e. 4 per cent of all renunciations) were attributable to COGPE renounced in a single year, 1991. In fact, renunciations of COGPE in 1991 were over 30 per cent higher than all other renunciations combined in that year. Even so, renunciations of COGPE still equalled only \$151.2 million or 4.6 per cent of all renunciations from 1987 to 1991. They also exhibited the most volatility of any category of renounced expense ranging between \$2 million in 1987 and again in 1990, and \$119 million in 1991.

Renunciations of petroleum-related CDE at \$82.3 million accounted for an additional 2.5 per cent of all expenses renounced from 1987 to 1991. In general, renunciations of petroleum-related CDE fell significantly in absolute terms over the period, but increased slightly as a proportion of all renunciations. Renunciations of mining-related CDE were the smallest of all categories of renounced expenses and were essentially negligible at \$4 million or 0.1 per cent of all renunciations from 1987 to 1991.⁴ An implication of these data for

⁴ This finding is reinforced by the regional data in Table 3.1.

renunciations of CDE is that the exploration activities funded by flow-through shares did not translate into development activities financed in the same way or to the same degree, especially in the case of mining.⁵

Mining: 1983 to 1991

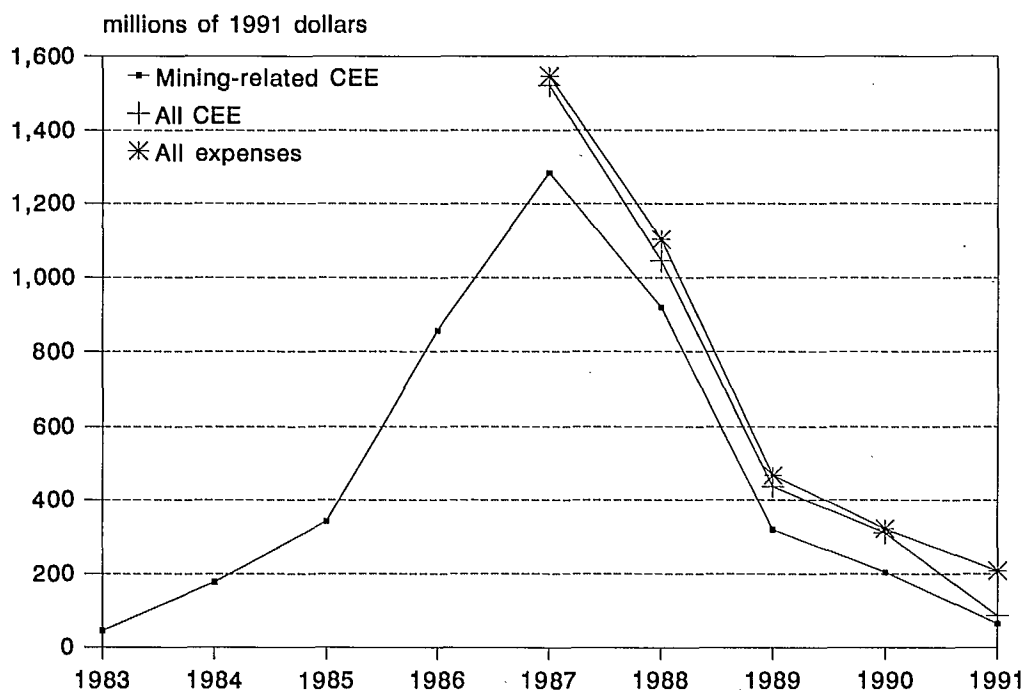
To provide a fuller perspective on the evolution of flow-through share financing, Chart 3.2 reports on annual renunciations in constant 1991 dollars over the period 1983 to 1991.⁶ Three time series are depicted for this purpose. The first concerns renunciations of CEE by mining and mixed resource companies between 1983 and 1991. Amounts indicated for 1983 to 1986 are flow-through share "financing levels"⁷ obtained by the Department of Natural Resources;

⁵ In part, this may be explained by the inclusion in CEE of pre-production development expenses for mining. In addition, the mining exploration depletion allowance (perhaps the most important fiscal incentive provided to the mining industry) was targeted to grass-roots mining expenses, i.e. costs of finding and delineating new mineral resources as opposed to developing them. Since it was an expenditure-based tax incentive, eligibility for this depletion allowance was not dependent on the success of exploration expenditures. The relative absence of development financed by flow-through shares may also be partly attributable to the timing and nature of this financing which involved a combination of: tax-planning considerations that are known with greater certainty at year end and, therefore, typically pursued at that time; year-end deadlines for maximizing the value of tax benefits; and the consequent quality of exploration plays which may have included marginal prospects in an effort to meet tax deadlines. In and of itself, however, the limited success of flow-through shares in promoting development does not necessarily imply that the exploration activities themselves were always unsuccessful in locating mineral deposits and petroleum reserves. For example, it may be that firms whose exploration efforts were successful were able to raise funds for development from alternative sources which were more beneficial for their particular purposes, perhaps as a direct consequence of their success in locating minerals or petroleum reserves.

⁶ Constant 1991 dollar values were obtained by using the GDP implicit price index (1991=100).

⁷ Flow-through share financing levels are estimates of funds raised by limited partnerships primarily in respect of mining flow-through shares and by junior mining companies who issue flow-through shares directly to investors. The former were obtained through surveys of diversified limited partnerships. The latter were constructed from: i) publications of Canadian stock exchanges reporting on new share issues of listed junior mining companies; ii) direct contact with Canadian stock exchanges; iii) information from the listings departments of Canadian stock exchanges; and iv) publications of provincial security commissions. The estimates do not contain information on junior mining companies that are either not listed on a Canadian stock exchange or are private; however, funds raised by such companies are thought to be small. For additional information see, for example, the 1989 and 1992 publications of the Intergovernmental Working Group on the Mineral Industry, pp. 1-4.

Chart 3.2
Select annual renunciations: 1983-91



Sources: Revenue Canada (1987-91); and Intergovernmental Working Group on the Mineral Industry (1983-86).

amounts for 1987 to 1991 are actual renunciations from T101 information returns. The inclusion of mixed resource companies means that small amounts of petroleum-related CEE are also reflected in this time series.⁸

Since estimates of flow-through share financing levels equal about 107 per cent of actual renunciations of mining-related CEE for 1987 to 1991, financing levels for 1983 to 1986 are considered to be reasonably representative of actual renunciations during that earlier period. Differences between the estimates of financing levels and actual renunciations are largely attributable to three factors: i) payments to third-party intermediaries, such as limited partnerships and

⁸ Financing-level estimates for 1983 to 1986 include funding for some senior mining companies. For consistency, all renunciations by mixed resource companies were added to the data for 1987 to 1991.

investment brokers, which would reduce the amount of financing available to be renounced by mining and petroleum companies; ii) the fact that funds raised in any particular calendar year do not have to be spent in that same year; and iii) the non-exhaustive sample of issuing corporations used to generate financing levels (see footnote 7).

The remaining two time series concern actual renunciations of CEE and renunciations of all types of expenses as reported on T101 information returns for the period 1987 to 1991. They are included in Chart 3.2 as benchmarks to highlight the general relationship between these three categories of expenses.

Chart 3.2 reveals the following:

- renunciations of mining-related CEE, in 1991 dollars, exhibit a distinct trend increasing dramatically each year from about \$45 million in 1983 to \$1,284 million in 1987 and then decreasing annually, in an equally dramatic manner, to about \$65 million in 1991;
- after 1986, similar patterns hold for renunciations of CEE and for renunciations of all eligible expenses;
- renunciations of mining-related CEE in 1991 exceeded comparable 1983 flow-through share financing levels for mining exploration, even after adjusting for inflation; and
- once again, the overwhelming importance of renunciations of mining-related CEE relative to all other types of renunciations is apparent.

The success of flow-through shares in financing mining exploration closely follows trends in gold and silver prices which attained a peak in 1987 and fell annually to 1991 (see Chart 2.1) and in share prices of gold and silver mining stocks which followed a similar pattern (see Chart 2.2). In addition, the 1987 income tax reform reduced the attractiveness of flow-through shares; for example, the mining exploration depletion allowance for grass-roots mining expenses, which had been enhanced in 1983, was phased out commencing in 1988. The success of flow-through shares in financing mining exploration relative to petroleum-related activities is partly attributable to low world oil prices after 1985, to the weaker performance of oil and gas stocks (see Chart 2.2), and to relatively less generous fiscal incentives afforded petroleum exploration and development after 1986. This relative success can also be explained in part by the differing nature of the two industries; on average, significantly higher success rates in finding oil and gas would reduce the need for flow-through share financing.⁹

⁹ See the Peat Marwick Stevenson & Kellogg report on case studies, p. 29.

Importance in Financing Resource Activities

This section considers expenditures in Canada on exploration, development and petroleum properties by mining and petroleum companies¹⁰, and explores the importance of flow-through shares in providing financing for these activities. Data on renunciations are thereby put into context with respect to their impact on resource activities.

Exploration

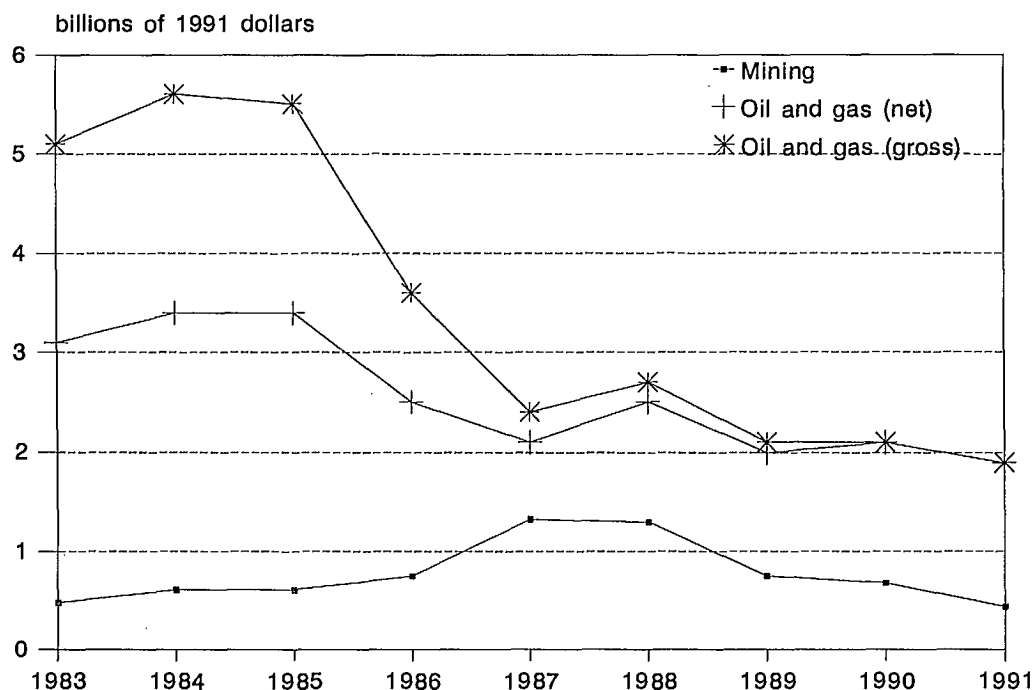
Chart 3.3 provides information on mining and petroleum exploration expenditures in Canada from 1983 to 1991, in constant 1991 dollars. Two time series are depicted for the latter: petroleum exploration expenditures gross and net of assistance. Assistance includes PIP, CEDIP and CEIP grants, other federal and provincial incentives, and insurance receipts. Due to a lack of data on assistance to mining companies, the time series for mining exploration expenditures includes all forms of assistance received by them.

A number of points in Chart 3.3 are striking. First, the annual average amount of gross exploration expenditures in the petroleum industry for the entire period is about four times that in the mining industry even though the former declined significantly after 1985. Second, the pattern of overall expenditures is markedly different between the two industries. Petroleum exploration declined sharply after 1985 whereas mining exploration attained a peak in 1987 and 1988. Third, while the overall trend of gross and net petroleum exploration expenditures is similar, net amounts were substantially lower between 1983 and 1986, and more constant over the entire period.

Mining

A comparison of Charts 3.3 and 3.2 reveals that the pattern of mining exploration expenditures from 1983 to 1991 mirrors the pattern of renunciations of CEE by mining and mixed resource companies. Levels of exploration expenditure increased generally from 1983 to 1987 in line with attractive mining tax incentives such as the mining exploration depletion allowance, high gold and silver prices, strong performances of gold and silver mining stocks and of metals and minerals mining stocks, and improvements to the flow-through share provisions themselves; peaked in 1987 and 1988, at which time the

¹⁰ Canadian and regional expenditure data for exploration, development and petroleum properties for the period 1983 to 1991, in 1991 dollars, are contained in Appendix IV together with an explanation of how they were constructed and their relationship to income tax categories of expenses. Constant dollar amounts were obtained using the GDP implicit price index (1991=100).

Chart 3.3*Exploration expenditures in the mining and petroleum industries: 1983-91*

Sources: Statistics Canada (26-213); Department of Natural Resources; and Canadian Association of Petroleum Producers.

attractiveness of flow-through shares was reduced by tax reform changes including the elimination of the mining exploration depletion allowance and the reduction of statutory tax rates, the fall in gold and silver prices, and the sharp drop in gold and silver mining stocks¹¹; and fell thereafter in line with renunciations by means of flow-through shares.

The importance of flow-through shares for the mining industry is also evident in Chart 3.4 which explicitly relates renunciations of mining-related CEE to mining exploration expenditures. For the purposes of Chart 3.4, renunciations of petroleum-related CEE by mixed resource companies are excluded from 1987 to 1991. In addition, mining-related CEE for any year excludes 60-day amounts

¹¹ Information on gold and silver prices and mining stocks is contained in Charts 2.1 and 2.2, respectively.

incurred in the subsequent calendar year.¹² A lack of data did not allow these adjustments for 1983 to 1986. Consequently, the shaded bar between 1986 and 1987 is a reminder that these data series are not entirely consistent. Data deficiencies for 1983 to 1986 (noted above) are also apparent in the impossible finding that \$1.15 of CEE was renounced per dollar of exploration expenditure in 1986.

Despite the data deficiencies, the overall trend in Chart 3.4 is indicative of the significance of flow-through shares for mining exploration. After 1986, annual renunciations of mining-related CEE averaged 60 cents per dollar of mining exploration spending and ranged from a high of 82 cents per dollar in 1988 to a low of 17 cents per dollar in 1991. Thus, flow-through shares played a significant role in financing mining exploration, but their importance declined precipitously after 1988.

Oil and Gas

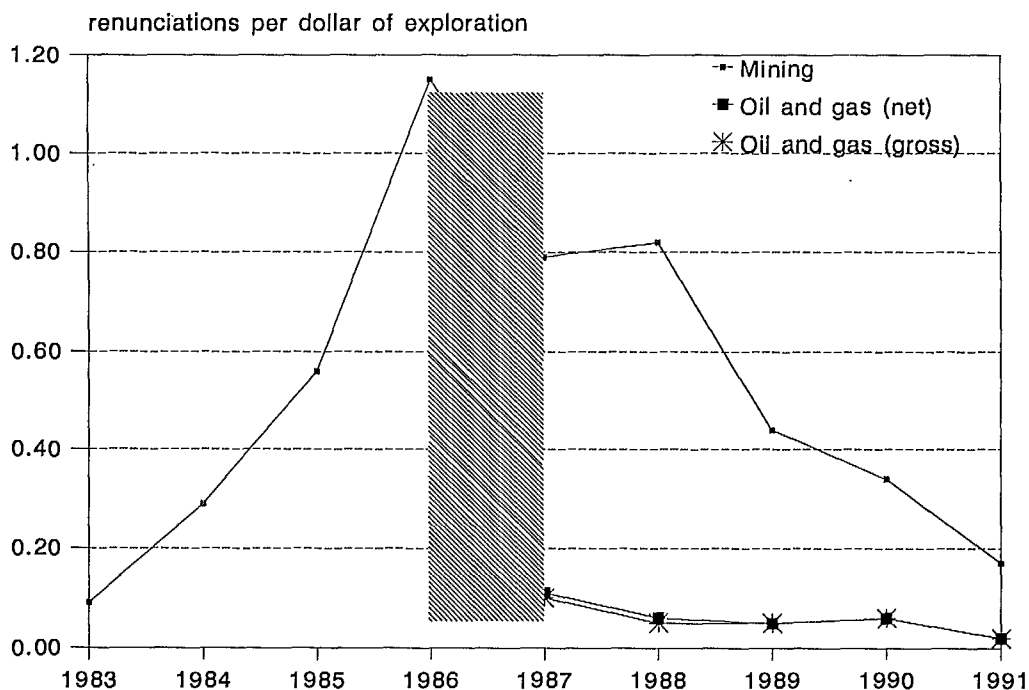
Chart 3.3 reveals a very different pattern for petroleum exploration expenditures. Exploration spending in the petroleum industry is sensitive both to levels of crude oil prices and to incentives provided by federal and provincial governments. The combination of two events – one domestic and the other international – largely explains the sharp decline in petroleum exploration spending after 1985. First, the Western Accord, announced in March 1985, eliminated the remaining domestic controls on crude oil prices effective after May of that year and generally terminated, after March 1986, the Petroleum Incentives Program (PIP) which had provided its largest grants for petroleum exploration (at rates of up to 80 cents per dollar of exploration). Through the Western Accord, federal and provincial incentives were substantially reduced and crude oil pricing became entirely dependent on world markets. Second, world oil prices fell substantially in 1986 and have remained at relatively low levels since that time. Petroleum exploration spending in Chart 3.3 closely reflects the timing of these two events; expenditures fell substantially in 1985 and remained at lower levels thereafter. This general trend holds for both the gross- and net-of-assistance time series. The latter illustrates the particular importance of PIP grants from 1983 to 1986; in comparison, government incentives were significantly less influential from 1987 to 1991. Thus, world oil price levels and government incentives appear to have driven petroleum exploration expenditures as opposed to the availability of flow-through share financing.

¹² This adjustment is necessary since statistics on exploration spending are compiled on a calendar year basis whereas 60-day amounts, which are incurred in January or February of a year, are included in renunciations of CEE for the previous year.

Chart 3.4 reinforces the view that, in contrast to mining exploration, flow-through shares played a relatively minor role in promoting petroleum exploration. Per dollar of petroleum exploration spending, renunciations of petroleum-related CEE (adjusted to exclude 60-day amounts incurred in the subsequent year) accounted for a relatively constant annual average of only 6 cents from 1987 to 1991. In addition, the general fall in renunciations of petroleum-related CEE after 1987 is not reflected in a proportionate decline in petroleum exploration spending; nor does the pattern of petroleum exploration spending match the pattern for renunciations of petroleum-related CEE. These facts indicate that the relationship between flow-through share financing and petroleum exploration expenditures is much more tenuous than is the case for mining exploration expenditures.

Chart 3.4

Importance of flow-through shares in financing exploration in Canada



Sources: Statistics Canada; Department of Natural Resources; Revenue Canada; and Canadian Association of Petroleum Producers.

Other Resource Activities

In contrast to exploration, renunciations by means of flow-through shares were not significant in terms of expenditures on development and petroleum properties in Canada from 1987 to 1991. For this period, renunciations of mining-related CDE and petroleum-related CDE accounted for only 0.1 per cent and 1.4 per cent, respectively, of spending (unadjusted for inflation) on mining and petroleum development activities. Renunciations of COGPE, the majority of which occurred in 1991, accounted for only 3.7 per cent of expenditures (unadjusted for inflation) on petroleum properties. Consequently, flow-through shares were not an important source of finance for either development or petroleum properties.

C. Regional Aspects

A regional distribution of renunciations is provided in Table 3.1. The data are aggregates for the period 1987 to 1991. The allocation among regions is on the basis of head office location of the resource company which renounced the expense. While a disaggregation based on the location in which the renounced expense was incurred would have been preferable¹³, it does not seem unreasonable to assume that exploration and development activities are conducted in large part in the same province as that in which the corporate head office is located. To the extent that this is the case (and indeed this hypothesis is largely supported by the exploration data underlying Charts 3.5, discussed below), a regional distribution by corporate head office can provide insight into the regional benefits associated with flow-through shares.

Mining

Table 3.1 shows that renunciations of mining-related CEE were largest in Ontario, British Columbia and Quebec, respectively. Furthermore, these three provinces accounted for 87 per cent of all such renunciations from 1987 to 1991.

¹³ Unfortunately, this type of regional breakdown is not available from Revenue Canada files.

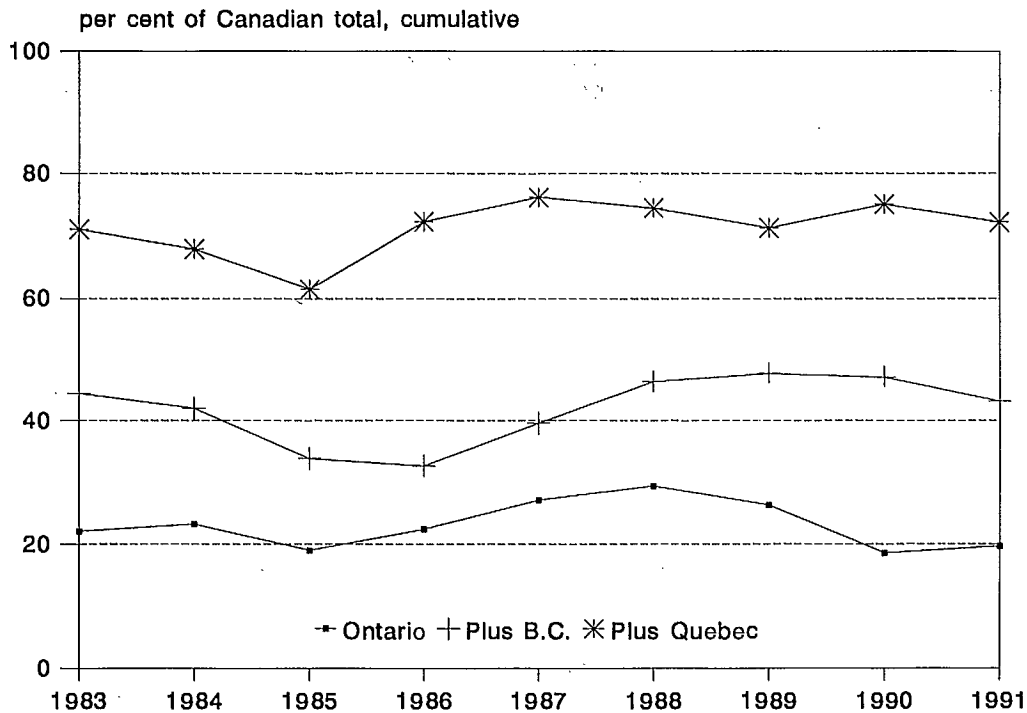
Table 3.1*Distribution of renunciations and companies by region: 1987-91¹*

Region	Number of companies ²	CEE Oil	CDE Oil	COGPE	CEE mining	CDE mining	Total expenses
(\$ million)							
Yukon	5	0.0	0.0	0.0	0.6	0.0 ³	0.6
N.T.	2	0.0	0.0	0.0	1.0	0.0	1.0
B.C.	935	27.0	1.2	0.5	817.8	2.4	848.9
Alta.	501	486.0	71.7	150.3	166.8	0.2	875.0
Sask.	12	0.9	0.5	0.3	20.3	0.0 ³	22.0
Man.	5	0.1	0.0	0.0	4.6	0.0	4.7
Ont.	406	54.7	6.8	0.0 ³	896.1	1.1	958.8
Que.	148	2.1	0.0	0.0	431.1	0.2	433.3
N.B.	2	0.0	0.0	0.0	2.8	0.0	2.8
N.S.	19	11.7	2.0	0.0 ³	74.3	0.0	88.1
P.E.I.	0	0.0	0.0	0.0	0.0	0.0	0.0
Nfld.	4	0.0	0.0	0.0	0.9	0.0	0.9
U.S.	16	3.7	0.0	0.0	44.1	0.0	47.8
Total	2035	586.2	82.2	151.2	2,460.5	4.0	3,284.1

¹ Specifically, by the region in which the corporate head office is located.² The sum by region exceeds the "Total" due to the relocation of head offices among regions in some cases.³ Small, positive amounts are indicated.

Source: T101 Summaries, Department of Revenue Canada.

Chart 3.5a provides a regional perspective on exploration spending in the mining industry. It reveals that Ontario, British Columbia and Quebec were the three largest provinces in terms of mining exploration spending, together accounting for 72 per cent of these expenditures over the period from 1983 to 1991. As a proportion of mining exploration spending in Canada (constant 1991 dollars), annual exploration spending for these three provinces increased somewhat over the period and ranged from a low of 64 per cent in 1985 to a high of 78 per cent in 1987. Of the three, the pattern of exploration spending in Quebec mirrors most closely the pattern of flow-through share funding from 1983 to 1991; this is followed by Ontario, but only to a slightly lesser degree, and then by British Columbia. In each case, exploration spending peaked in 1987 and 1988.

Chart 3.5a*Mining exploration expenditures, three major provinces: 1983-91*

Sources: Statistics Canada; and Department of Natural Resources.

From Chart 3.1, it is evident that renunciations of mining-related CDE were almost negligible, reaching a maximum of \$2.6 million in 1988 and averaging only \$0.8 million from 1987 to 1991. Fluctuations in mining development spending from 1983 to 1991 (see Appendix IV) are attributable solely to the construction of the data series for development expenditures; specifically, these expenditures include pre-production development expenses which qualify as CEE for income tax purposes.¹⁴ This data construction prohibits any meaningful comparison of renunciations and spending levels for development.

¹⁴ Nevertheless, it is interesting that the data on mining development spending reveal:

- Ontario, British Columbia and Quebec to be the three largest provinces; and
- provincial trends to be similar to those for mining exploration spending.

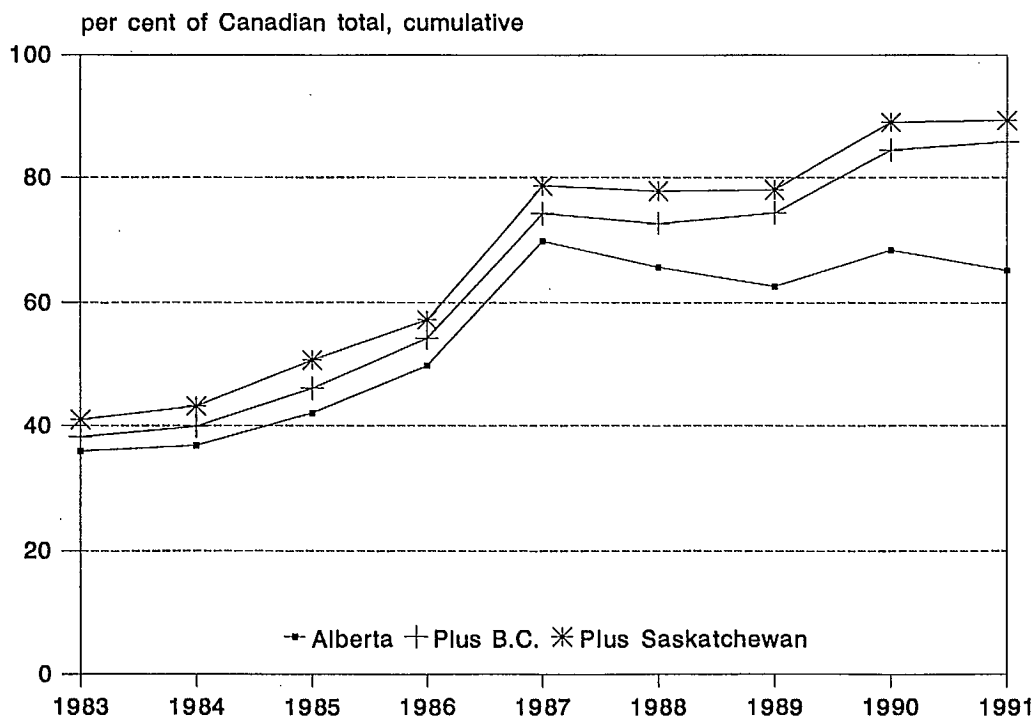
Oil and Gas

Table 3.1 also reveals that renunciations of petroleum-related CEE, CDE and COGPE in Alberta alone accounted for 83 per cent, 87 per cent and 99 per cent of all such renunciations, respectively. These findings are not inconsistent with Alberta's commanding 50 per cent share of petroleum exploration expenditures, 76 per cent share of petroleum development expenditures, and 77 per cent share of petroleum property expenditures in Canada between 1983 and 1991 (see Appendix IV).

What is somewhat surprising in light of the regional data on oil and gas spending, and possibly suggestive of a deficiency in the regional data on renunciations, is the finding in Table 3.1 that Ontario dominated both British Columbia and Saskatchewan in terms of renunciations of petroleum-related CEE and CDE. This is inconsistent with the fact that both British Columbia and Saskatchewan dominated Ontario in terms of petroleum exploration and development spending (see Appendix IV). Between 1983 and 1991, British Columbia and Saskatchewan together accounted for 10 per cent, 20 per cent and 22 per cent of petroleum exploration, development and petroleum-property expenditures, respectively.

Regional expenditure data reinforce the view that flow-through shares were not a major factor influencing petroleum exploration activity. Chart 3.5b shows that over 50 per cent of these expenditures in Canada in each year from 1987 to 1991 was incurred in Alberta. Nevertheless, annual amounts of petroleum exploration expenditures incurred in Alberta fell after 1985; the annual average amount for the period 1986 to 1991 equals only 75 per cent of the annual average amount for the period 1983 to 1985. A similar pattern holds for Saskatchewan; however, although petroleum exploration expenditures fell after 1985, the proportion of this spending incurred in Saskatchewan remained relatively more constant at 3.8 per cent of the Canadian total for the period 1983 to 1991. In contrast, both the proportion and level (in 1991 dollars) of petroleum exploration expenditures incurred in British Columbia generally increased between 1983 and 1990.

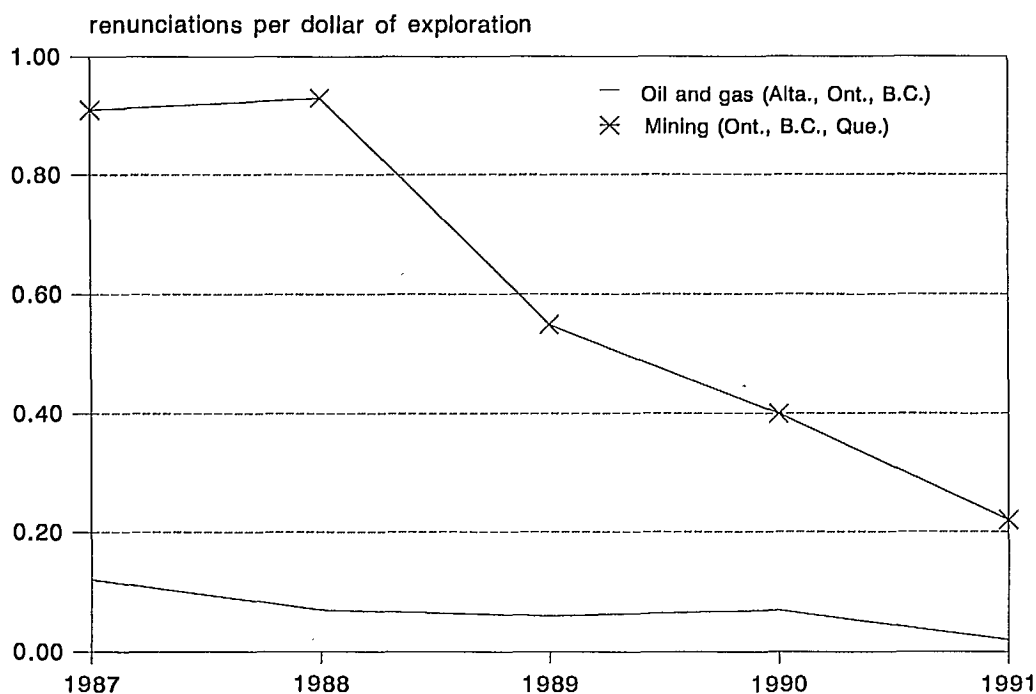
Expenditure data in Appendix IV for petroleum development and petroleum properties in the three western provinces yield no indications that flow-through shares had any perceptible impact. In both cases, spending levels in these provinces peaked in 1985 and remained relatively constant until 1991.

Chart 3.5b*Petroleum exploration expenditures, three western provinces: 1983-91*

Source: Based on Canadian Association of Petroleum Producers.

Chart 3.6 provides information on renunciations of CEE per dollar of exploration spending similar to Chart 3.4, but on a regional basis.¹⁵ Ontario, British Columbia and Quebec are included in the case of mining; Alberta, Ontario and British Columbia, in the case of oil and gas. The overall trends are identical to Chart 3.4 for both mining and petroleum, but per-dollar rates for mining in Chart 3.6 indicate that flow-through shares were significantly more important for these provinces than for the country as a whole.

¹⁵ Once again, renunciations of CEE were adjusted for this purpose to exclude 60-day amounts relating to exploration expenditures incurred in the subsequent calendar year.

Chart 3.6*Importance of flow-through shares in financing exploration: select regions*

Sources: Statistics Canada; Department of Natural Resources; Revenue Canada; and Canadian Association of Petroleum Producers.

D. Issuing Companies

Regional Distribution

In addition to a regional distribution of renunciations, Table 3.1 also provides regional information on the companies that issued flow-through shares from 1987 to 1991. A total of 2,035 companies did so, the overwhelming majority of which (i.e. 98 per cent) were located in one of four provinces; British Columbia (46 per cent), Alberta (25 per cent), Ontario (20 per cent) or Quebec (7 per cent). Companies in these four provinces accounted for

95 per cent of all renunciations over the period. In terms of the average amount of expense renounced per company, however, the ranking of provinces is exactly reversed: Quebec averaged \$2.9 million per resource company; Ontario, \$2.4 million; Alberta, \$1.7 million; and British Columbia, \$0.9 million¹⁶.

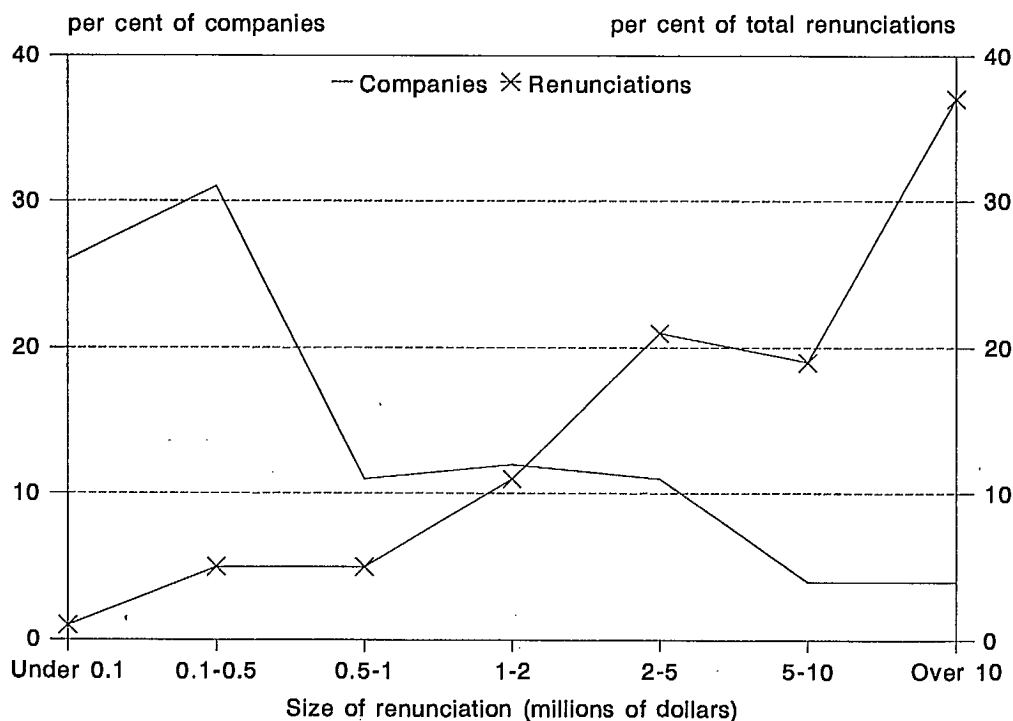
Size and Share of Renunciations

Chart 3.7 groups companies by size of renunciation and indicates the share of renunciations from 1987 to 1991 attributable to each corporate grouping. A strong inverse relationship is apparent: a large proportion of companies, each of which renounced a relatively small amount, accounted for a small proportion of total renunciations; conversely, a small proportion of companies, each of which renounced a relatively large amount, accounted for a large proportion of total renunciations.

For example, 26 per cent of all companies that issued flow-through shares between 1987 and 1991 renounced amounts of under \$100,000 each, but together accounted for only 1 per cent of total renunciations. Similarly, 68 per cent of the companies renounced amounts of under \$1 million each, but together accounted for only 11 per cent of all renunciations. At the other extreme, 4 per cent of the companies renounced amounts in excess of \$10 million each, but accounted for 37 per cent of total renunciations. Thus, most companies renounced relatively small amounts, but the few companies which renounced relatively large amounts accounted for the bulk of activity generated by flow-through shares.

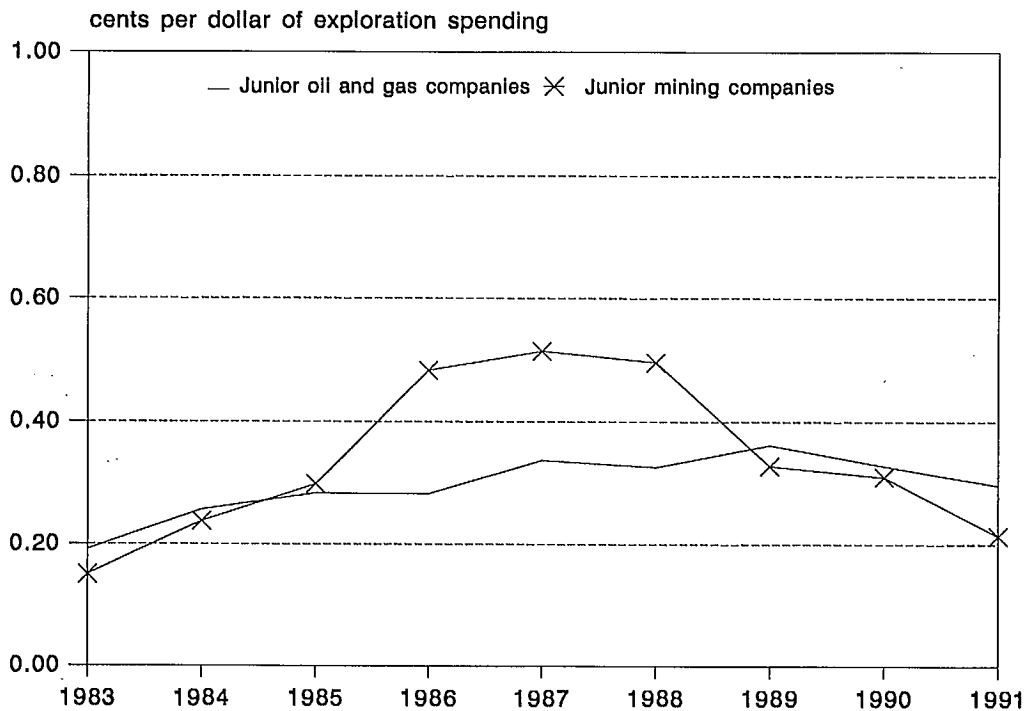
In the period 1987 to 1991, renunciations per company ranged from less than \$1,000 to over \$117 million. The median amount renounced per company was under \$500,000 and the average amount was \$1.6 million. Overall, 76 per cent of all firms that renounced amounts under flow-through share agreements were mining companies, 21 per cent were petroleum companies, and 3 per cent were mixed resource companies. Mining companies accounted for roughly 76 per cent of all firms in each of the renunciation ranges reported in Chart 3.7.

¹⁶ As discussed below, flow-through shares were of particular importance to junior mining companies. A large majority of junior mining companies are listed on the Vancouver Stock Exchange (which supports use of the VSE index as a proxy for investor interest in junior mining stocks). As such, it is not surprising to find a relatively large proportion of the companies having head offices located in British Columbia and renouncing relatively small amounts of mining-related expenses.

Chart 3.7*Distribution of companies/renunciations by size of renunciation: 1987-91*

Source: T101 Summaries, Revenue Canada.

Various studies undertaken by the Department of Natural Resources suggest that flow-through shares have been of special importance to junior mining companies. The share of mining exploration spending in Canada undertaken by these companies over the period 1983 to 1991, shown in Chart 3.8, strongly supports this finding. The trend parallels closely the overall trend in flow-through share financing. The share of mining exploration undertaken by junior mining companies more than tripled from 15 per cent in 1983 to over 51 per cent in 1987, and fell after 1988 to 21 per cent in 1991.

Chart 3.8*Shares of exploration spending incurred by junior companies: 1983-91*

Source: Department of Natural Resources.

The Department of Natural Resources estimates that the proportion of aggregate flow-through share financing for exploration raised by junior mining companies ranged between 53 per cent and 77 per cent from 1985 to 1989. While estimates are not available, it is also thought that this proportion rose to about 90 per cent in 1990 and close to 100 per cent in 1991 as flow-through share financing became less attractive for senior companies. Once again, however, absolute amounts declined precipitously from 1987 to 1991.

The importance of flow-through shares for junior companies involved in exploring for oil and gas is less obvious but still apparent in Chart 3.8. The share of petroleum exploration expenditures in Canada attributable to junior companies increased by 75 per cent between 1983 and 1987, and remained relatively stable to 1991.

Tax Expense Categories

While overall renunciations of CEE, CDE and COGPE declined significantly after 1987, the number of companies entering into flow-through share agreements also fell. This section considers the extent of this annual decline with respect to each of the tax categories of expenses eligible for renunciation, i.e. CEE (and 60-day amounts separately), CDE and COGPE. The combined impact of declining numbers of both companies and annual renunciations is also considered for each tax category in terms of annual average amounts renounced per company.

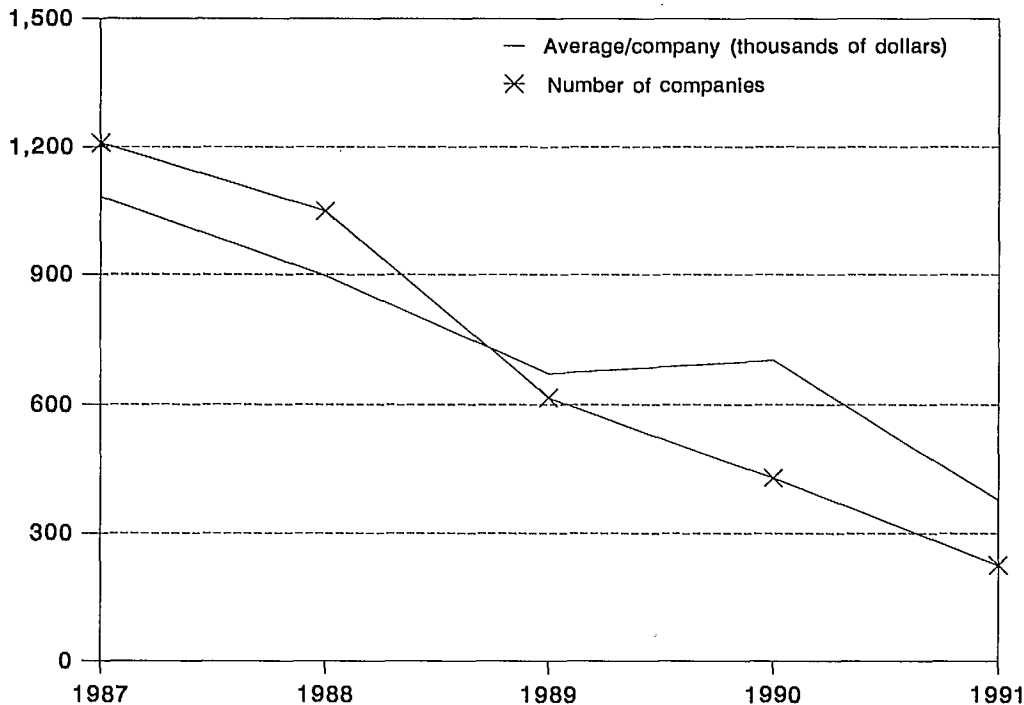
The relative use and importance over time of each tax expense category for mining and petroleum companies is also investigated. In particular, the following questions are addressed:

- how has the share of companies renouncing amounts pertaining to a specific tax expense category changed since 1987 relative to the other tax categories?; and
- how has the share of renunciations pertaining to a specific tax expense category changed since 1987 relative to total renunciations?

Canadian Exploration Expense

Chart 3.9a reveals that the number of mining and petroleum companies that renounced CEE fell by more than 80 per cent, from 1,209 in 1987 to 226 in 1991. The decline in the annual average amount renounced per company was somewhat smaller (65 per cent) and went from \$1.1 million in 1987 to \$380,000 in 1991. Thus, while CEE was the dominant tax category of renounced expenses over the period, the trend was for fewer companies to renounce smaller amounts of CEE.

Chart 3.9a
CEE renunciations per company: 1987-91

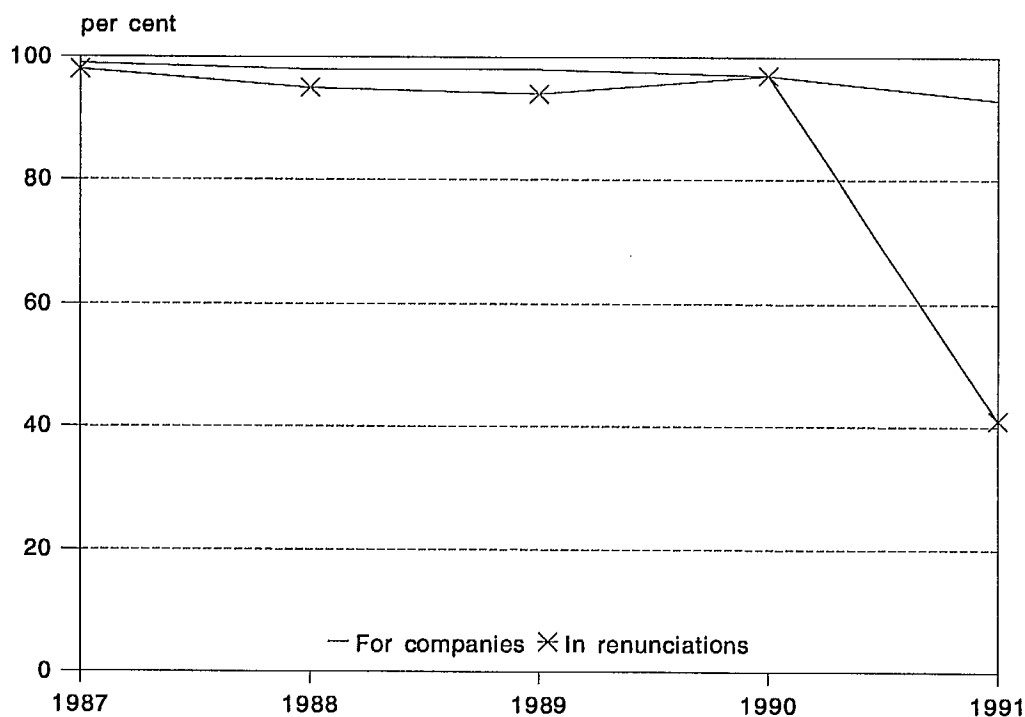


Source: T101 Summaries, Revenue Canada.

Chart 3.9b indicates that companies which renounced CEE as a proportion of all companies that made renunciations declined slightly each year after 1987 from about 99 per cent to 93 per cent.¹⁷ An almost identical pattern holds for the share of renunciations of CEE in total renunciations; a slight decline between 1987 and 1989 is offset by a slight increase in 1990, but the proportion of renunciations of CEE in 1991 fell dramatically to 41 per cent as a direct result of the correspondingly large amount of COGPE renounced in

¹⁷ The analysis applies to companies that had at least some portion of their total renunciations as CEE (or CDE or COGPE as the case may be); it is not restricted to companies that renounced CEE (or CDE or COGPE) only.

Chart 3.9b
Relative importance of CEE provisions



Source: T101 Summaries, Revenue Canada.

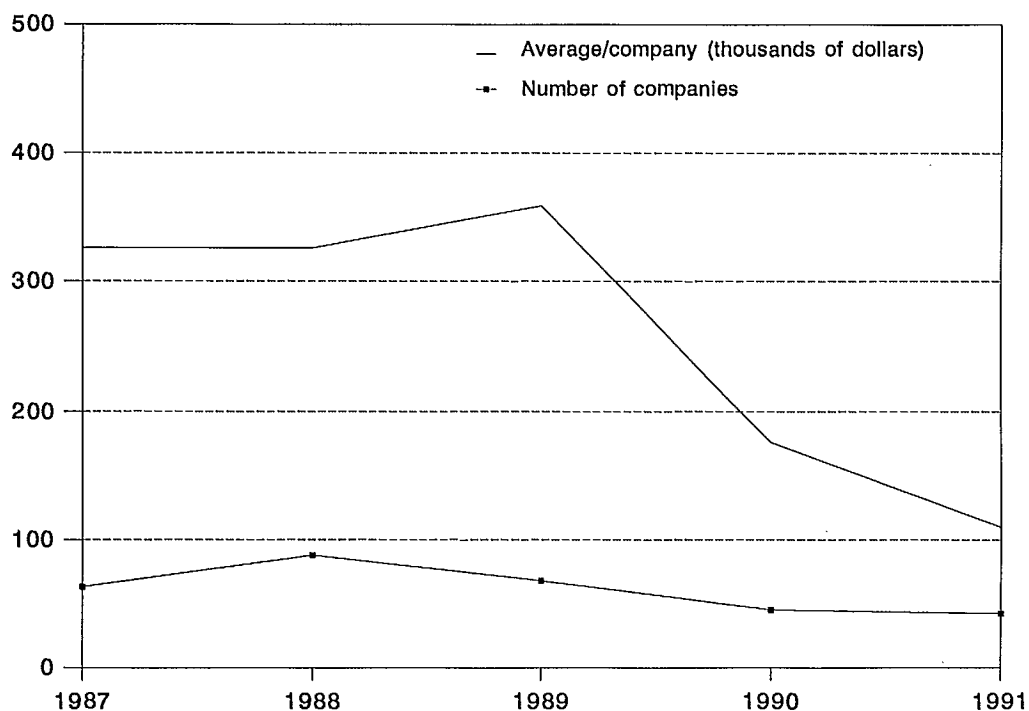
that year.¹⁸ These results suggest that the use and importance of the flow-through share provisions for CEE declined on average after 1987 relative to the provisions for CDE and COGPE.

Canadian Development Expense

Chart 3.10a shows that relatively few companies renounced amounts of CDE. In addition, the number of companies renouncing CDE declined over the period, from a high of 88 in 1988 to 42 in 1991. Furthermore, with the exception of

¹⁸ Had the amount of COGPE renounced in 1991 equalled the amount renounced in 1990, renunciations of CEE as a percentage of all renunciations in 1991 would have increased to 92 per cent from 41 per cent.

Chart 3.10a
CDE renunciations per company: 1987-91

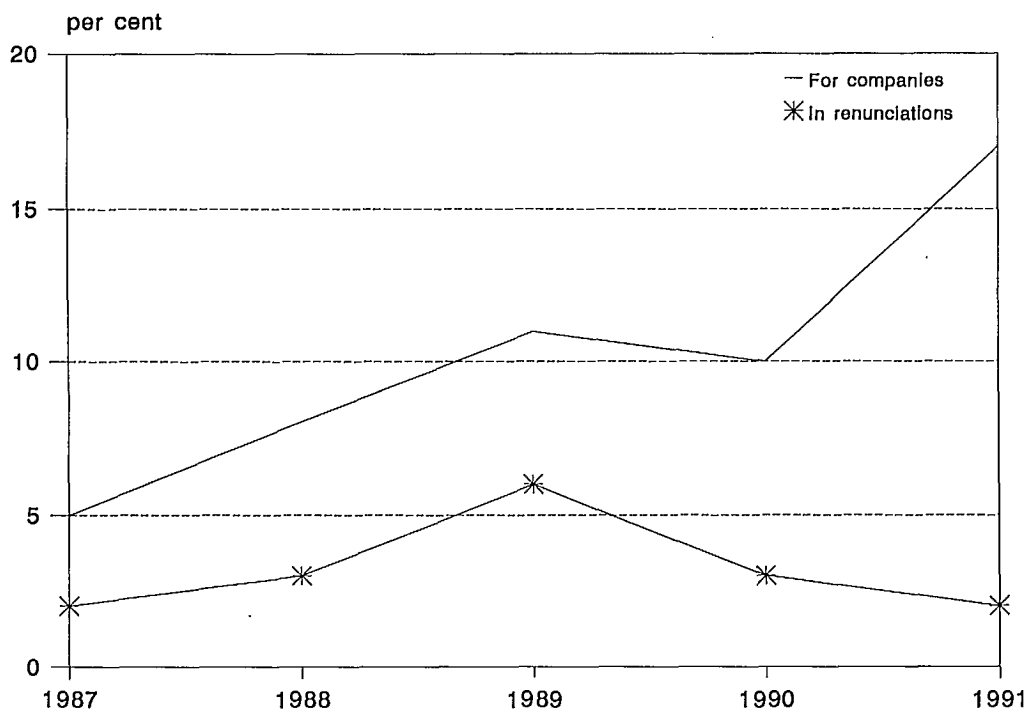


Source: T101 Summaries, Revenue Canada.

1989, the annual average amount of CDE renounced per company either remained constant or declined after 1987; it equalled \$326,000 in 1987 and 1988, and fell to \$110,000 by 1991. As with CEE, therefore, the overall trend was for smaller amounts of CDE to be renounced by fewer companies.

While annual renunciations of CDE and the number of companies issuing flow-through shares in respect of CDE fell over time, Chart 3.10b reveals that relatively more companies used the CDE provisions in 1991 (17 per cent) than in 1987 (5 per cent). On the other hand, the proportion of annual renunciations attributable to CDE rose from 2 per cent in 1987, to a high of 6 per cent in 1989 and then fell back to 2 per cent in 1991. Thus, while renunciations of CDE continue to be small in both absolute and relative terms, the analysis suggests that smaller companies became more involved in development activities financed by flow-through shares.

Chart 3.10b
Relative importance of CDE provisions

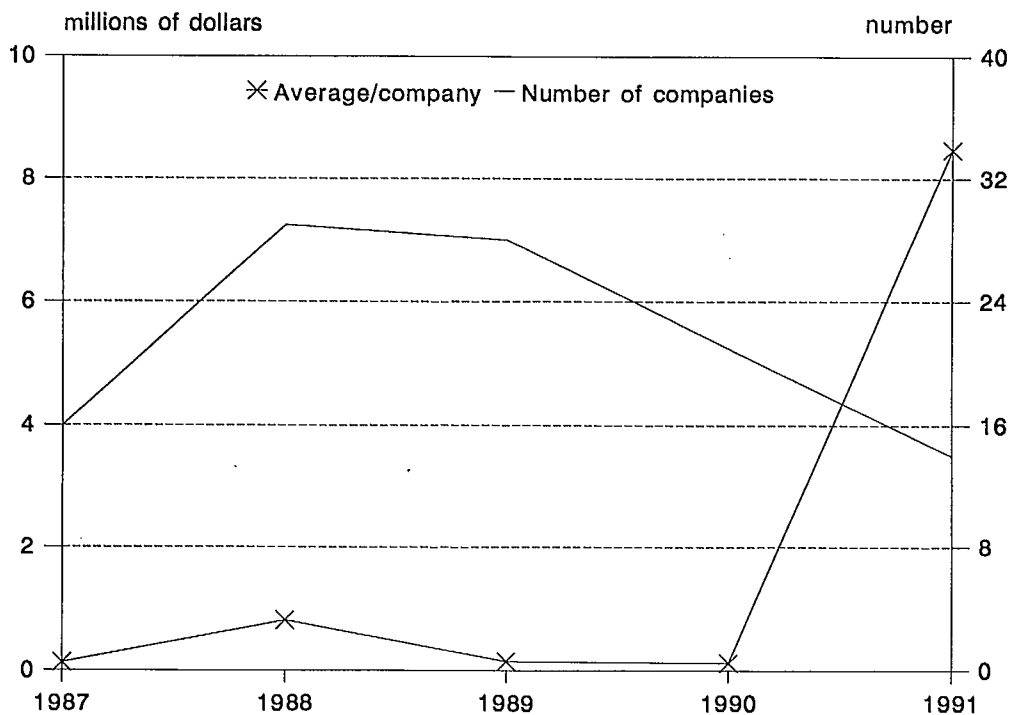


Source: T101 Summaries, Revenue Canada.

Canadian Oil and Gas Property Expense

Chart 3.11a shows that the number of companies renouncing COGPE peaked in 1988 and 1989, but fell back to 1987 levels in 1991. In addition, the smallest number of companies were involved in renunciations of COGPE; only 29 companies renounced COGPE in 1988, the year in which the largest number did so. It is also interesting that the year in which the largest amount of COGPE was renounced (1991) is also the year in which the smallest number of companies (14) made use of the flow-through provisions in respect of COGPE.

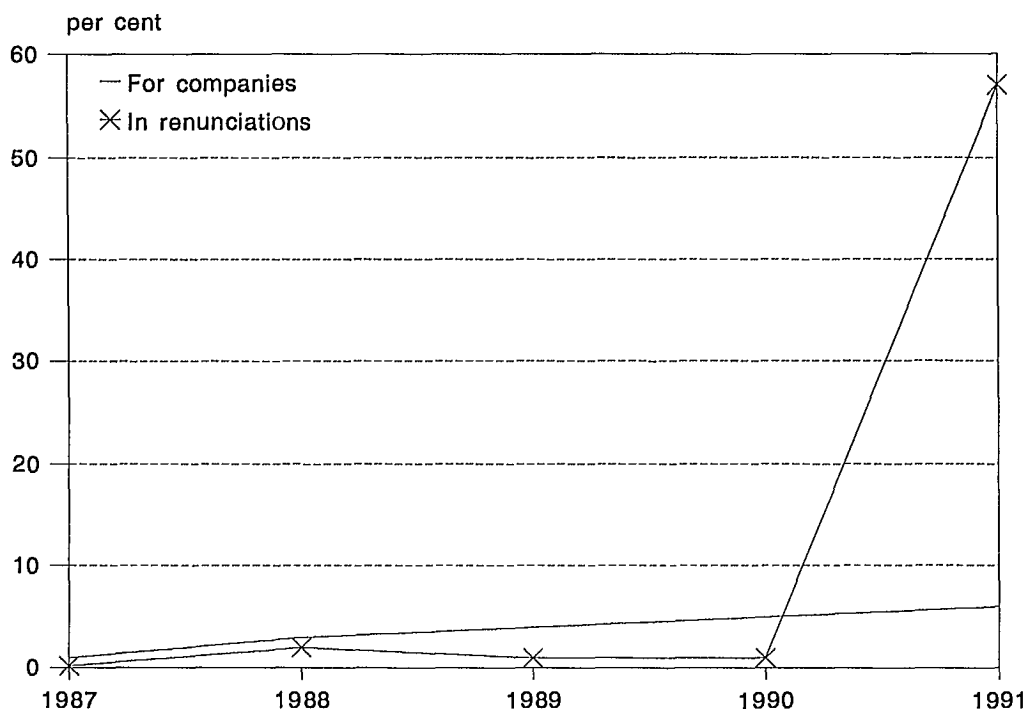
Chart 3.11a
COGPE renunciations per company: 1987-91



Source: T101 Summaries, Revenue Canada.

Chart 3.11b indicates that, relative to all companies that made renunciations, the proportion that renounced COGPE increased each year from 1 per cent in 1987 to 6 per cent in 1991. The proportion of renunciations attributable to COGPE rose tremendously in 1991 to equal 57 per cent of all renunciations. This contrasts markedly with the very small ratio of renunciations of COGPE (1.1 per cent) to total renunciations between 1987 and 1990. While it is difficult to draw general conclusions given the somewhat singular data, it may be that the relative use and importance of the flow-through share provisions in respect of petroleum properties increased between 1987 and 1991.

Chart 3.11b
Relative importance of COGPE provisions

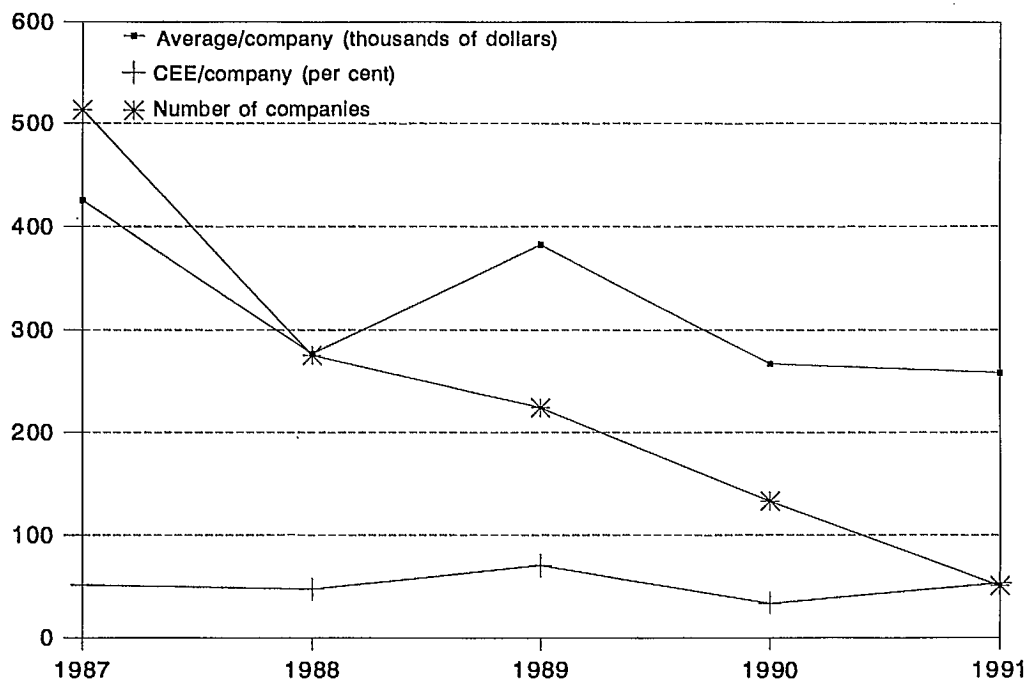


Source: T101 Summaries, Revenue Canada.

60-Day Amounts

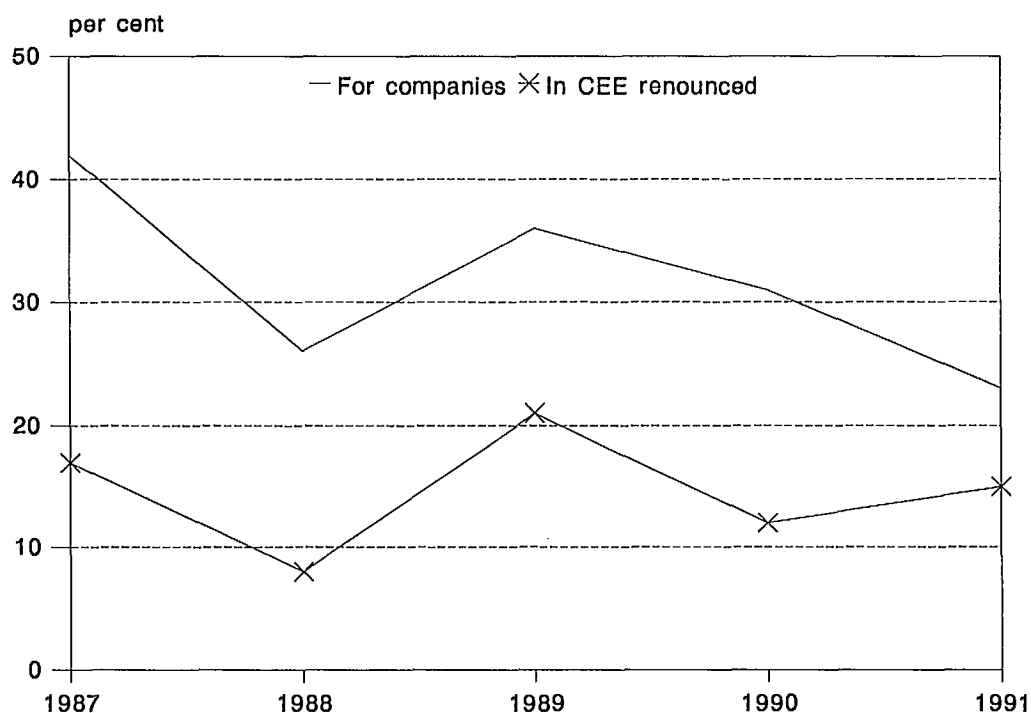
Chart 3.12a provides information on the number of companies that took advantage of the 60-day deeming provision; annual average 60-day amounts per company; and the frequency with which the deeming provision was used by companies that renounced CEE. For example, 51 companies incurred CEE in January or February 1992 that was deemed to have been incurred and renounced effective December 31, 1991. The average 60-day amount per company in 1991 was \$258,000. The 60-day amount for 1991 constituted 54 per cent of all CEE incurred by those resource companies that used the deeming provision.

Chart 3.12a
*Average 60-day amounts for companies using
the deeming provision: 1987-91*



Source: T101 Summaries, Revenue Canada.

Overall, Chart 3.12a reveals that annual average 60-day amounts per company declined from \$425,000 in 1987 to \$258,000 in 1991. The number of companies employing the deeming provision fell continuously over the period from 513 in 1987 to 51 in 1991. As a proportion of CEE renounced by companies employing the provision, however, 60-day amounts fluctuated around a mean value of about 50 per cent – this proportion holds for 1987 and 1988, rises to 71 per cent in 1989, falls back to 34 per cent in 1990 and reestablishes itself, slightly above the period average, at 54 per cent for 1991. Thus, on average, fewer companies made less use of the deeming provision but, for those companies that continued to do so, 60-day amounts accounted for a substantial portion of their exploration financing.

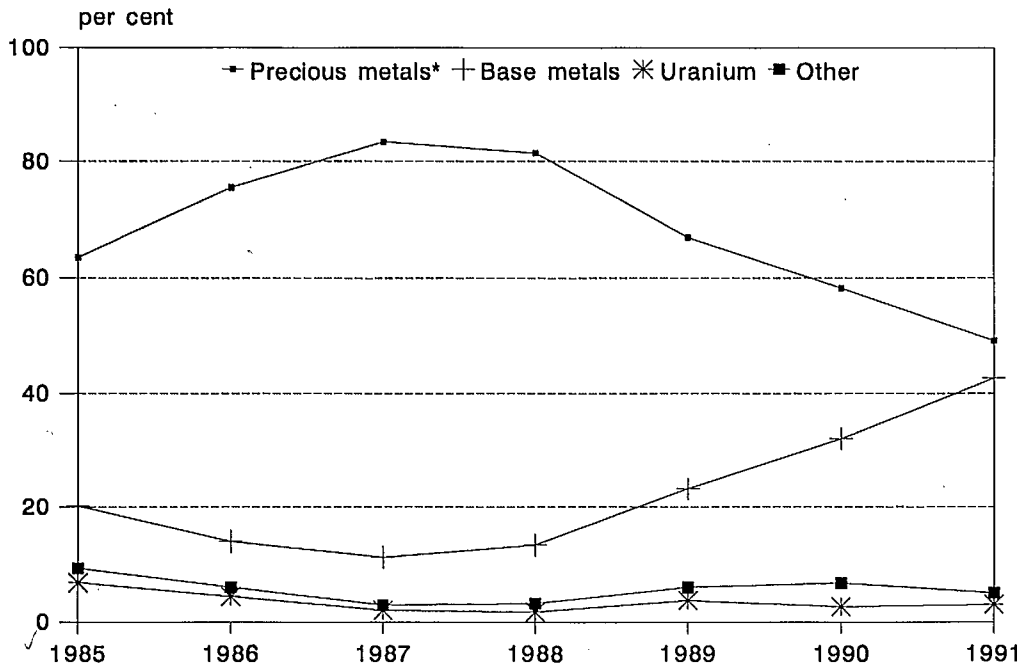
Chart 3.12b*Relative importance of deeming provision for renunciations of CEE*

Source: T101 Summaries, Revenue Canada.

Chart 3.12b indicates that the ratio of companies that reported 60-day amounts to those that renounced CEE, while variable, fell from a high of 42 per cent in 1987 to a low of 23 per cent in 1991. However, annual 60-day amounts per dollar of CEE renounced did not exhibit any particular trend – the ratio fluctuated around a mean value of 14 cents, and ranged from a low of 8 cents in 1988 to a high of 21 cents in 1989. Overall, these findings suggest that the relative use and importance of the deeming provision in financing exploration activity remained essentially unchanged over the period.

E. Mining Commodity Groupings

Chart 3.13 provides a breakdown of mining exploration expenditures by commodity grouping over the period 1985 to 1991. Four commodity groupings are included:

Chart 3.13*Mining exploration expenditures by commodity grouping: 1985-91*

* Gold (95 per cent), silver and platinum.

Source: Department of Natural Resources.

- precious metals which include gold (about 95 per cent of the category), silver and platinum;
- base metals which consist of lead, nickel, zinc and copper;
- uranium; and
- the remainder which includes ferrous metals, other metals and non-metals (including coal).

It is apparent from Chart 3.13 that the share of mining exploration expenditures in respect of precious metals (effectively gold) dominated all commodity groupings over the period. In addition, the share for precious metals increased from 1985 to 1987 and 1988 and fell thereafter, closely matching the pattern of flow-through share financing for mining exploration in Chart 3.2, trends in gold and silver prices and mining stocks in Charts 2.1 and 2.2, and fiscal and

legislative changes which occurred over the period. The pre-1988 increase in the share for precious metals was also at the expense of the other three commodity categories. However, the latter increased at the expense of precious metals after 1988.

This is evidence that the search for gold, in particular, was the objective of many flow-through share agreements. This hypothesis is also corroborated by information published by the larger limited partnerships that were established to solicit funds to acquire flow-through shares.

F. Modes of Issuing Flow-Through Shares

Partnership Intermediaries versus Direct Issuance

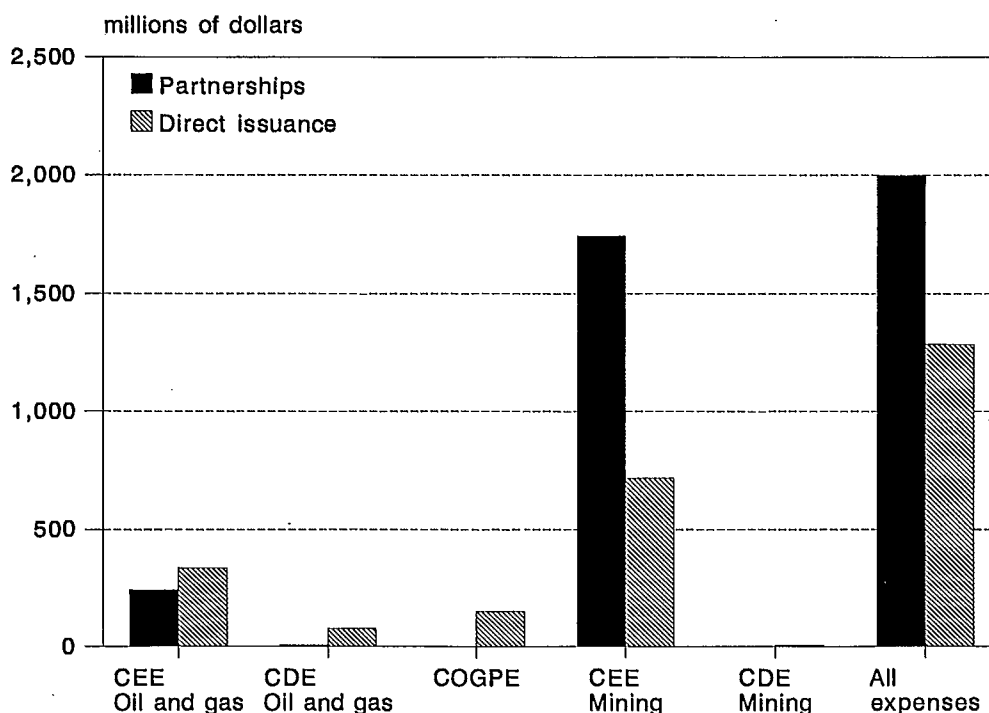
Expenses may be renounced under flow-through share agreements either directly to investors or through a third-party intermediary, the partnership. Chart 3.14 provides information on aggregate amounts renounced in respect of these two modes of issuance over the period 1987 to 1991.

Three points are striking. First, partnership intermediaries were the dominant mode for flow-through share financing from 1987 to 1991. Of the \$3.3 billion of renunciations of CEE, CDE and COGPE for that period, \$2.0 billion or 61 per cent was renounced to investors through partnership intermediaries. Second, renunciations by means of partnership intermediaries were virtually all (i.e. 99.7 per cent) in respect of CEE, and were primarily in respect of mining-related CEE (i.e. 87.3 per cent).¹⁹ Third, amounts renounced through partnership intermediaries relative to amounts renounced directly to investors varied significantly:

- among the mining and petroleum industries; and
- within the petroleum industry *per se*, among the various categories of eligible expenses.

¹⁹ Relatively small amounts of petroleum-related CDE (\$6.1 million) and COGPE (\$200 thousand) were also renounced in this manner.

Chart 3.14
Renunciations by mode of issuance: 1987-91



Source: T101 Summaries, Revenue Canada.

Of the \$2.5 billion in renunciations of mining-related CEE for the period 1987 to 1991, \$1.7 billion or 71 per cent was renounced through partnerships; none of the \$4 million in renunciations of mining-related CDE used the partnership vehicle. However, while partnerships were the dominant mode by which mining companies raised flow-through share financing (for exploration), direct issuance was the dominant mode for petroleum companies. Of the \$819.7 million in renunciations by petroleum companies, \$565.8 million or 69 per cent was renounced directly to investors. Direct issuance accounted for 58 per cent of all petroleum-related CEE, 93 per cent of all petroleum-related CDE, and almost all (i.e. 99.9 per cent) COGPE renounced between 1987 and 1991.

Table 3.2 groups mining and petroleum firms according to their use of direct issuance alone, partnership intermediaries alone, or both direct issuance and partnership intermediaries. Of the 2,035 companies that renounced expenses between 1987 and 1991, 1,069 or 53 per cent used only direct issuance; the

associated amount renounced, however, equalled only 22 per cent of all renunciations over the period. 755 or 50 per cent of all mining companies engaged in direct issuance alone, but accounted for only 14 per cent of amounts renounced by mining companies. In contrast, 302 or 70 per cent of petroleum companies employed only direct issuance; their renunciations comprised 52 per cent of renunciations by petroleum companies.

Table 3.2

Companies and renunciations by sector and mode of issuance: 1987-91

		Mode of issuance		
	Via partnership	Via partnership and direct issue	Direct issue	Total
Petroleum companies				
Number	74	53	302	429
Renunciations (\$ million)	115.9	253.9	396.4	766.2
– CEE	110.8	225.2	199.1	535.0
– CDE	4.9	23.8	51.4	80.1
– COGPE	0.2	5.0	145.9	151.1
Mining companies				
Number	342	452	755	1,549
Renunciations (\$ million)	426.8	1,618.5	328.6	2,373.9
– CEE	426.8	1,616.2	327.0	2,369.9
– CDE	0.0	2.3	1.6	3.9
Mixed resource companies				
Number	11	34	12	57
Renunciations (\$ million)	15.6	118.7	9.7	144.0
– CEE	15.6	116.7	9.5	141.8
– CDE	0.0	2.0	0.1	2.2
– COGPE	0.0	0.0	0.1	0.1
Total				
Number	427	539	1,069	2,035
Renunciations (\$ million)	558.3	1,991.1	734.7	3,284.1
– CEE	553.2	1,958.0	535.5	3,046.7
– CDE	4.9	28.1	53.1	86.2
– COGPE	0.2	5.0	146.0	151.2

Source: T101 Summaries, Department of National Revenue.

About 20 per cent of both mining and petroleum companies issued flow-through shares solely through partnership intermediaries and, in each case, amounts renounced equalled about 17 per cent of all renunciations by those companies. However, at \$1.31 million per company, the average amount renounced by all companies that used partnership intermediaries was almost twice as high as the average amount renounced by all companies that used only direct issuance.

The 452 or 29 per cent of mining firms that employed both direct issuance and partnership intermediaries renounced the largest amount of expenses, i.e. \$1.6 billion or 68 per cent of all renunciations by mining companies. The average renunciation per company was \$3.58 million. This approach was least popular among petroleum companies; only 53 (12 per cent) utilized both modes of issuance. Despite this, amounts renounced were significant at 33 per cent of all renunciations by petroleum companies.

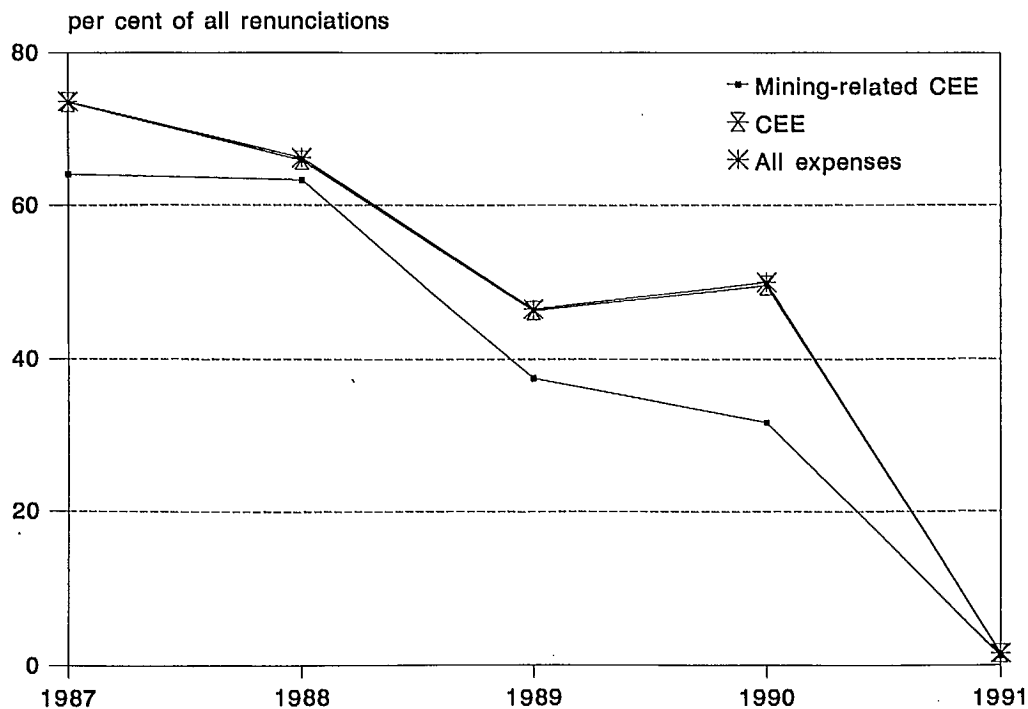
Partnership Intermediaries

Annual Amounts

Chart 3.15 illustrates that the share of renunciations by means of partnerships declined, but remained high from 1987 through 1990, and that the use of the partnership vehicle fell dramatically in 1991. The share of all renunciations

Chart 3.15

Importance of partnership intermediaries over time: 1987-91



Source: T101 Summaries, Revenue Canada.

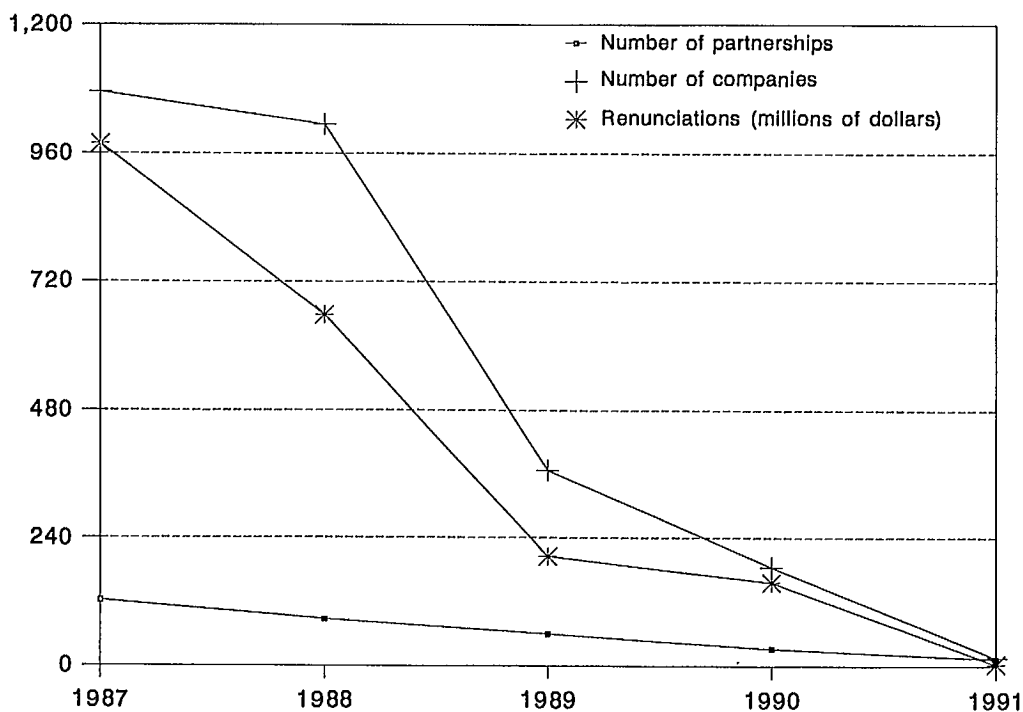
attributable to partnership intermediaries fell from a high of 74 per cent in 1987 to 50 per cent in 1990, and then plummeted to less than 2 per cent in 1991. The same general pattern holds for shares of CEE and mining-related CEE renounced through partnership intermediaries.

While renunciations via partnership intermediaries remained relatively high from 1987 to 1990, this masks sharp declines after 1987 in the number of partnerships and companies using this vehicle, and in the amounts renounced through partnerships. As shown in Chart 3.16:

- the number of partnerships involved with flow-through shares fell from 123 in 1987 to 13 in 1991 (in total, 263 partnerships renounced amounts under flow-through share agreements over the period);
- the number of companies renouncing amounts to partnerships declined from 1,075 in 1987 to 15 in 1991;

Chart 3.16

Use of partnership intermediaries over time: 1987-91



Source: T101 Summaries, Revenue Canada.

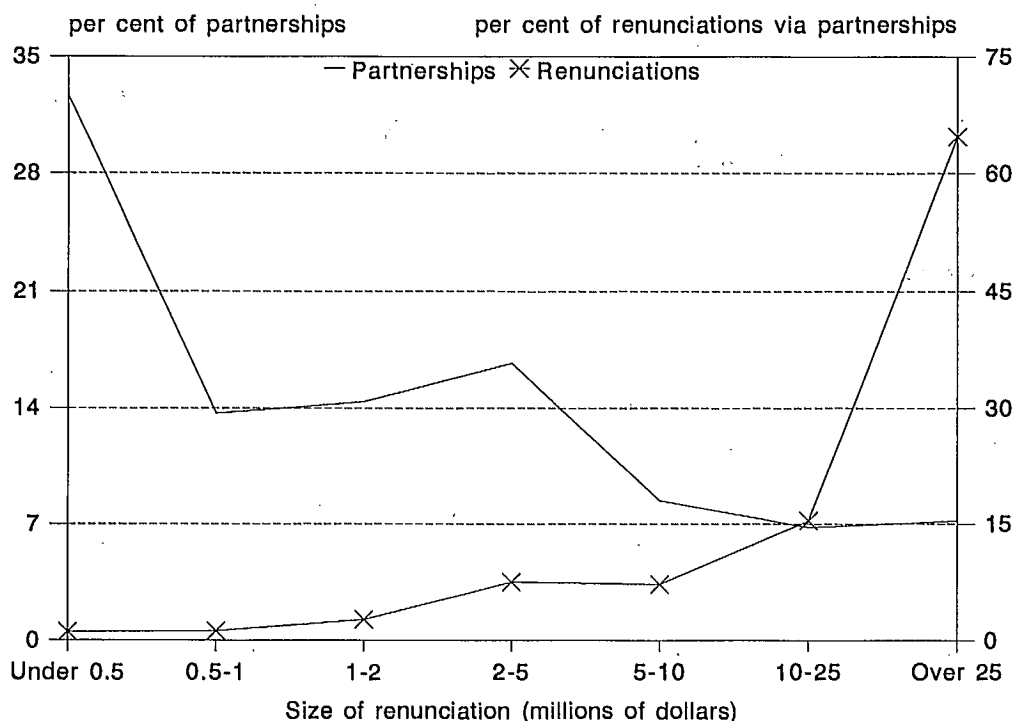
- annual amounts renounced through partnerships decreased from \$978.1 million in 1987 to \$3.3 million in 1991; and
- consistent with the general trend in all renunciations, almost 82 per cent of renunciations via partnerships occurred in 1987 and 1988.

Size and Share of Renunciations

Chart 3.17 groups partnerships by size of renunciation and indicates the share of renunciations from 1987 to 1991 attributable to each partnership grouping. As is the case for issuing companies (see Chart 3.7), a strong inverse relationship is apparent: a large proportion of partnerships, each of which received a relatively small renunciation, accounted for a small proportion of renunciations via partnerships; conversely a small proportion of partnerships, each of which received a relatively large renunciation, accounted for a large proportion of renunciations via partnerships.

Chart 3.17

Partnerships and renunciations by size of renunciation: 1987-91



Source: T101 Summaries, Revenue Canada.

For example, 33 per cent of partnerships each received renunciations of under \$500,000, but these partnerships accounted for only 1 per cent of all amounts renounced through partnerships. Similarly, 61 per cent of partnerships each received renunciations of under \$2 million, but these partnerships accounted for only 5 per cent of all amounts renounced through partnerships. At the other extreme, 7 per cent of partnerships each received renunciations in excess of \$25 million, but these partnerships accounted for almost 65 per cent of all amounts renounced through partnerships. This indicates that most partnerships raised relatively small amounts of flow-through share financing for mining and petroleum companies. On the other hand, a few "large" partnerships provided the bulk of flow-through share funding for resource activities. The latter included the "broadly-based" limited partnerships (i.e. those with in excess of 40 issuing companies each) that each attracted substantial numbers of investors (up to 14,000).

Renunciations per individual partnership ranged from \$9,000 to over \$157 million from 1987 to 1991. The median amount renounced per partnership was under \$500,000; the mean amount was \$7.6 million. Overall, 84 per cent of all partnerships attributed expenses incurred by mining companies; 8 per cent by petroleum companies; and 8 per cent by mixed resource companies. Mining-related partnerships comprised between 80 and 95 per cent of all partnerships associated with each of the renunciation ranges reported in Chart 3.16. No single petroleum-related partnership attributed an amount in excess of \$10 million. Partnerships associated with mixed resource companies generally attributed amounts only in excess of \$5 million; mining-related CEE dominated the attributions of most of these partnerships.

Evidence on Risk Reduction

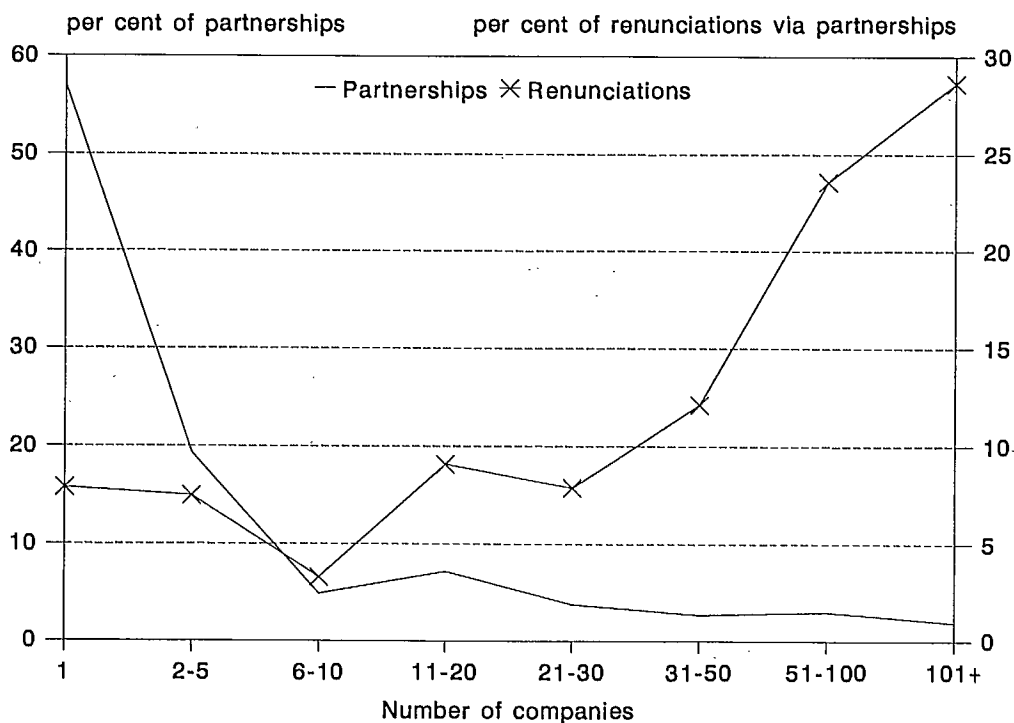
Multiple Companies

By being able to subscribe for the flow-through shares of a variety of mining or petroleum companies, partnership intermediaries can provide asset diversification to investors thereby reducing the risk associated with these resource investments. This is a characteristic shared by the 7 per cent of partnerships that each renounced amounts in excess of \$25 million and accounted for 65 per cent of all renunciations by means of partnerships from 1987 to 1991. These partnerships entered into flow-through share agreements with between 19 and 274 companies each, and included the broadly-based limited partnerships defined above.

Not all partnerships were established to provide this type of asset diversification and risk reduction. In fact, Chart 3.18 reveals that most partnerships (i.e. 57 per cent) were associated with a single mining or petroleum company over this period; importantly, however, these partnerships accounted for only 8 per cent of all renunciations by means of partnerships. In contrast, partnerships that each entered into agreements with more than 20 companies accounted for over 72 per cent of all amounts renounced through

Chart 3.18

Partnerships and renunciations by number of companies: 1987-91



Source: T101 Summaries, Revenue Canada.

partnerships.²⁰ As shown in Chart 3.18, it was generally the case that the greater the number of companies associated with an individual partnership and, consequently, the greater the degree of asset diversification offered to investors, the more successful was that partnership in raising flow-through share financing.

Multiple Projects

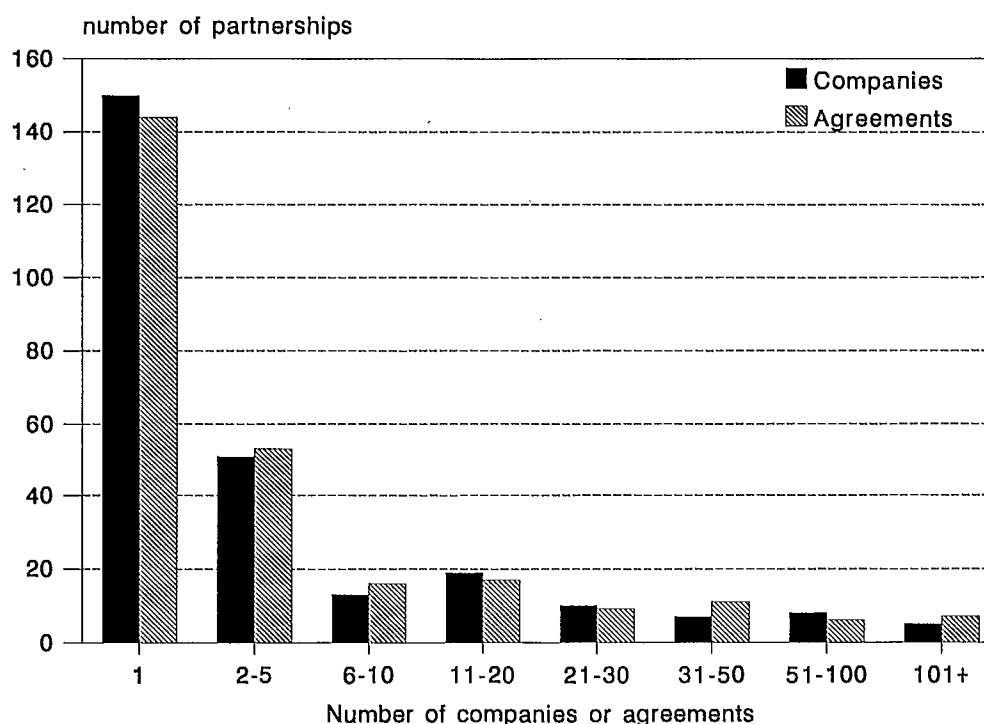
A second type of asset diversification may be achieved through either direct issuance or partnership intermediaries. It involves a single firm that simultaneously pursues more than one resource project. Asset diversification of this type can result either if a single flow-through share issue is used to finance a variety of projects or if there are multiple issues each of which is used to finance a separate project.

T101 data provides information only on this latter form of asset diversification and only for partnership intermediaries.²¹ Chart 3.19 shows that 55 per cent of all partnerships established between 1987 and 1991 were single-agreement, single-company partnerships. However, once again, these partnerships did not account for a large portion of renunciations via partnership intermediaries.²² In Chart 3.19, the number of partnerships are also roughly the same across each of the groupings of companies and agreements. This suggests that partnerships subscribed for a single flow-through share issue with individual companies. Thus, asset diversification by means of multiple issues each of which is used to finance a separate resource project of a mining or petroleum company appears not to have been used extensively by partnerships.

²⁰ While not evident from Chart 4.18, no single partnership entered into flow-through share agreements with over 20 petroleum companies. This may be partly due to the relatively greater probability of success in oil and gas exploration compared with mining exploration and, consequently, a reduced need for asset diversification.

²¹ However, the case studies conducted by Peat Marwick Stevenson & Kellogg indicate that it was not atypical for a single company to finance a variety of projects using a single flow-through share issue.

²² In fact they accounted for only 7 per cent of all renunciations via partnerships from 1987 to 1991. This type of partnership may have been similar in nature to expenses-for-shares transactions that existed prior to 1972, i.e. where the partners typically consisted of corporate or individual investors that were knowledgeable of the industry, the prospect was relatively promising, and the party that located the prospect lacked sufficient funds or the expertise necessary to carry out additional exploration work to establish the extent and quality of the resource.

Chart 3.19*Partnerships by number of companies and agreements: 1987-91*

Source: T101 Summaries, Revenue Canada.

G. Key Findings

Key findings and conclusions arising from this chapter are listed here. Once again, they stem from an analysis which focuses on the period 1987 to 1991, but extends back to 1983 as the availability of data permits.

Renunciations and Exploration

- Renunciations by means of flow-through shares:
 - increased dramatically from 1983 to 1987 and declined equally dramatically after 1987 and 1988 reflecting similar trends in gold and silver prices, the performance of mining stocks and the timing of fiscal and legislative changes that impacted on this financing mechanism;

- were predominantly in respect of exploration activities; and
 - were predominantly in respect of mining activities.
- Gold was the commodity primarily sought after under mining flow-through share agreements.
- Even after accounting for inflation, the amount of mining-related CEE renounced in 1991 was greater than the amount renounced in 1983.
- Trends in renunciations of mining-related CEE and mining exploration expenditures are comparable; flow-through shares played a significant role in financing mining exploration, but their importance declined after 1987.
- World oil price levels and government incentives were more important influences affecting petroleum exploration spending than flow-through share financing.

Regional Aspects

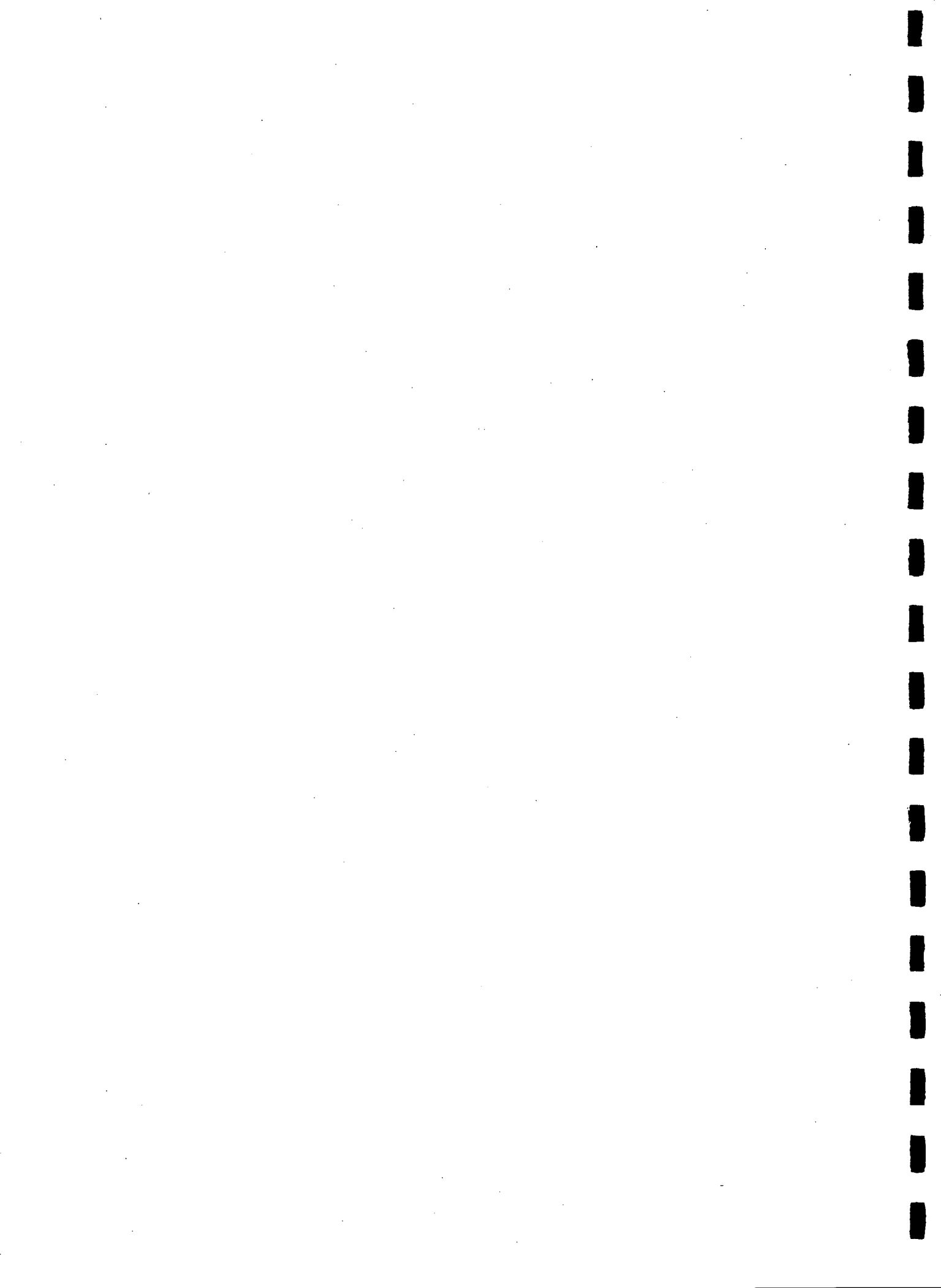
- Flow-through shares had significant regional impacts. Ontario, British Columbia and Quebec were the principal beneficiaries in the case of mining; Alberta was the principal beneficiary in the case of oil and gas.

Issuing Companies

- Most companies issuing flow-through shares were located in British Columbia, Alberta, Ontario and Quebec in that order. The ranking is exactly reversed in terms of the average amount renounced per company.
- The bulk of renunciations were made by a disproportionately small number of mining or petroleum companies.
- Flow-through share financing was of special importance to junior companies.
- The general trend after 1987 was for fewer companies to renounce smaller amounts of both CEE and CDE.
- The use and importance of flow-through share provisions for CEE declined after 1987 relative to the provisions for CDE and COGPE.
- While the number of companies using the provision declined after 1987, the relative use and importance of 60-day amounts remained relatively unchanged.

Modes of Issuance

- In terms of renunciations, partnership intermediaries were the dominant means of:
 - issuing flow-through shares;
 - raising funds for exploration; and
 - raising funds for mining.
- In contrast, direct issuance was the dominant mode for each tax expense category renounced by petroleum companies.
- Most petroleum companies used only direct issuance. Mining companies that used both partnership intermediaries and direct issuance accounted for the largest amount of renunciations from 1987 to 1991.
- Most renunciations by means of partnership intermediaries occurred in 1987 and 1988. The share of these renunciations remained high from 1987 to 1990, but fell dramatically in 1991. The number of partnerships, companies renouncing to partnerships and amounts renounced to partnerships declined each year after 1987.
- The bulk of expenses were renounced to a disproportionately small number of partnerships which included the "broadly-based" limited partnerships.
- Partnerships that were the most successful in raising flow-through share financing also achieved the greatest amount of asset diversification and risk reduction by entering into agreements with large numbers of companies.



Chapter IV

CHARACTERISTICS OF FLOW-THROUGH SHARE USERS

This chapter continues to explore the issue of effectiveness in terms of the beneficiaries or users of flow-through shares. Drawing on income tax data, profiles of the issuing corporations are further developed and profiles for individual investors are established. The focus of this chapter is on identifying key financial, tax and demographic characteristics of flow-through share users. This information is necessary for the economic analyses of issuing companies and investors, and the federal tax expenditure estimates for flow-through shares that are contained in the following chapter. The information set forth in this chapter is drawn from data bases maintained by the Department of National Revenue and, for reasons of confidentiality, is presented only on an aggregate basis.

Section A deals with the characteristics of issuing companies. Section B discusses the characteristics of flow-through share investors who are individuals.¹

A. Issuing Companies

In order to develop a more precise understanding of the firms that issue flow-through shares and renounce expenses, relevant financial and taxation data were drawn from the T101 and CORPAC data bases maintained by Revenue Canada. The T101 data base contains information relating to renunciations of eligible expenses. The CORPAC data base contains certain financial and taxation data for all corporate tax filers.

Matching corporate records contained in the T101 data base with corporate data fields in the CORPAC data base allows financial and taxation profiles of issuing corporations to be generated in addition to the information on flow-through share financing levels for mining and petroleum companies. Such profiles are reported in this section for the 1987 to 1990 taxation years under the following four categories:

- i) corporation type, i.e. either Canadian controlled private corporations, other private corporations, public corporations, or other corporations;

¹ Data on corporate and other flow-through share investors were not available from Revenue Canada files.

- ii) income and taxation status, i.e. net income per financial statements, taxable income under the *Income Tax Act*, and total tax payable to the federal and provincial governments. This category is used to determine the taxation status of the corporation and its ability to utilize deductions in respect of exploration and development. For this reason, income and taxation data for issuing companies are presented simply as greater than zero (taxpayer), or equal to or less than zero (non-taxpayer);
- iii) non-resident ownership, i.e. nil, less than 50 per cent, or greater than 50 per cent; and
- iv) taxation jurisdiction, i.e. head office location for tax filing purposes.

Following the definitions established in the previous chapter, issuing firms are also categorized as either mining companies, petroleum companies or mixed resource companies. Mining companies are those that have renounced CEE or CDE in respect of mining activities only. Petroleum companies are those that have renounced CEE, CDE or COGPE in respect of petroleum activities only. Mixed resource companies are those that have renounced CEE, CDE or COGPE in respect of both mining and petroleum.

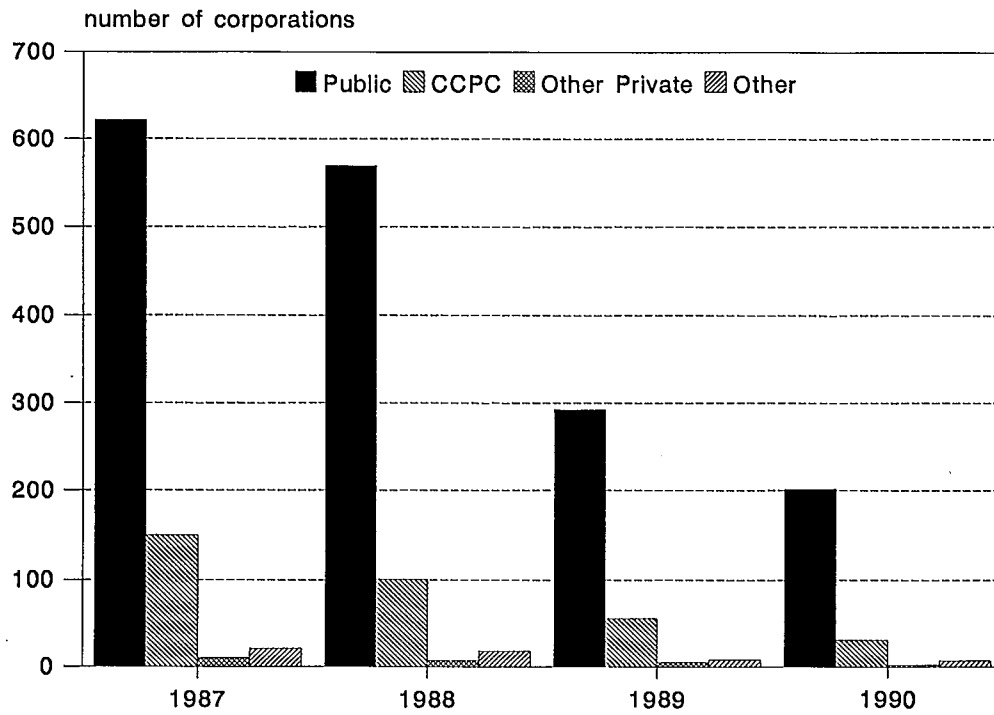
Information on corporation type, income and taxation status, non-resident ownership and taxation jurisdiction is identified separately for mining and petroleum companies in Charts 4.1 through 4.6.² The key findings for the 1987-90 taxation years are set out below.

Corporation Type

As shown in Charts 4.1, public corporations were the most prevalent corporate structure using flow-through shares over the period, comprising 80 per cent of corporations that renounced mining-related expenses and 57 per cent of companies that renounced petroleum-related expenses. Canadian controlled private corporations accounted for a further 16 per cent of mining companies and 39 per cent of petroleum companies.

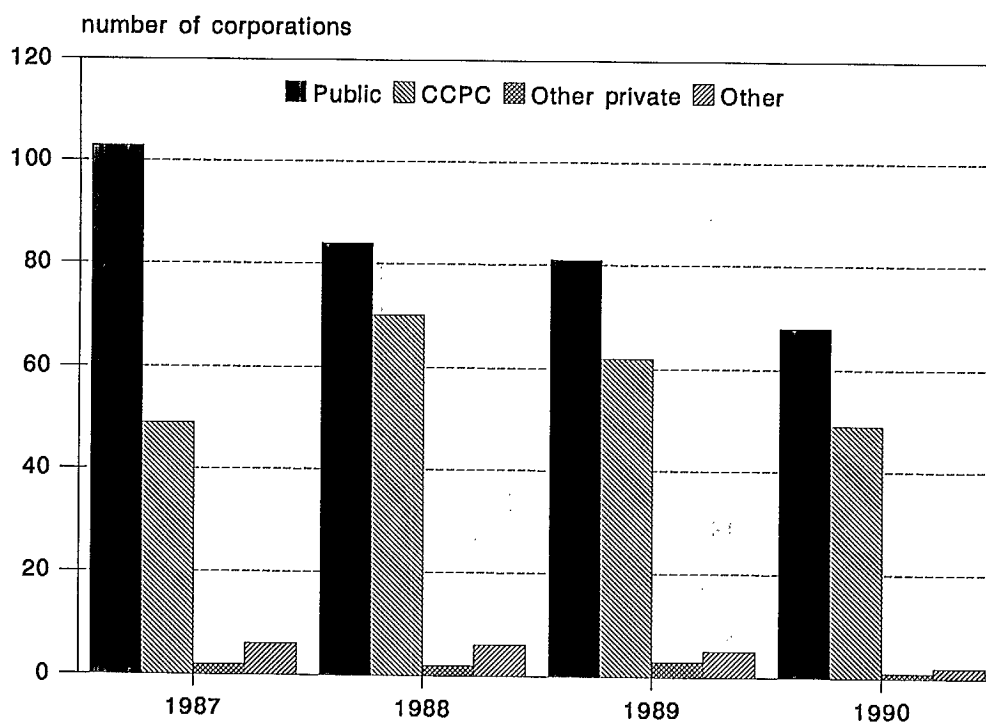
² Mixed corporations are not statistically significant, accounting for only 1 per cent of issuing companies and 2 per cent of renounced expenses. Consequently, mixed companies are not included in Charts 4.1 through 4.6.

Chart 4.1a
Corporation type - mining



Source: Revenue Canada.

Chart 4.1b
Corporation type - petroleum

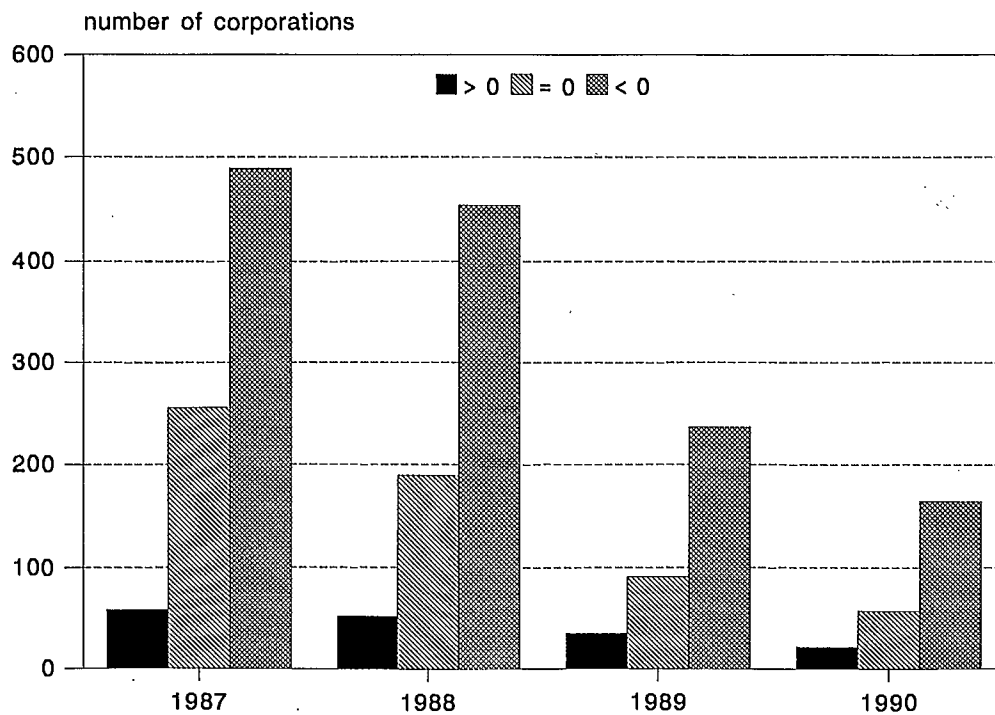


Source: Revenue Canada.

Income and Taxation Status

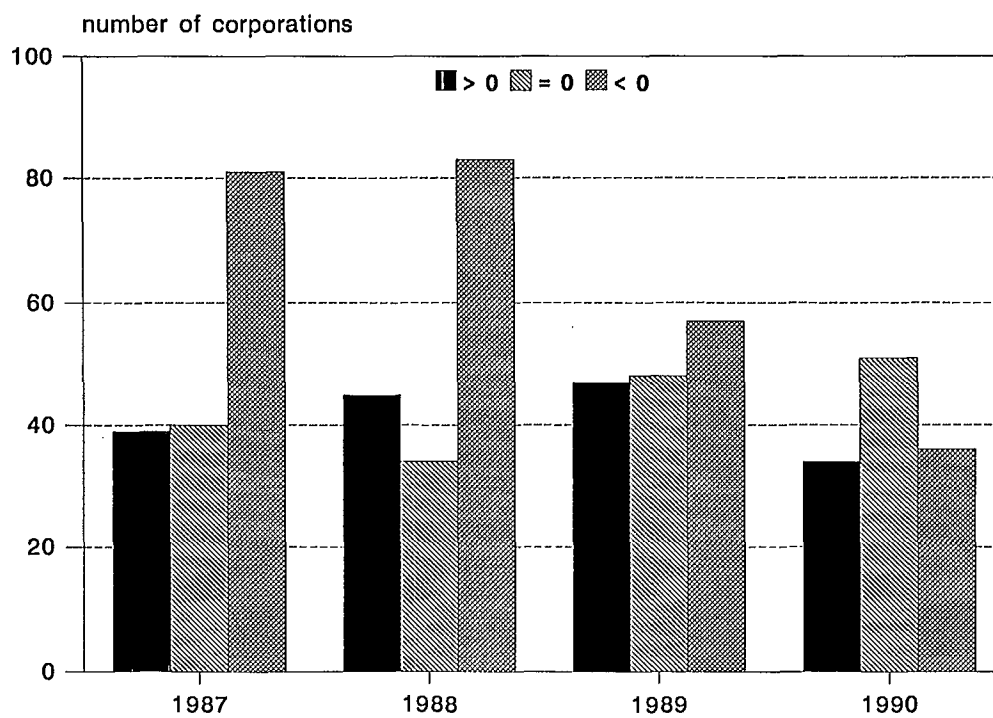
Net income of issuing corporations (Charts 4.2) was generally either equal to or less than zero from 1987 to 1990 implying that the majority of these companies were non-taxpaying and, therefore, unable to immediately utilize deductions for CEE, CDE or COGPE. Just 8 per cent of mining companies and 28 per cent of petroleum companies were taxpaying, i.e. reported positive net income.

Chart 4.2a
Net income - mining



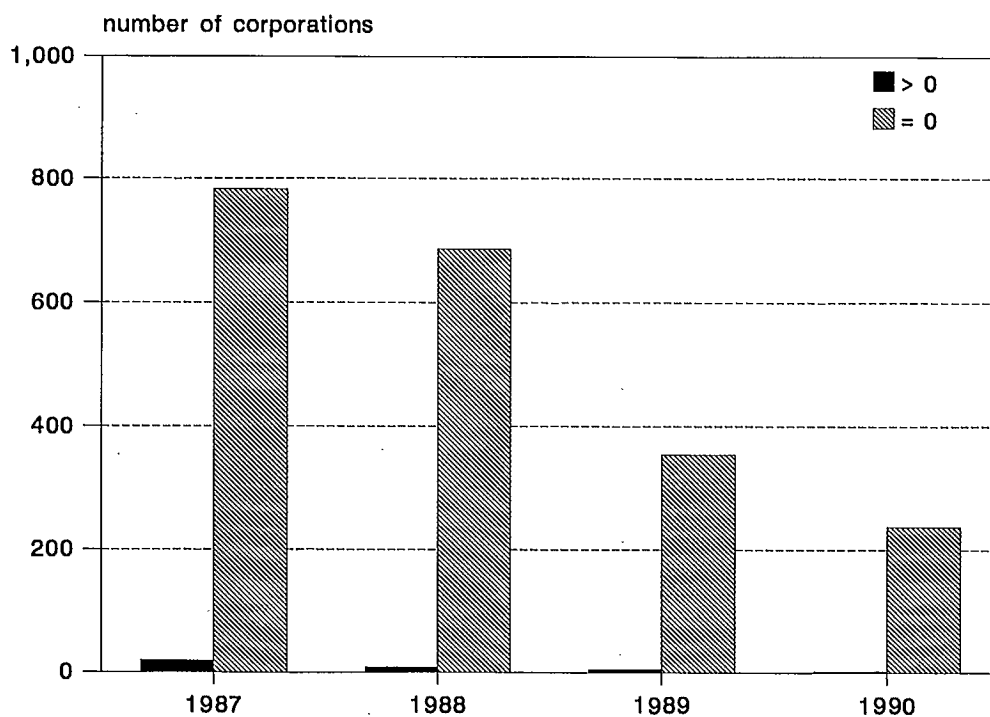
Source: Revenue Canada.

Chart 4.2b
Net income - petroleum



Source: Revenue Canada.

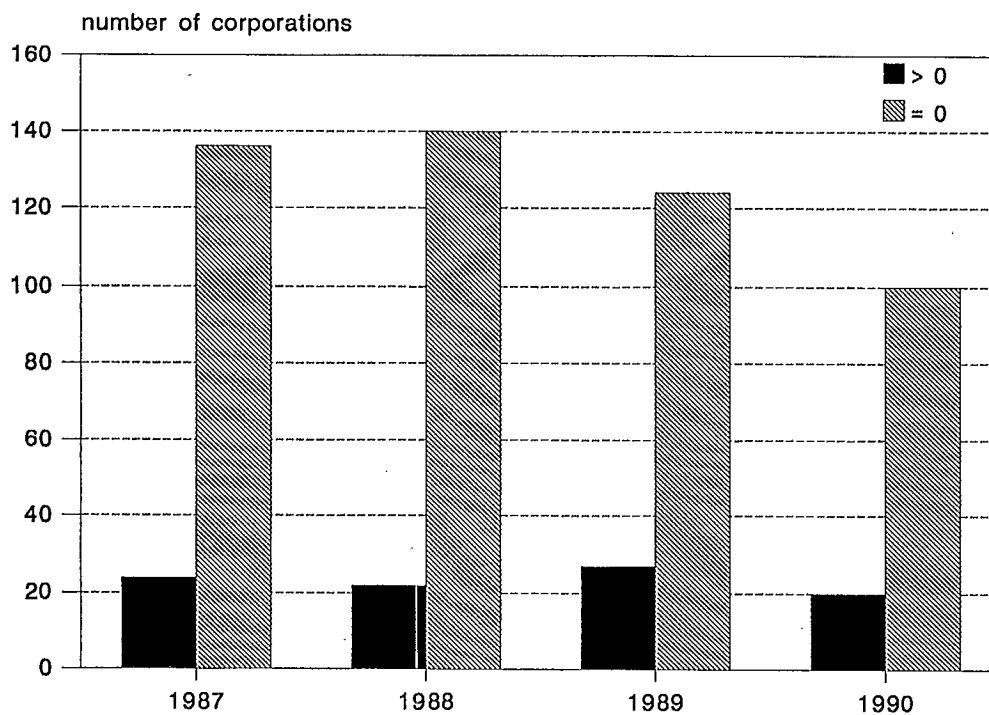
Chart 4.3a
Taxable income - mining



Source: Revenue Canada.

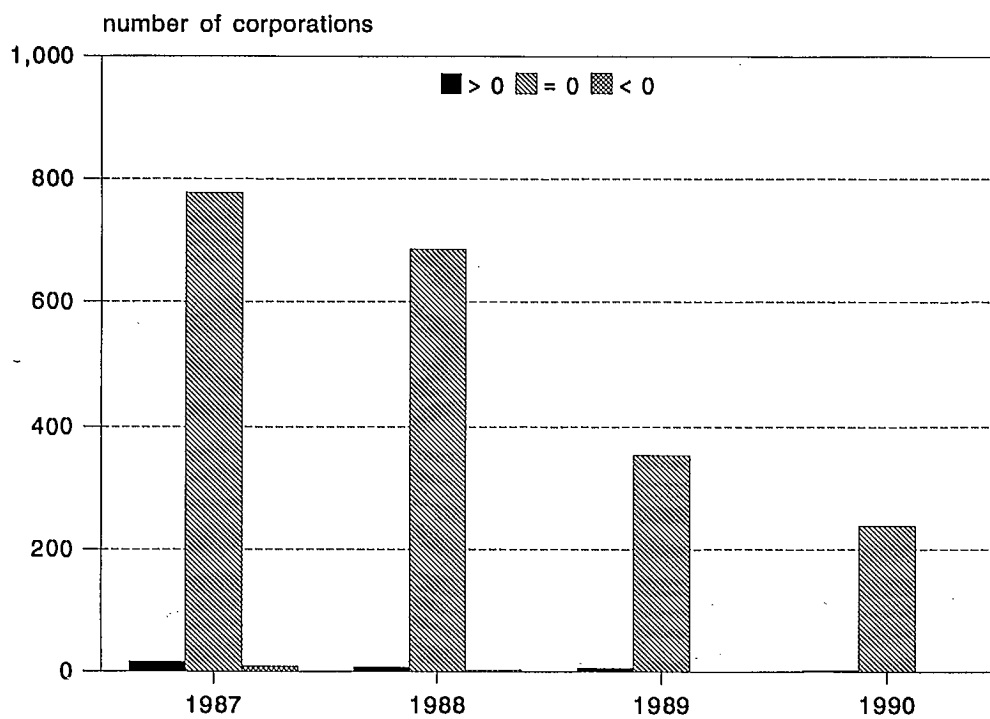
As revealed in Charts 4.3 and 4.4, similar results hold for both taxable income and total tax payable, with just 2 per cent of mining companies and 16 per cent of petroleum companies reporting positive figures in each case.

Chart 4.3b
Taxable income - petroleum



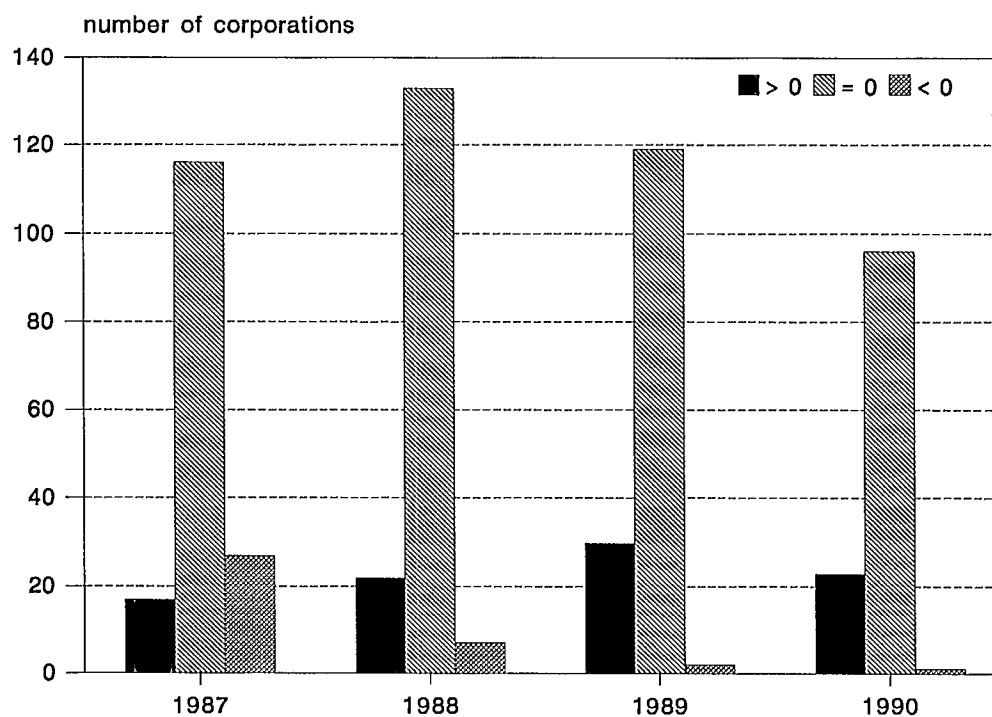
Source: Revenue Canada.

Chart 4.4a
Tax payable - mining



Source: Revenue Canada.

Chart 4.4b
Tax payable - petroleum

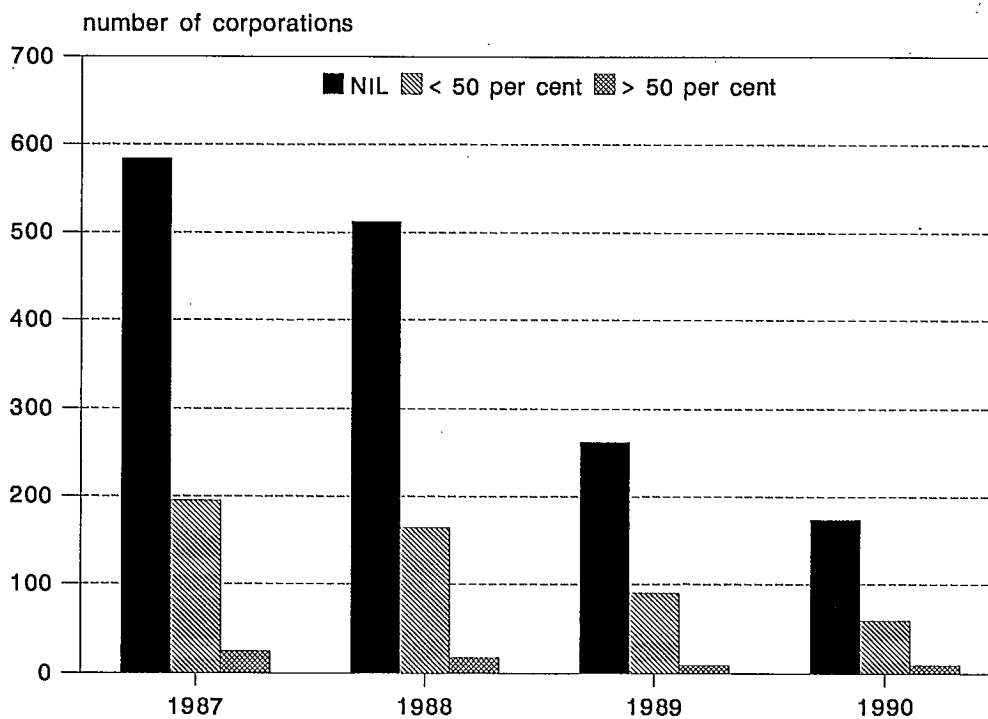


Source: Revenue Canada.

Non-Resident Ownership

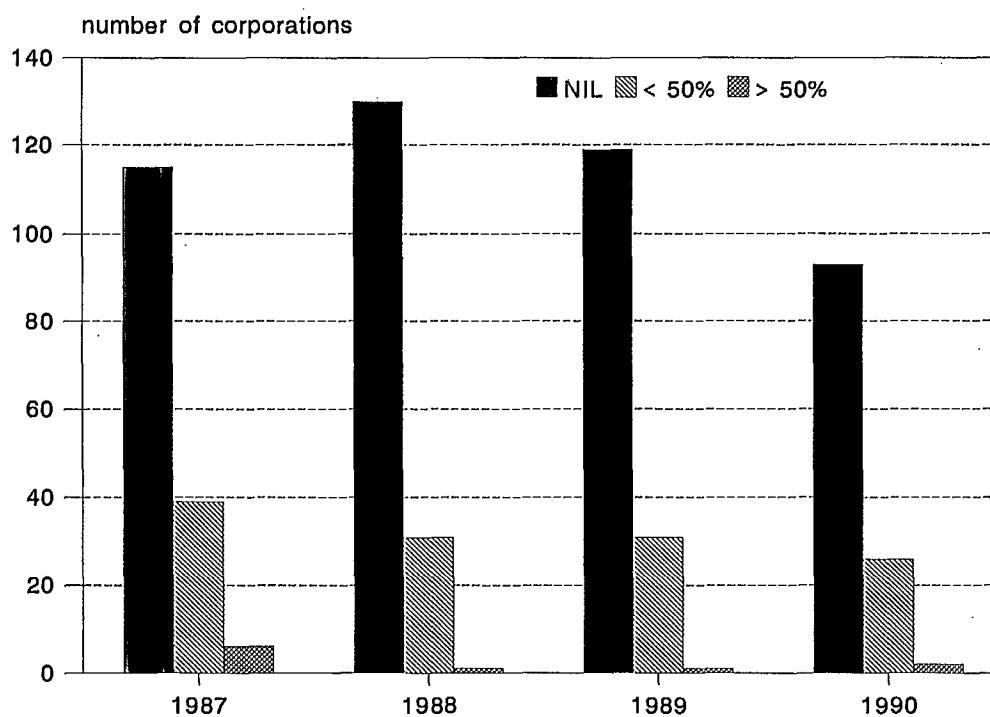
Non-resident ownership of issuing companies was not prevalent. Charts 4.5 indicate that non-residents had a controlling interest (i.e. greater than 50 per cent) in just 3 per cent of mining companies and 2 per cent of petroleum companies over the period. Canadian ownership was the norm, with 73 per cent of mining concerns and 77 per cent of petroleum companies reporting no non-resident ownership.

Chart 4.5a
Non-resident ownership - mining



Source: Revenue Canada.

Chart 4.5b
Non-resident ownership - petroleum



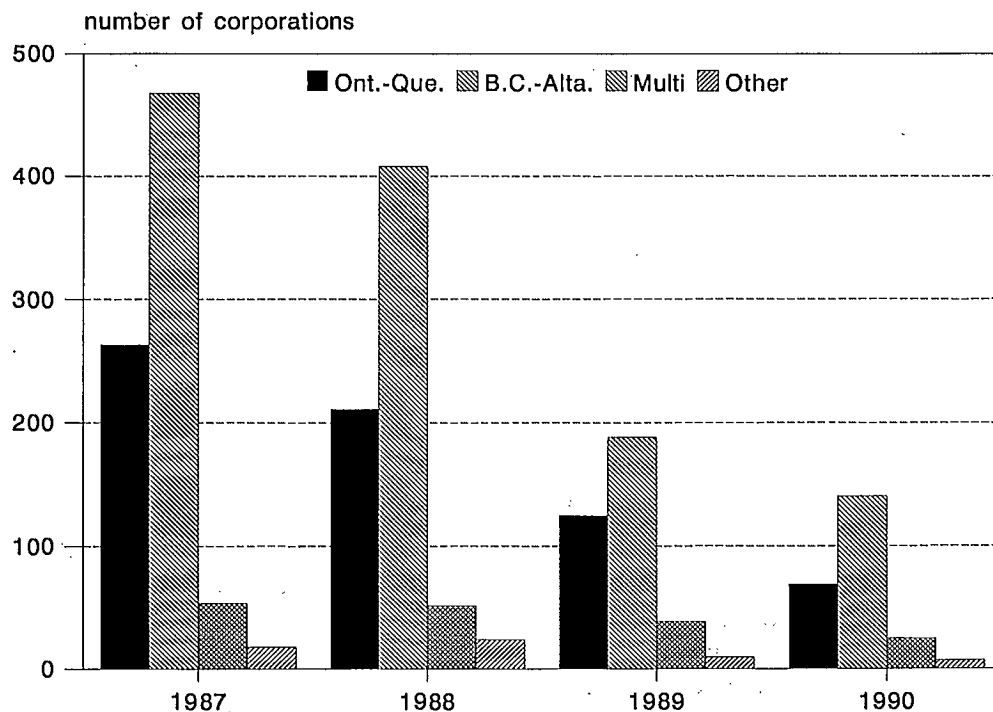
Source: Revenue Canada.

Taxation Jurisdiction

Taxation jurisdiction of the issuing companies tends to reflect the geographic distribution of natural resources in Canada. Charts 4.6 reveal that approximately 50 per cent of mining companies that renounced expenses under flow-through share agreements between 1987 and 1990 were based in British Columbia; 32 per cent in Ontario or Quebec; 8 per cent in Alberta; and 8 per cent in multi-jurisdictions. Petroleum companies were somewhat more concentrated with close to 60 per cent from Alberta, 30 per cent from multi-jurisdictions and 6 per cent from British Columbia.

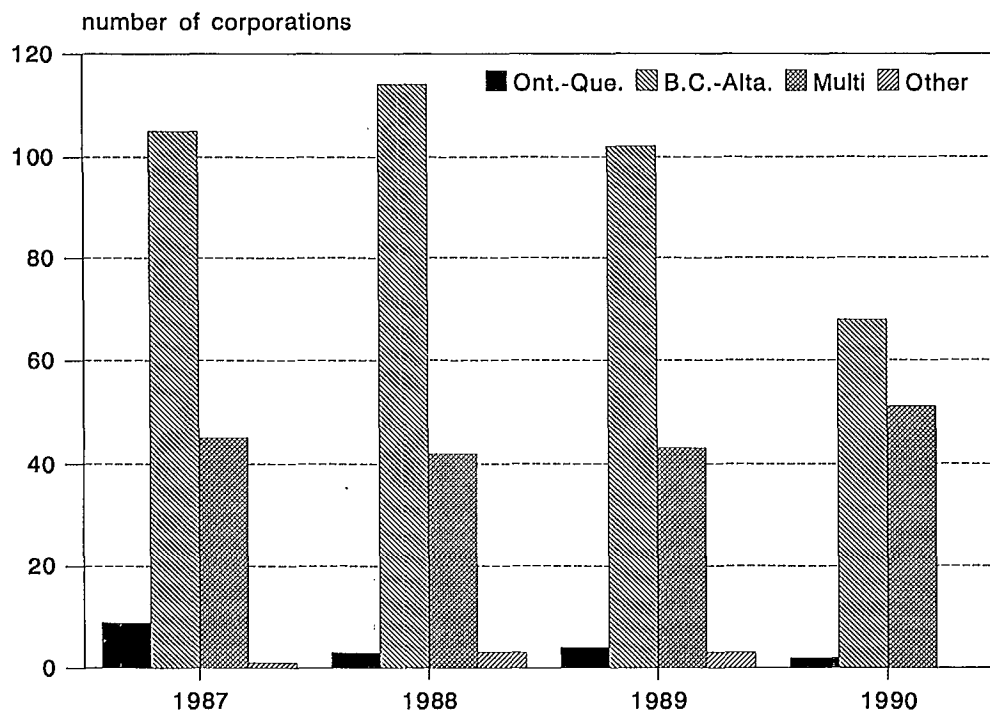
Chart 4.6a

Taxation jurisdiction - mining



Source: Revenue Canada.

Chart 4.6b
Taxation jurisdiction - petroleum



Source: Revenue Canada.

Profile of a Typical Issuing Company

Based on these observations, a "typical" issuing company can be described as a non-taxpaying Canadian public corporation based in either British Columbia, Alberta, Ontario or Quebec.

However, a marked distinction exists between mining and petroleum companies. In particular, petroleum companies are more likely to be taxpaying Canadian controlled private corporations either based in Alberta or with a multi-jurisdictional base of operations. Mining companies are more likely to be non-taxpaying public corporations based in either British Columbia, Ontario or Quebec. These differences reflect both the differing nature of the two industries and the geographical location of mineral and petroleum resources in Canada.

B. Individual Investors

Profiles of individuals who invest in flow-through shares were developed using taxation data drawn from the 1989 and 1990 T1 Individual Tax Filer Models maintained by Revenue Canada. Information for each year is presented on an aggregate basis only according to the following categories and sub-categories:

- i) age, i.e. in ten-year age ranges from "Under 30" to "60 Plus";
- ii) total income, i.e. in \$50,000 increments from "Under \$50,000" to "\$250,000 Plus";
- iii) taxable income, i.e. in one of four taxable income ranges – no-taxable income, taxable income between zero and \$27,802 (corresponding to the statutory tax rate of 17 per cent in 1989), taxable income between \$27,803 and \$55,604 (corresponding to the statutory tax rate of 26 per cent in 1989), and taxable income equal to or greater than \$55,605 (corresponding to the statutory tax rate of 29 per cent in 1989);
- iv) occupation, i.e. in one of five occupation sub-categories – medical doctors and dentists, professionals (accountants, architects, engineers, entertainers and lawyers), private-sector employees, public-sector employees (primarily individuals employed in government, hospitals, educational and not-for-profit institutions) and other (all other individuals);
- v) gender & marital status, i.e. male or female, and married or other (single, separated, divorced, or widowed); and
- vi) region, i.e. taxation jurisdiction as determined by T1 filing locale.

Information for each category and sub-category is reported in Tables 4.1 to 4.6 in an identical format. In particular, these tables reveal numbers of claimants, dollar values of flow-through share claims, average incomes³ and average flow-through share claims. For each category, the relative distribution of claimants and claims is compared with the relative distribution of claims as a proportion of total income. The latter serves as a proxy for measuring the "aggressiveness" of flow-through share investors across sub-categories.

³ That is, average total income unless otherwise specified.

Age

The distribution of claimants and claims by age grouping in Table 4.1 follows the same general pattern in 1989 and 1990. Specifically, flow-through share investment activity was low for individuals under 30 years of age; rose for individuals in their thirties; peaked for individuals in their forties; and slowly declined over the remaining age groups.

Table 4.1

Claimants and claims by age group

Age grouping	Claimants		Claims		Average claim	Average income	Claim as % of income
	Number	Share	Value	Share			
		%	\$	%	\$	\$	%
1989							
Under 30	864	3	6,184,512	2	7,158	89,048	8.0
30 to 39	5,860	22	61,535,860	20	10,501	147,161	7.1
40 to 49	8,544	32	110,072,352	36	12,883	190,177	6.8
50 to 59	7,605	28	79,715,610	26	10,482	197,017	5.3
60 plus	4,172	15	47,907,076	16	11,483	238,478	4.8
All ages	27,045	100	305,415,410	100	11,293	187,000	6.0
1990							
Under 30	416	2	2,585,440	2	6,215	107,047	5.8
30 to 39	5,486	28	35,143,316	22	6,406	119,443	5.4
40 to 49	5,910	30	46,925,400	30	7,940	185,316	4.3
50 to 59	4,263	22	41,014,323	26	9,621	216,911	4.4
60 plus	3,543	18	30,831,186	20	8,702	216,565	4.0
All ages	19,618	100	156,499,665	100	7,977	177,745	4.5

Source: T1 Model, Department of National Revenue.

This table also reveals that the "aggressiveness" of flow-through share investors was inversely related to age with investors under 30 years of age having the largest share of claims per dollar of income and those over 60, the smallest share.

Total Income

Table 4.2 shows that individuals with total incomes of less than \$100,000 in both 1989 and 1990 comprised about 50 per cent of flow-through share claimants, but accounted for only 20 per cent of claims. Those with total incomes between \$100,000 and \$200,000 accounted for about 30 per cent of both claimants and claims. Individuals with total incomes in excess of \$200,000 represented only 20 per cent of claimants, but accounted for 50 per cent of claims. These findings are robust over both taxation years.

Table 4.2

Claimants and claims by income range

Income range	Claimants		Claims		Average claim	Average income	Claim as % of income
	Number	Share	Value	Share			
		%	\$	%	\$	\$	%
1989							
\$0-\$50K	3,489	13	13,491,963	4	3,867	33,022	11.7
\$50K-\$100K	9,085	34	45,915,590	15	5,054	72,306	7.0
\$100K-\$150K	5,153	19	50,401,493	17	9,781	122,870	8.0
\$150K-\$200K	3,304	12	44,131,528	14	13,357	170,513	7.8
\$200K-\$250K	1,945	7	35,922,205	12	18,469	221,833	8.3
over \$250K	4,069	15	115,559,600	38	28,400	653,063	4.3
All incomes	27,045	100	305,422,379	100	11,293	187,000	6.0
1990							
\$0-\$50K	3,004	15	6,731,964	4	2,241	28,431	7.9
\$50K-\$100K	6,880	35	28,724,000	18	4,175	72,311	5.8
\$100K-\$150K	3,702	19	20,338,788	13	5,494	120,403	4.6
\$150K-\$200K	2,201	11	17,821,497	11	8,097	170,880	4.7
\$200K-\$250K	886	5	9,052,262	6	10,217	222,636	4.6
over \$250K	2,945	15	73,828,205	47	25,069	640,067	3.9
All incomes	19,618	100	156,496,716	100	7,977	177,745	4.5

Source: T1 Model, Department of National Revenue.

A weak inverse relationship is evident between total income and the aggressiveness of investors in this table. Investors with smaller incomes generally accounted for the largest proportion of claims in both 1989 and 1990.

Taxable Income

Taxable income (Table 4.3) is calculated before any deductions in respect of flow-through shares. This reflects the fact that rational investors take account of the marginal income tax rate applicable to them in making their decision to purchase flow-through shares. The higher the marginal income tax rate, the higher are the tax savings associated with renounced expenses.

Table 4.3
Claimants and claims by taxable income range

Taxable income range	Claimants		Claims		Average claim	Average taxable income	Claim as % of income
	Number	Share	Value	Share			
		%	\$	%	\$	\$	%
1989							
Not taxable	56	0	456,512	0	8,152	-	-
Below \$27,803	1,825	7	5,794,375	2	3,175	18,907	16.8
\$27,803 to \$55,605	5,659	21	20,610,078	7	3,642	43,291	8.4
Over \$55,605	19,505	72	278,550,905	91	14,281	210,619	6.8
All taxable incomes	27,045	100	305,411,870	100	11,293	162,570	6.9
1990							
Not taxable	61	0	887,245	1	14,545	-	-
Below \$27,803	1,340	7	2,840,800	2	2,120	13,970	15.2
\$27,803 to \$55,605	4,536	23	14,220,360	9	3,135	42,497	7.4
Over \$55,605	13,681	70	138,547,487	89	10,127	202,789	5.0
All taxable incomes	19,618	100	156,495,892	100	7,977	152,199	5.2

Source: T1 Model, Department of National Revenue.

In 1989 and 1990, individuals in the highest tax bracket accounted for about 70 per cent of claimants and about 90 per cent of claims. Those in the middle tax bracket accounted for slightly more than 20 per cent of claimants and 8 per cent of claims. Taken together, individuals in the lowest tax bracket and non-taxpaying individuals accounted for less than 10 per cent of claimants and about 2 per cent of claims.

As is the case for total income, an inverse relationship is also evident between taxable income and the aggressiveness of investors in both 1989 and 1990. However, the inverse relationship is much stronger across taxable income ranges.

Occupation

Distributions of claims and claimants across occupational groupings were similar. Table 4.4 indicates that about 50 per cent of claimants in 1989 and 1990 were either private or public sector employees. Medical doctors and dentists together with professionals comprised an additional 25 per cent of claimants while the remaining 25 per cent were identified with the "other" category. For purposes of comparison, about 64 per cent of all taxpayers in 1989 and 1990 were classified as employees, 1 per cent were either medical doctors, dentists or professionals, and 35 per cent were included in the remaining category. Thus, medical doctors, dentists and professionals accounted for a disproportionate share of flow-through share funding.

Table 4.4
Claimants and claims by occupation

Occupation	Claimants		Claims		Average claim	Average Income	Claim as % of income
	Number	Share	Value	Share			
		%	\$	%	\$	\$	%
1989							
Private – Sector employees	9,722	36	108,448,910	36	11,155	216,160	5.2
Public – Sector employees	4,797	18	22,804,938	7	4,754	97,390	4.9
Professionals	2,441	9	35,311,506	12	14,466	192,829	7.5
Medical doctors and dentists	4,479	17	66,029,418	22	14,742	167,452	8.8
Other	5,606	21	72,821,940	24	12,990	226,189	5.7
All occupations	27,045	100	305,416,712	100	11,293	187,000	6.0
1990							
Private – Sector employees	6,077	31	54,553,229	35	8,977	223,799	4.0
Public – Sector employees	3,380	17	13,296,920	8	3,934	89,436	4.4
Professionals	1,950	10	18,049,200	12	9,256	193,756	4.8
Medical doctors and dentists	2,844	14	22,749,156	15	7,999	167,626	4.8
Other	5,367	27	47,852,172	31	8,916	180,757	4.9
All occupations	19,618	100	156,500,677	100	7,977	177,745	4.5

Source: T1 Model, Department of National Revenue.

In 1989, medical doctors and dentists were the most aggressive type of flow-through share investor while public-sector employees were the least aggressive. The results for 1990 are much more even across the occupational sub-categories.

Gender and Marital Status

As shown in Table 4.5, male investors represented 83 per cent of claimants and accounted for 89 per cent of claims in 1989 and 1990.

Table 4.5

Claimants and claims by gender and marital status

Gender and marital status	Claimants		Claims		Average claim	Average income	Claim as % of income
	Number	Share	Value	Share			
		%	\$	%	\$	\$	%
1989							
Married females	2,442	9	18,012,192	6	7,376	102,112	7.2
Other females	1,586	6	10,632,544	3	6,704	104,954	6.4
All females	4,028	15	28,643,108	9	7,111	103,231	6.9
Married males	17,455	65	233,251,165	76	13,363	220,471	6.1
Other males	5,562	21	43,528,212	14	7,826	142,625	5.5
All males	23,017	85	276,779,425	91	12,025	201,660	6.0
All individuals	27,045	100	305,422,533	100	11,293	187,000	6.0
1990							
Married females	2,075	11	15,562,500	10	7,500	104,544	7.2
Other females	1,604	8	5,132,800	3	3,200	88,293	3.6
All females	3,679	19	20,694,375	13	5,625	97,465	5.8
Married males	12,049	61	108,212,069	69	8,981	212,037	4.2
Other males	3,890	20	27,595,660	18	7,094	147,453	4.8
All males	15,939	81	135,800,280	87	8,520	196,275	4.3
All individuals	19,618	100	156,494,655	100	7,977	177,745	4.5

Source: T1 Model, Department of National Revenue.

However, married females were the most aggressive investors in both 1989 and 1990. Furthermore, both female sub-groups were more aggressive than their male counterparts in 1989. Married males were also more aggressive than other males. In 1990, female sub-groups present extreme positions with respect to expenses claimed with married females accounting for the largest proportion followed by other males, married males and other females.

Region

Table 4.6 reveals that residents of Ontario and Quebec averaged 67 per cent of claimants in 1989 and 1990; residents of Alberta and British Columbia about 20 per cent of claimants. The remaining claimants were distributed as follows: 6 per cent from Saskatchewan and Manitoba; 4 per cent from outside Canada; 3 per cent from the Atlantic region; and 1 per cent from the Yukon and Northwest Territories. Average claims do not exhibit significant deviation from this general pattern.

The most consistently aggressive regional investors (i.e. those claiming more per dollar of income than the national average in each year) can be found in the Yukon, Alberta, Saskatchewan, Manitoba, New Brunswick, Nova Scotia and other jurisdictions. Flow-through share claimants in the Northwest Territories, Ontario, Prince Edward Island and Newfoundland claimed less than the national average in 1989 and 1990. Flow-through share investors in British Columbia claimed less than the national average in 1989, but more than the national average in 1990. This pattern was reversed for Quebec.

Profile of a Typical Individual Investor

Based on these observations and data, the "typical" flow-through share investor can be described as a married male in his forties who resides in Quebec or Ontario, is an employee of either the private or public sector, and is in the top income tax bracket.

However, the typical investor did not share any of the characteristics displayed by the most aggressive investors, i.e. those who invested the largest share of their income in flow-through shares. There was no "typical" aggressive investor. Aggressive investors were more likely to be: married females; under 30 years of age; residents of either the Yukon, Saskatchewan, Manitoba or New Brunswick; medical doctors or dentists; and subject to the lowest income tax rates.

Table 4.6
Claimants and claims by region

	Yukon	N.W.T.	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	Nfld.	Other	Canada
1989														
Claimants:														
- Number	64	71	3,020	2,280	963	681	8,920	9,528	229	415	49	118	707	27,045
- Share (%)	0.2	0.3	11.2	8.4	3.6	2.5	33.0	35.2	0.8	1.5	0.2	0.4	2.6	100.0
Claims:														
- Value (\$)	379	305	27,180	24,111	9,650	6,828	105,925	111,697	2,868	4,697	207	1,223	10,355	305,425
- Share (%)	0.1	0.1	8.9	7.9	3.2	2.2	34.7	36.6	0.9	1.5	0.1	0.4	3.4	100.0
Average claim (\$)	5,920	4,295	9,000	10,575	10,021	10,026	11,875	11,723	12,523	11,317	4,228	10,362	14,646	11,293
Average income (\$)	49,986	125,236	163,744	172,887	132,089	154,206	234,876	160,308	151,553	173,797	139,661	191,132	234,308	187,000
Claim as % of income	11.8	3.4	5.5	6.1	7.6	6.5	5.1	7.3	8.3	6.5	3.0	5.4	6.3	6.0
1990														
Claimants:														
- Number	35	130	1,765	2,477	669	397	5,272	7,678	66	308	8	20	793	19,618
- Share (%)	0.2	0.7	9.0	12.6	3.4	2.0	26.9	39.1	0.3	1.6	0.0	0.1	4.0	100.0
Claims:														
- Value (\$)	532	342	17,034	26,365	5,213	4,643	51,760	39,534	857	2,147	9	160	7,900	156,497
- Share (%)	0.3	0.2	10.9	16.8	3.3	3.0	33.1	25.3	0.5	1.4	0.0	0.1	5.0	100.0
Average claim (\$)	15,205	2,632	9,651	10,644	7,792	11,694	9,818	5,149	12,991	6,972	1,174	7,983	9,962	7,977
Average income (\$)	84,617	89,387	159,189	163,923	126,533	172,501	247,283	176,380	228,948	152,867	139,992	223,596	209,600	177,745
Claim as % of income	18.0	2.9	6.1	6.5	6.2	6.8	4.0	2.9	5.7	4.6	0.8	3.6	4.8	4.5

Source: T1 Model, Department of National Revenue.

Chapter V

ECONOMIC ANALYSES OF FLOW-THROUGH SHARES

Chapter V contains the economic analyses of the evaluation and provides additional evidence on the corporate beneficiaries of flow-through shares. The effectiveness of flow-through shares is further explored by:

- investigating the extent to which investment decisions by issuing companies and investors were motivated by tax or economic considerations;
- examining the degree of, and reasons for, sharing of the flow-through share premium between issuing companies and investors or, stated alternatively, the ability of flow-through shares to deliver the value of tax deductions to issuing corporations; and
- considering the extent to which flow-through shares were successful in achieving incremental exploration and development spending and in discovering new economic reserves.

The cost-effectiveness of this financing mechanism is examined from the perspective of:

- the federal government – by estimating tax expenditures associated with flow-through shares;
- the investor – by comparing rates of return earned over time on actual investments in flow-through shares;
- the firm – by analyzing the relative costs of alternative financing options for exploration and the ability of flow-through shares to promote exploration, through analysis of marginal effective tax rates; and
- society in general – by relating costs and rates of gold discovery over time.

Section A develops the basic relationship between the prices of flow-through shares and common shares. This allows factors affecting the premium to be identified and sets the stage for ensuing discussions of effectiveness and cost-effectiveness. Section B indicates that: premia and marginal effective tax rates are related concepts; premia can provide insights into effectiveness issues; and marginal effective tax rates can address cost-effectiveness issues. Section C compares the cost-effectiveness of financing exploration by means of flow-through shares, common shares and retained earnings, and investigates the sharing of tax benefits associated with flow-through shares. Section D investigates cost-effectiveness for the flow-through share investor. Section E provides alternative perspectives on amounts of incremental exploration and

development stimulated by flow-through shares. Section F reports on some preliminary findings concerning rates and costs of gold discovery between 1946 and 1990. Section G provides federal tax expenditure estimates associated with flow-through shares. Key economic findings are summarized in a concluding section.

A. The Maximum Premium

As indicated previously, each new common share issued by a mining or petroleum company under a flow-through share agreement entitles the purchaser to resource expenditures equal to the market price of the share. Resource expenditures are valuable because they are deductible in calculating income tax. The faster an expenditure can be written off, the larger the tax benefit associated with it – exploration spending can be written off more quickly than expenditures on development and resource properties. Furthermore, a deduction is of greatest benefit to an investor in the highest income tax bracket. For an investor who cannot access the lifetime capital gains exemption, the benefit from deducting expenditures is reduced by capital gains tax payable when the share is sold. The entire proceeds of disposition are subject to capital gains tax due to the zero adjusted-cost-base rule. For an investor who can access the lifetime exemption, the tax benefit is effectively reduced by one-half. An offsetting taxable capital gain equal to 50 per cent of the deductions claimed must be realized under the cumulative net investment loss rules before the lifetime exemption can be used.

However, whether or not an investor can employ the lifetime capital gains exemption, the positive net tax benefit of a flow-through share is additional to the market value of the underlying common share. This net benefit represents the largest premium that a mining or petroleum company could obtain from selling new flow-through shares on capital markets. If the market price fully incorporated this premium, the investor would be indifferent between purchasing a flow-through share and a comparable common share of the issuing company. However, the maximum premium is not necessarily the premium that is actually received by a mining or petroleum company. The latter "observed premium", determined through empirical investigation, will be shown to be typically less than the maximum premium. Various explanations for this will be offered; each relates to the functioning of capital markets.

Equations developed in this section establish the precise relationship between the special income tax features and the maximum premium for flow-through shares, and allow the influence of the tax variables on the maximum premium to be investigated. Since the maximum premium differs with the availability of

the lifetime capital gains exemption, both cases are examined. The maximum premium in each case is determined by comparing the after-tax costs of common shares and flow-through shares.

To capture the essence of a flow-through share, certain simplifications are employed in deriving the algebraic relationships.¹

- i) Income tax deductions are assumed to be used each year to the extent allowed by legislation. This maximizes their value to the investor and, consequently, the maximum premium obtainable.
- ii) Forms of government assistance and bonus deductions which may periodically affect the flow-through share premium are generally ignored. Additional support of these types does not currently exist federally and is limited provincially.² Since certain observed premia include payments earned under the Petroleum Incentive Program (PIP), it is assumed that these grants are renounced to investors in the applicable numerical calculations.
- iii) The "quality" of a flow-through share and a common share are taken as equivalent so that these alternative instruments generate identical rates of return when held for the same period of time. There is no empirical evidence to suggest that market valuation of flow-through shares is less favourable than common shares.³
- iv) The purchase and sale of shares occurs instantaneously. This simplifies the presentation by eliminating the need to specify a parameter for the rate of return on either flow-through shares or common shares.
- v) At the outset, capital markets are assumed to function perfectly – distortions are introduced in the ensuing discussions.

¹ Appendix V provides a more comprehensive treatment which explicitly includes grants, bonus deductions, and differing rates of return on common and flow-through shares.

² See Appendix III for a description of current incentives in Quebec, Manitoba and Ontario that are targeted to flow-through share financing.

³ Such evidence could indicate the existence of asymmetric information in capital markets which could result in a "lemons problem" for flow-through shares. In essence, investors would be unable to distinguish between true high-quality prospects and low-quality prospects that are misrepresented as being of high quality. This could result in all flow-through shares being sold at a discount. However, McKenzie (1994) indicates that, while its implications for flow-through shares are not clear, asymmetric information may not alter the effectiveness of flow-through shares as a tax-benefit delivery mechanism.

No Capital Gains Exemption is Available

When an investor cannot access the capital gains exemption, the after-tax cost of a common share, ATC_{CS} , equals the market price of the common share, P_C , plus the expected capital gains tax payable when the share is sold, CGT_{CS} . It can be expressed as:

$$ATC_{CS} = P_C + CGT_{CS} = P_C + [E(P_C) - P_C]i_C t_H \quad (5.1)$$

where $E(P_C)$ is the expected selling price of the common share, i_C is the capital gains inclusion rate and t_H is the top income tax rate. The after-tax cost of a flow-through share, ATC_{FTS} , is the acquisition price of the share, P_F , minus the income tax savings associated with renounced expenses, ITS , plus the expected capital gains tax payable when the share is sold, CGT_{FTS} . It can be represented as:

$$ATC_{FTS} = P_F - ITS + CGT_{FTS} = P_F - P_F z t_H + E(P_C) i_C t_H \quad (5.2)$$

where z is a weighted average of the present value of rates of deductibility for the renounced expenses. Renunciations of CEE have a z -value of unity. The expected capital gains tax in equation (5.2) reflects the impact of the share's zero adjusted cost base and the equivalence between the expected selling prices of common and flow-through shares.

Equating equations (5.1) and (5.2) yields the ratio of the prices of flow-through shares and common shares which reflects the maximum flow-through share premium:

$$P_F / P_C = (1 - i_C t_H) / (1 - z t_H) \quad (5.3)$$

This ratio depends only on "current prices" for common and flow-through shares⁴; the future selling price of common shares is not a factor. From equation (5.3), the maximum premium, P_{MAX} , can be defined as a percentage of the price of a common share:

$$P_{MAX} = P_F / P_C - 1 = (z - i_C) t_H / (1 - z t_H) \quad (5.4)$$

⁴ "Current" means immediately after the sale of a new issue of flow-through shares is publicly announced. This ensures that the pricing of common and flow-through shares reflects the same information set, and differs only due to their differing tax features.

Equations (5.3) and (5.4) reveal that the maximum premium depends entirely on income tax parameters, i.e. the personal income tax rate, the capital gains inclusion rate, and the weighted-average present value rate of deductibility for renounced expenses. In addition, investors who do not have access to the lifetime capital gains exemption will realize a positive net tax benefit from renunciations of exploration or development expenses, but not from amounts renounced in respect of petroleum properties. This is because $z > i_c$ in the former case, while $z < i_c$ in the latter.⁵ By partially differentiating either equation, the influence of each of the tax parameters on the maximum premium can also be determined. This shows that the maximum premium would rise with: i) increases in the rate at which expenditures can be deducted; ii) decreases in the capital gains inclusion rate; and iii) if $z > i_c$, increases in the income tax rate.

The Capital Gains Exemption is Available

When an investor is able to access the lifetime capital gains exemption and realizes no other capital gain, the after-tax costs to the investor of both common and flow-through shares are reduced. Equations (5.1) and (5.2) can be modified to reflect this as follows:

$$ATC_{CS} = P_C \quad (5.5)$$

$$ATC_{FTS} = P_F - P_F z t_H + 0.5 P_F z t_H = P_F - 0.5 P_F z t_H \quad (5.6)$$

The term $0.5 P_F z$ in equation (5.6) is the investment expense due to flow-through shares that must be included in the investor's cumulative net investment loss.

The ratio of the prices of flow-through shares to common shares, and the maximum premium are determined by equating equations (5.5) and (5.6):

$$P_F / P_C = 1 / (1 - 0.5 z t_H) \quad (5.7)$$

$$P_{MAX} = P_F / P_C - 1 = 0.5 z t_H / (1 - 0.5 z t_H) \quad (5.8)$$

As before, the price ratio involves only current prices and the maximum premium depends only on tax parameters. A comparison of equations (5.7) and (5.8) to equations (5.3) and (5.4) reveals that the capital gains inclusion

⁵ This assumes that the risk-free discount rate used in calculating "z" is greater than 3.8 per cent. If the discount rate is 3.8 per cent, then the present value of deducting \$1 of expenditure equals the post-1989 capital gains inclusion rate of 75 per cent, i.e. $z = i_c$.

rate is no longer a factor due to the lifetime exemption. Moreover, the maximum premium for an investor who has access to the lifetime exemption is greater than the maximum premium for an investor who does not. Partially differentiating equations (5.7) and (5.8) reinforces the findings that the maximum premium rises with increases in both the rate of deductibility of expenditures and the income tax rate. However, in the latter case, the result is now unqualified.

B. Premia and Marginal Effective Tax Rates

The maximum premium has its counterpart in the theoretical marginal effective tax rate. Premia and marginal effective tax rates (METRs) are related concepts that offer alternative possibilities for exploring the effectiveness and cost-effectiveness of flow-through shares. Comparing the maximum premium an investor would in theory be willing to pay with the premium actually observed on capital markets allows an estimate of the extent of sharing of tax benefits between investors and resource firms. The observed premium has its counterpart in what is termed the empirical METR. A comparison of theoretical and empirical METRs can reveal how sharing can affect the ability of the tax system to encourage or discourage exploration and development. In addition, comparing METRs for flow-through shares and alternative financing options provides indications of the relative cost-effectiveness of each and the relative encouragement offered by the tax system to resource activities financed in different ways.

More generally, METRs can be used to indicate the degree to which any new investment is encouraged by the tax system. Specifically, they measure the cumulative impact of taxes on income expected to arise from the last (marginal) dollar of investment undertaken by a firm. A METR value:

- greater than zero indicates that the tax system discourages the activity;
- less than zero indicates that the tax system encourages the activity; and
- equal to zero indicates that tax system is neutral in the sense that it does not affect the decision to invest an additional dollar.⁶

It is shown above that premia depend solely on tax parameters. It is shown in the next section that the same is true for METRs regardless of the financing option employed. However, in the case of METRs for flow-through shares, an additional parameter – the firm's taxpaying status – is particularly important.

⁶ A zero value for the METR does not mean that no corporate tax revenues are raised. Rather, such a result would indicate that no tax revenue is collected on income generated by the last increment of investment; this last unit would "break even" in a tax sense.

This is so since the tax value of resource expenditures to a firm depends on its ability to claim them. Other things equal, a firm which does not expect to be able to utilize these deductions quickly would be willing to accept a lower premium for its flow-through shares on capital markets than a firm which can rapidly utilize its deductions. The lower the premium received by an issuing company, the higher is the METR on its last unit of exploration or development.

C. Effectiveness and Cost-Effectiveness for the Firm

Various ways in which flow-through shares affect issuing companies are considered in this section. First, the cost-effectiveness of this financing option for mining and petroleum companies is analyzed by comparing illustrative METRs for exploration financed in three different ways⁷: by new flow-through shares under the assumption that the maximum premium is paid by investors; by new common shares; and by retained earnings. The lower the theoretical METR for flow-through shares:

- the more the tax system can be said to encourage exploration financed in this manner; and
- the more cost-effective are flow-through shares relative to these other financing options.

The comparison proceeds under the strong assumption that retained earnings and common shares are viable alternatives to flow-through shares.⁸

Second, empirical METRs for flow-through shares are compared to both theoretical METRs and METRs for common shares and retained earnings. This provides a perspective on how the sharing of tax benefits between investors

⁷ The remainder of this chapter focuses on exploration spending both to simplify the analysis and in recognition of the fact that most renunciations (93 per cent in value terms) over the period 1987 to 1991 were in respect of CEE. The case studies undertaken by Peat Marwick Stevenson & Kellogg (1993) also support this focus. They found that "few investors were interested in CDE, and none were interested in COGPE".

⁸ For example, a junior mining company does not have production revenues by definition (see Chapter III) so that retained earnings are not a viable option for financing exploration activities. Furthermore, based on their case studies, Peat Marwick Stevenson & Kellogg (1993), p. 69, indicate that common share financing may not have always been available for junior exploration companies: "limited partnership funds offered financing that would otherwise not have been available, or only available at a discount to the market price (even with FTS deductions)".

and resource firms can affect the incentive to explore. For this purpose, data were collected through a survey of mining and petroleum companies that issued flow-through shares over the period 1987 to 1991.⁹

Third, the survey data are also used to compare the observed premia reported by the companies to maximum premia estimated under various assumptions for the underlying tax parameters. This analysis is entirely consistent with the methodology presented in Jenkins (1990). In that paper, Jenkins is concerned with evaluating the effectiveness of flow-through shares as a financing device by determining "the present value of tax revenues given up by the government per additional present-value dollar received by the ... mining project".

Comparisons of maximum and observed premia offer an important alternative perspective to Jenkins' representation of these differences as the tax cost to the government of delivering the value of tax deductions to issuing corporations. Various explanations for this sharing of the premium are provided which extend Jenkins' work and reveal that his benchmark for comparison may not be obtainable. Furthermore, since such a financing vehicle does not currently exist, it is argued that a hypothetical alternative to flow-through shares which functions similarly (i.e. in financing incremental exploration and development through new equity investments) may not be more effective. Certain issues associated with the analysis in Jenkins (1990) are also remedied.

Estimating Marginal Effective Tax Rates

In a study undertaken for the Department of Finance, McKenzie (1994) calculates theoretical METRs for exploration financed by flow-through shares, retained earnings and ordinary common shares based on the framework developed by Boadway, McKenzie, Bruce and Mintz (1987), and the extension due to Livernois (1989).¹⁰ The methodology is based on a "stylized" tax system similar to the current federal and Ontario income tax systems for mining

⁹ Information on observed premia and other characteristics of specific flow-through share agreements are needed for calculating empirical METRs and for determining the extent of sharing associated with flow-through shares. To obtain this data, 40 questionnaires were sent to 12 companies who volunteered to be surveyed. Each questionnaire corresponded to a separate flow-through share agreement. Unfortunately, the range of corporate information required for these analyses was provided only in respect of three flow-through share agreements. This was largely due to demanding end-of-year schedules for the survey participants and difficulties in accessing historical corporate records. In addition, none of the survey participants kept the detailed information on investors necessary for this analytical work. Consequently, a range of alternative assumptions for investors are used to generate illustrative empirical METRs and sharing statistics.

¹⁰ The details of the theoretical underpinnings and the mathematical derivations are contained in McKenzie (1994).

and petroleum. An additional parameter, the value of which ranges between zero and unity, is employed to reflect the taxpaying status of the firm.¹¹ A value of unity for this "taxpaying-status" parameter would apply to a firm which is fully taxpaying and thus able to fully deduct the CEE in the year the exploration is incurred. If a firm never expects to be able to claim CEE, the taxpaying-status parameter would have a value of nil. If the firm is currently non-taxpaying but expects to be able to use the deductions at some point in the future, the parameter would take on a fractional value.

Retained Earnings

In simple terms, the firm's problem is to choose the amount of capital to employ, the amount of exploration to conduct and the amount of production to undertake over time to maximize the present value of its future expected cash flows subject to certain constraints concerning changes to the stocks of available physical capital and depletable resources. Solving this dynamic optimization problem, McKenzie derives the following optimal condition for exploration:

$$\text{MRP} = (1 - xt_c) / [1 - xt_c(1-s)] \quad (5.9)$$

where x is the taxpaying-status parameter; t_c is the combined federal-provincial corporate income tax rate; and s is the resource allowance rate. The left-hand side of equation (5.9) is the marginal revenue product (MRP) of exploration or the gross-of-tax value of additional reserves discovered per dollar of exploration. The right-hand side is the user cost of exploration, i.e. the cost of an additional dollar of exploration spending to the firm, adjusted to reflect the impacts of federal and provincial income taxes. The numerator of the user cost is the after-tax cost of a dollar of exploration to the firm adjusted to reflect the firm's taxpaying status. The term $xt_c(1-s)$ in the denominator is the effective rate at which the incremental revenue generated by the additional dollar of exploration is taxed.

¹¹ This "taxpaying-status parameter" was motivated by a similar parameter outlined in Mintz (1988). The basic purpose of both parameters is to recognize that the present value of a deduction is reduced for a firm that is currently non-taxpaying. In estimating his parameter, Mintz uses industry data on tax losses and deductions and assumes that a portion of a tax loss from a marginal investment is carried back for an immediate refund while the remainder is deducted in a straight-line fashion. The Mintz estimate for the resource sector is 24 per cent. While this particular parameter value is not satisfactory for examining either METRs for exploration financed in different ways or sharing of the maximum premium for exploration, it is used nevertheless to represent the situation of a hypothetical exploration corporation that is neither fully taxpaying nor permanently non-taxpaying.

According to equation (5.9), exploration should be undertaken up to the point where the additional revenue generated by the last unit of reserves discovered just equals its user cost. At this point, the marginal unit of exploration "breaks even" in an economic sense.

Equation (5.9) is used to determine the METR on exploration financed by retained earnings. METRs are defined generally as the difference between the gross- and net-of-tax costs of a capital investment for the firm expressed as a proportion of the gross-of-tax user cost. In this case, the METR is simply $MRP - 1$.

New Common Shares

McKenzie derives the METR for new common shares using an intuitive approach instead of the formal procedure employed for retained earnings. He notes that if a firm issues \$1 in new shares to finance exploration then, other things equal, the value of existing shares will decline by \$1 due to corporate dilution. Thus, the firm must ensure that the \$1 raised by the new share issue (and used to finance new exploration) at least generates a present value of dividends necessary to compensate existing shareholders for the dilution effect. Accounting for the taxation of revenues generated from new exploration at the corporate rate, the tax deductions associated with CEE, and the taxation of dividends received by investors, then the optimal amount of exploration financed by a new common share issue is given by:

$$MRP = [(1-c)/(1-d) - x_{td}] / [1 - x_{tc}(1-s)] \quad (5.10)$$

where c and d are weighted-average effective tax rates for existing shareholders on capital gains¹² and dividends, respectively. The effective dividend tax rate depends on the marginal income tax rates of the existing shareholders and includes the federal dividend tax credit. The capital gains tax rate depends on marginal income tax rates, the capital gains inclusion rate, the length of time the share is held and the shareholders' ability to access the capital gains exemption.

Recognizing that $(1-c)/(1-d)$ is generally greater than unity because the effective capital gains tax rate is typically less than the effective dividend tax rate, equations (5.9) and (5.10) reveal that the user cost of an additional dollar of exploration financed by common shares is usually greater than the user cost for retained earnings. This implies that an additional dollar of exploration must generate more revenue per dollar when financed by new common shares than

¹² This is sometimes referred to as the "accrual-equivalent" capital gains tax rate.

by retained earnings. It follows that the amount of exploration financed by common shares will be lower. Thus, the differential taxation of dividends and capital gains reduces the attractiveness of new common shares as a source of finance compared to funds that are generated internally. As with retained earnings, the METR on exploration financed by new common shares is $METR = MRP - 1$.

Flow-Through Shares

An approach similar to that used for new common shares can be used to develop an expression for the METR on exploration financed by flow-through shares. Noting that the firm gives up tax deductions associated with the exploration spending, equation (5.11) indicates the gross-of-tax rate of return required by the company from an additional dollar of investment in exploration financed by flow-through shares.

$$MRP = (1-c) / \{(1-d) (P_F/P_C) [1 - x_{t_c}(1-s)]\} \quad (5.11)$$

As before, the METR equals $MRP - 1$.

Equation (5.11) is entirely general in the sense that no particular flow-through share premium (as reflected in the share-price ratio P_F/P_C) is specified in its formulation. As noted previously, two approaches are possible for valuing the premium received by the firm. The first assumes that the premium is at its maximum implying that the full value of tax benefits, as determined by investors, is passed on to the firm. Incorporating the formula for the maximum premium into equation (5.11) allows the theoretical METR for flow-through shares to be determined. The second approach employs actual market premia from a sample of issuing companies. These observed premia are then substituted directly into equation (5.11) to obtain empirical METRs. Either approach permits comparison of METRs associated with flow-through shares, retained earnings and common shares, and estimation of the relative cost-effectiveness of the flow-through share financing mechanism.

Before proceeding to examine cost-effectiveness, however, it is useful to consider precisely how equation (5.11) can be used to determine the theoretical METR for flow-through shares. Income tax data for 1989 and 1990 indicate that renunciations were made to individuals in all income tax brackets.¹³ This

¹³ As shown in Table 4.9, 90 per cent of claims in respect of flow-through shares in those two years were made by individuals in the highest tax bracket; 8 per cent by individuals in the middle tax bracket; and 2 per cent by individuals who were either in the lowest tax bracket or non-taxpaying.

allows weighted-average income and capital gains tax rates for these flow-through share investors (m_F and c_F , respectively) to be used to determine the maximum premium that they would be willing to pay. Replacing the capital gains tax rate, $i_C t_H$, and the income tax rate, t_H , in equation (5.4) with c_F and m_F , respectively, and setting the value of z to unity to reflect only exploration spending, the maximum premium for this particular set of investors is determined from:

$$P_F/P_C = (1-c_F) / (1-m_F) \quad (5.12)$$

Substituting equation (5.12) into equation (5.11) and subtracting unity, the theoretical METR is given by¹⁴:

$$\text{METR} = [(1-c)(1-m_F)] / \{(1-d)(1-c_F)[1 - x^*t_C^*(1-s)]\} - 1 \quad (5.13)$$

The differential taxation of dividends and capital gains for existing shareholders in equation (5.13) results in a tax disadvantage to flow-through shares relative to retained earnings given by equation (5.9). As in equation (5.10) for new common shares, this is because the term $(1-c)/(1-d)$ is typically greater than one and, therefore, increases the user cost of flow-through share financed investment. The zero adjusted-cost-base rule for purposes of capital gains tax also increases the user cost of flow-through shares and this is reflected by the term $1/(1-c_F)$. Income tax deductions associated with exploration, captured in the term $(1-m_F)$, are evaluated at the personal tax rate for the flow-through share investors rather than the effective corporate tax rate, $x t_C$. In general, it can be expected that investors would place a higher value on exploration deductions than the firms that issue flow-through shares, i.e. $m_F > x t_C$. This would decrease the user cost of exploration financed by flow-through shares.

Illustrative Cost-Effectiveness of Flow-Through Shares

Table 5.1 compares METRs for exploration financed by retained earnings and common shares with the theoretical METR for flow-through shares under various assumptions regarding personal and corporate income tax parameters. While these tax parameters can be expected to differ for each firm and for each flow-through share issue, disaggregate data of this type are not available.

¹⁴ Two capital gains tax rates appear in this equation. One (c) applies to the corporation's shareholders at the time immediately prior to the flow-through share issue, i.e. the shareholders who must be compensated for the new share issue. The other (c_F) applies to the flow-through share investors. Since it is unlikely that the two sets of shareholders would be identical, they would possess different taxation characteristics and thus be subject to different effective capital gains tax rates.

Consequently, illustrative METRs are calculated for a variety of cases, each of which corresponds to a different set of assumptions regarding the underlying tax parameters. Nine cases are analyzed to capture the sensitivity of METR calculations to the range of possible parameter values. Cases 1 to 3 concern non-taxpaying firms, cases 4 to 6 involve firms that will eventually become taxpaying and cases 7 to 9 deal with firms that are fully taxpaying.

Table 5.1*Marginal effective tax rates and maximum premia for exploration*

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9
METRS									
Retained earnings	0.0	0.0	0.0	-3.3	-3.3	-3.3	-20.0	-20.0	-20.0
Common shares	19.1	45.6	19.1	17.7	46.8	17.7	10.6	53.0	10.6
Flow-through shares, theoretical	-38.7	-25.0	-21.3	-32.6	-17.6	-13.5	-1.9	-20.0	25.9
Premia									
Maximum premium	94.2	94.2	51.4	94.2	94.2	51.4	94.2	94.2	51.4
Break-even premium ¹	-0.0	0.0	0.0	11.2	9.0	11.2	72.4	52.3	72.4
Assumptions									
Personal income tax rate (m = mf)	0.485	0.485	0.485	0.485	0.485	0.485	0.485	0.485	0.485
Capital gains tax rate									
- Existing shareholders (c)	0.182	0.000	0.182	0.000	0.182	0.000	0.182	0.000	0.182
- Flow-through shareholders (cf)	0.000	0.000	0.220	0.000	0.000	0.220	0.000	0.000	0.220
Dividend tax rate (d)	0.313	0.313	0.313	0.313	0.313	0.313	0.313	0.313	0.313
Exploration write-off rate (z)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Taxpaying-status parameter (x)	0.000	0.000	0.000	0.240	0.240	0.240	1.000	1.000	1.000
Corporate income tax rate (tc)	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Resource allowance rate (s)	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250

¹ The premium at which the theoretical METR for exploration financed by flow-through shares would equal the above-noted theoretical METR for common-share financing.

In each of the 9 cases, the statutory corporate tax rate (t_c) is assumed to be 50 per cent while the resource allowance is set at its statutory rate (s) of 25 per cent. The taxpaying-status parameter (x) is set at either:

- 0 per cent, implying that the firm is permanently non-taxpaying;
- 24 per cent¹⁵, implying that the firm will eventually become taxpaying; or
- 100 per cent, implying that the firm is fully taxpaying.

The weighted-average federal-provincial personal income tax rate (m_F) is assumed to be 48.5 per cent in all cases.¹⁶ The dividend tax rate (d), which is a function of the personal income tax rate and the federal dividend tax credit¹⁷, is fixed at 31.3 per cent in all cases. These parameter values allow comparisons of situations where the effective corporate tax rate (xt_c) exceeds (i.e. cases 1 to 6) and is less than (i.e. cases 7 to 9) the personal rate (m_F).

Information does not exist on the availability of the lifetime capital gains exemption for either the existing shareholders or the flow-through share investors of any given corporation. Consequently, for simplicity it is assumed that these groups have either full or zero access to this exemption. Given the unchanging personal tax rate, flow-through share investors with full access to the lifetime exemption may be referred to as "high premium clientele" in this analysis.

Evidence does exist that investors sold their flow-through shares at the earliest possible opportunity after expiration of the holding period suggesting that they were not primarily interested in flow-through shares as an investment opportunity.¹⁸ Consequently, when the capital gains exemption is not

¹⁵ The estimate obtained by Mintz (1988) for the resource sector (see footnote 11).

¹⁶ An arbitrarily-selected rate that is intended only to reflect the evidence in Table 4.9 that individuals who invested in flow-through shares were not all in the highest tax bracket. Using 1987 federal statutory rates and ignoring surtaxes, it may be roughly calculated as 1.5 times the product of 90 per cent of the top marginal rate of 34 per cent, 8 per cent of the 20 per cent marginal rate and 2 per cent of the 6 per cent marginal rate. The gross-up is intended to reflect provincial income taxes.

¹⁷ The 1987 value of 16 2/3 per cent is used.

¹⁸ Peat Marwick Stevenson & Kellogg (1993) note that mutual fund managers "were unanimous in their view that investors were solely interested in the tax write-offs available from the funds. They felt that few, if any, investors had any interest in resource exploration per se as an investment". Several indications of this are provided including "the rapid sell-off of investment units" and the finding that investors were typically "not interested in purchasing these shares until the end of the year, when they had a clearer view of their tax situation".

available, it is further assumed that the average holding period for flow-through shares is less than the holding period for common shares. In particular, a three-year holding period applies to the corporation's common share investors, while a one-year holding period is assumed for flow-through share investors. The weighted-average effective capital gains tax rates for existing shareholders (c) and for flow-through share investors (c_F) are determined using a 10 per cent rate of discount. A 50 per cent capital gains inclusion rate is employed in all situations.¹⁹ These assumptions yield maximum effective capital gains tax rates of 22 per cent for flow-through share investors and 18.2 per cent for existing shareholders.

Table 5.1 reveals that, for non-taxpaying firms as well as for the not-fully taxpaying firms, flow-through shares have the lowest (theoretical) METRs implying that they are the most cost-effective financing option. Retained earnings are second, while common share financing is the least cost-effective. Even for taxpaying firms, flow-through shares can outperform common shares depending on the relative rate of capital gains tax for flow-through share investors, but retained earnings are the most cost-effective method of financing exploration. Thus, taxpaying status determines whether or not flow-through share financing is preferred to retained earnings. Common share financing is always less advantageous than retained earnings. The highest METRs for common-share financing occur with effective capital gains tax rates of 0 per cent for both existing shareholders and flow-through share investors.

The calculations in Table 5.1 provide evidence on the possible impact of flow-through shares on the exploration activities of a firm which is unable to benefit from the associated tax deductions due its non-taxpaying status. Theoretical METRs for flow-through shares are lowest, in both absolute and relative terms, for non-taxpaying firms. This is not surprising since these are the firms for which tax deductions are of no value, and which the flow-through share mechanism was originally designed to benefit. If such a company receives the maximum premium, then the full value of the renounced tax benefits accrues to the firm and it can be concluded that flow-through shares can provide significant encouragement to undertake exploration even without added fiscal incentives in the form of grants or bonus deductions for that activity. Furthermore, since the theoretical METR for flow-through shares can be negative even for taxpaying firms and less than the METR for common shares, it can also be concluded that the tax system may offer encouragement for these firms to increase their exploration efforts. It is also interesting that the

¹⁹ This was the rate in effect prior to 1988.

theoretical METR rises (i.e. becomes less negative or positive) with both increases in the effective capital gains tax rate for flow-through share investors and decreases in the effective capital gains tax rate for existing shareholders.

Maximum and break-even premia are also provided in Table 5.1 for each of the cases. A firm that receives the break-even premium would be indifferent between issuing common and flow-through shares. It is thus the premium at which the full value of renounced tax benefits accrues to the investor and, in normal circumstances, is the minimum premium acceptable to the firm. As indicated in the table, the break-even premium can range from 0 per cent to 72 per cent of the price of a firm's common shares. A positive difference between the maximum and break-even premia indicates the extent to which sharing of the premium can take place such that both the firm and the investor benefit from flow-through shares. However, when the theoretical METR for flow-through shares exceeds the METR for common shares as in case 9, the minimum premium acceptable to the firm is greater than the maximum premium acceptable to investors. Flow-through shares would not normally be issued in such a situation.

The Functioning of Capital Markets

The preceding discussion concerned METRs for flow-through shares under the assumption that the firm receives the maximum premium. However, the manner in which capital markets function may cause the observed premium to be less than the maximum premium. Differences in these premia allow evaluation of the effectiveness of flow-through shares as a mechanism for delivering the value of tax deductions to issuing corporations.

There may be several valid reasons, stemming from the normal operation of capital markets, why observed premia might be found to be less than maximum premia as valued by investors. Of course, these same reasons would apply equally to any market-based financing mechanism which assists firms in financing exploration through the issuance of equity-like instruments to realize the value of the associated tax deductions. In paying a premium that is less than the maximum premium, investors effectively share the tax benefits with the firm. This parallels the situation in which two parties settle, through direct bargaining or by auction, on an equilibrium price which is mutually satisfactory. In the case of flow-through shares, investors benefit by paying a lower price than the maximum they would be willing to pay while the firm benefits from receiving a higher price than would be attainable from the alternative method of financing available to it, i.e. common shares. Taking account of the market-based reasons for sharing allows various perspectives and interpretations to be offered on the effectiveness of flow-through shares

as a financing mechanism. However, before doing so, possible capital-market-based reasons for observed premia differing from maximum premia are discussed briefly.²⁰

Tax-Induced Investor Surplus

An important implicit assumption underlying the expression for the maximum premium is that firms can sell any amount of shares to the high premium clientele (i.e. those subject to the highest statutory income tax rate and lowest effective capital gains tax rate) and obtain the maximum premium. However, the demand of the high premium clientele for flow-through share equity may be limited because of their desire to maintain a diversified portfolio. If this were the case, flow-through shares priced at the maximum premium might not attract enough of these investors to meet their supply. Consequently, firms might be forced to price flow-through shares at lower premia to attract more risk-averse high-premium clientele as well as other investors.

Thus, it is not unreasonable to view equilibrium (i.e. aggregate supply equals aggregate demand) in the market for flow-through shares as being established at a premium less than the maximum premium. At this observed premium, some investor is just willing to purchase a flow-through share and some firm is just willing to issue it. Evidence presented in Table 4.3 supports this hypothesis by revealing that not all flow-through share investors in 1989 and 1990 were high premium clientele, and therefore, that a small amount of tax-induced investor surplus would appear to have existed.²¹

Incremental Liquidity Risk

The model developed for the flow-through share premium assumes that capital markets are otherwise perfect and that investors receive immediate delivery of the underlying common shares. Under these assumptions, flow-through shares will not command an additional risk premium over common shares.

In reality, however, flow-through share agreements usually do not require immediate delivery of the underlying common share. Rather, the share is delivered at some specified future date. The major reason for this is the existence of provincial securities restrictions which apply to private placements,

²⁰ A more comprehensive discussion can be found in McKenzie (1994).

²¹ Tax-induced investor surplus could be calculated in Table 5.1 by substituting a personal income tax rate of 51 per cent for the 48.5 per cent rate in those cases where the effective capital gains tax rate is 0 per cent.

the method typically used to issue flow-through shares to limited partnerships.²² Thus, after committing funds for flow-through shares, an investor cannot normally sell the shares until after the holding period has expired.²³ In effect, flow-through shares are illiquid over this period. This imposes a "liquidity risk" upon flow-through share investors which may exceed any liquidity risk associated with new common shares. Liquidity risk can arise for a variety of reasons. For example, if new information regarding the firm becomes available during the holding period, investors would not be able to respond to take advantage of it. Alternatively, investors might experience a "liquidity shock" or an unanticipated change in their investment horizon which would otherwise necessitate an immediate sale of their flow-through shares.

Investors must be compensated for any additional liquidity risk. Because of it, flow-through shares would be priced, after the value of the tax benefits are netted out, at a discount relative to the price of the underlying common shares. This would be the case even in a well-functioning capital market. In general, the greater the variance in the returns of the issuing company, the greater would be the adjustment for liquidity risk.

Incremental Transaction Costs

Issuing flow-through shares involves transaction costs; for example, legal, accounting, underwriting, filing, and brokerage fees as well as management and operating fees if the shares are sold to a limited partnership. To the extent that these costs exceed those associated with financing the exploration in some other way, the cost-effectiveness of flow-through shares would be reduced. This too may explain why firms may not receive the full value of the tax benefits as valued by investors.

In terms of transaction costs, retained earnings are obviously the "cheapest" source of equity finance, as there is no new security issued at all. Ordinary new common share issues, on the other hand, can involve the types of transaction costs described above. Since flow-through share issues can be even more complex, one might expect them to involve transaction costs over and above those incurred in issuing ordinary new shares. To the extent that

²² As previously indicated, securities regulations often specify a 12-month holding period for shares issued by means of private placements. Empirical evidence presented in the next section suggests that the average holding period for flow-through shares obtained through the limited partnerships subject to analysis was about 10 months.

²³ In addition, the "at-risk rules" of the *Income Tax Act* effectively prevent investors from selling their rights to the shares by prohibiting them from claiming amounts renounced when they do not have money at risk.

this is the case, these costs might be borne entirely by the issuing company or passed along to flow-through share investors. Information presented in Table 5.2 reveals that incremental transaction costs for flow-through shares over common shares could be about 2 per cent of the value of the funds raised through private placements both with investors directly and with multi-company limited partnerships involved more heavily with junior exploration companies.

Table 5.2

Transaction costs¹
(Percentage of funds raised)

	Flow-through shares					Common shares
	Direct issuance ²		Issuance via limited partnership			
	Public offering	Private placement	Company-sponsored	Multi-company funds		
				Large	Small	
Expenses of issue ³	1.5	2.0	1.0	0.5	0.8	4.5
Brokerage commission	5.0	6-10	5.1	6.5	8.0	5.5
General-partner fee ⁴	-	-	-	3.0	3.3	-
Operating costs	-	-	0.5	-	0.8	-
Total	6.5	8-12	6.6	10.0	12.9	10.0

¹ May be paid either from general corporate funds or from the proceeds of issue.

² Legal, accounting, underwriting and filing fees. Companies selling shares to multi-company funds also incurred small additional costs of issuing shares.

³ May include costs of operating the fund.

⁴ Those containing a higher proportion of junior exploration companies.

Source: Based on Peat Marwick Stevenson & Kellogg (1993).

Common Share Valuation

The discussion of flow-through share premia has so far assumed that the issuing company is able to sell its common shares at the price observed on the stock exchanges on which its shares are listed. While this is a standard assumption in theory, it is possible that the ability to issue the desired quantity of common shares at the established market price is severely restricted especially for junior firms with relatively short histories. If so, then the premium calculations must be adjusted to account for the lower price that would be obtainable on the sale of the underlying common shares. However, empirical data is not available to allow this lower price to be estimated.

Empirical Results

Empirical METRs and Cost-Effectiveness

Although the sharing of tax benefits due to investor surplus, incremental liquidity risk, and incremental transaction costs may exist in well-functioning capital markets, their practical importance in terms of cost-effectiveness and exploration spending can only be determined through empirical investigation, i.e. by examining the premia that flow-through shares actually command in the market place. This task requires information on the selling price of flow-through shares and the value of the underlying common share so as to determine the observed premium. As well, assumptions regarding tax parameters are required to calculate empirical METRs associated with flow-through shares. If the empirical METR is below the METR for a firm's common shares, then it can be concluded that, even though the observed premium is less than the maximum premium, the flow-through share mechanism remains a relatively cost-effective financing option that can promote exploration activities.

Table 5.3 presents illustrative METR calculations for three flow-through share issues based on data obtained from a survey of issuing companies. All three issues were made in 1987 by different companies. Companies X and Z each earned a 10 per cent grant through the Petroleum Incentives Program and this is assumed to have been renounced with the exploration expenses to their investors. As the exact taxpaying status of the firm and its investors is unknown, assumptions similar to those in Table 5.1 are employed. Theoretical METRs (based on maximum premia) and empirical METRs (based on observed premia) are calculated and compared with METRs for retained earnings and common shares.

When the firms are assumed to be fully taxpaying, Table 5.3 shows that flow-through shares are the least cost-effective and would not be issued by them. Empirical METRs for these firms are naturally larger than the theoretical METRs indicating the adverse effects of sharing for them. The conclusion is that, since flow-through shares were actually issued by these firms, none of them could have been fully taxpaying. Otherwise, they would simply have used retained earnings or issued common shares to raise external financing at a lower cost.

Table 5.3

Marginal effective tax rates and taxpaying status, exploration

Survey participant	Taxpaying status parameter	Theoretical METR		Flow-through shares			
		Retained earnings	Common shares	Maximum premium	Theoretical METR	Observed premium	Empirical METR
Company X	0.000	-10.0	9.1	68.2	-29.2	41.8	-16.0
	0.240	-13.0	8.0	-22.2			-7.7
	1.000	-28.0	2.6	13.3			34.4
Company Y	0.000	0.0	19.1	51.4	-21.3	41.8	-16.0
	0.240	-3.3	17.7		-13.5		-7.7
	1.000	-20.0	10.6		25.9		34.4
Company Z	0.000	-10.0	9.1	68.2	-29.2	60.0	-25.6
	0.240	-13.0	8.0		-22.2		-18.2
	1.000	-28.0	2.6		13.3		19.1

Assumptions:

Personal income tax rate (m = mf)	-	0.485	0.485	0.485	-	0.485
Capital gains tax rate						
– Existing shareholders (c)	-	0.182	-	0.182	-	0.182
– Flow-through shareholders (cf)	-	-	0.220	-	-	-
Dividend tax rate (d)	-	0.313	-	0.313	-	0.313
Exploration write-off rate (z)	1.000	1.000	1.000	-	1.000	-
Corporate income tax rate (tc)	0.500	0.500	-	0.500	-0.500	
Resource allowance rate (s)	0.250	0.250	-	0.250	-0.250	
PIP rate ¹	0.100	0.100	0.100	-	0.100	-

¹ Companies X and Z each reported PIP grants earned at a 10 per cent rate. The flow-through share calculations for these companies assume that the grant is renounced to investors.

When the firms are assumed to be either non-taxpaying or not fully-taxpaying, empirical METRs are negative. In fact, they are sufficiently negative that flow-through shares are more cost-effective than retained earnings when the firms are assumed non-taxpaying and may be more cost-effective than retained earnings when the firms are assumed not-fully taxpaying. Common shares are the least cost-effective financing option for taxpaying and not-fully-taxpaying firms. Since flow-through shares were actually issued by these firms, it must be the case that, of the three, Company X considered itself to be the closest to being permanently non-taxpaying.

Three general observations stem from the findings in Table 5.3. First, flow-through shares provided a significant incentive for exploration by non-taxpaying or not-fully-taxpaying firms, even though the premia were shared between the companies and their investors. Second, given the sharing of the maximum premium (reflected in a lower observed premium received by each firm), the incentive was similar to that afforded a taxpaying firm in a similar situation that financed exploration out of its retained earnings. In fact, if the three firms had obtained the maximum premium, the incentive would have exceeded that for a taxpaying firm. Third, incentive grants increase cost-effectiveness and promote exploration by reducing METRs regardless of the financing option employed.

Observed Premia and Sharing

Investor surplus, incremental liquidity risk and incremental transaction costs may result in firms not receiving the full tax benefits of renounced deductions even in well-functioning capital markets. Measuring the extent of sharing between firms and investors allows an assessment of the relative effectiveness of the flow-through shares as a mechanism for delivering the value of tax benefits to issuing companies. This is the perspective taken by Jenkins (1990) in one of the few published analyses of flow-through shares.

Jenkins views flow-through shares as an alternative to a full tax-loss offsetting mechanism whereby the firm is taxed on positive income and is provided a full refund in the case of negative taxable income. However, no consideration is given to the fact that the flow-through share mechanism is directed only towards new resource expenditures and new equity, and cannot be used to flow-through existing tax losses. An alternative mechanism to flow-through shares that would achieve the same objectives would require a firm to raise new equity financing to undertake new exploration activities. New exploration expenditures would then be afforded fully symmetrical tax treatment.²⁴ Notwithstanding this fundamental difference in the benchmark against which effectiveness is measured, it is useful to discuss the Jenkins approach to effectiveness to understand how it relates to sharing and, consequently, how it should be interpreted.

²⁴ For example, it can be argued that an appropriate benchmark for evaluating the effectiveness of flow-through shares as a tax-benefit delivery mechanism would be another equity-based mechanism that would operate through capital markets and through which a non-taxpaying firm could obtain a refund in respect of its new exploration expenditures. Unfortunately, Jenkins does not distinguish between such a mechanism and a symmetrical tax system.

Jenkins' effectiveness index, E , for exploration expenditures is²⁵:

$$E = [(P_F/P_C) (m_F - x_{t_C}) - c_F] / [P - (P_F/P_C)x_{t_C}] \quad (5.14)$$

The numerator in equation (5.14) is the additional tax cost to the government associated with an issue of flow-through shares sold at a price relative to common shares of P_F/P_C . This additional cost consists of three components:

- income tax losses from investors claiming deductions immediately in respect of the renounced exploration expenditures, $(P_F/P_C)m_F$;
- additional capital gains taxes, c_F , from the future sale of the underlying common share due to the zero adjusted-cost base for capital gains purposes; and
- income tax gains from the corporation foregoing its prior right to future deductions in respect of the exploration expenditures, $(P_F/P_C)x_{t_C}$.

The denominator is the net tax benefit actually received by the company. This consists of the value of the premium it receives, P , minus the expected present value of the forgone corporate tax deductions, $(P_F/P_C)x_{t_C}$. Thus, E is an index measure of the cost to the government per dollar of benefit received by the company.²⁶

²⁵ An additional term can be subtracted from the denominator of this equation to account for incremental transaction costs in respect of flow-through shares.

²⁶ Jenkins (1990) indicates that an E -index value of unity would be the theoretical ideal signalling a perfectly effective delivery mechanism. Such a value would mean that the corporation receives the full value of the tax benefits, as valued by the investors. To achieve this without capital-market intervention would require a tax system with full, unconstrained refundability at the corporate level, regardless of how the investment is financed or when it is undertaken. However, such a system would raise other problems. One concern would be how to monitor the legitimacy of the expenditures in the absence of the "market discipline" associated with a new share issue. Furthermore, no system of refundability would be costless to administer. More fundamentally, there is no tax system in the world which grants full-loss offsetting. If full-loss offsetting is either an unattainable "ideal" or involves monitoring and administration costs, then an E -index value of unity would not be the appropriate benchmark against which to evaluate the effectiveness of flow-through shares. If full-loss offsetting was not the appropriate benchmark for comparison, then any capital-market alternative with refundability would also result in a "sharing" of tax benefits such that $E > 1$. Unless full-loss offsetting could be provided costlessly by government, the benchmark E -index value would also exceed unity.

Alternatively, E can be interpreted as the inverse of the share of the tax benefits received by the company (S_C) as opposed to the flow-through share investors. That is:

$$S_C = 1/E = [P - (P_F/P_C)xt_c] / [(P_F/P_C) (m_F - xt_c) - c_F] \quad (5.15)$$

Subtracting S_C from unity, it follows that the investors' share is:

$$S_I = 1 - 1/E = [(P_F/P_C)m_F - c_F - P] / [(P_F/P_C) (m_F - xt_c) - c_F] \quad (5.16)$$

The denominator in equations (5.15) and (5.16) represents the additional cost to the government today from allowing exploration deductions to be renounced for immediate use instead of being carried-forward by companies for possible use at a later date. The numerator in equation (5.15) represents net benefit for the firm while the numerator in equation (5.16) represents the net benefit for the investor.

While equation (5.15) includes the premium for flow-through shares, it can be reformulated in a simpler and more intuitively-appealing manner that directly relates the observed premium to the maximum premium. In particular, the corporate share for a non-taxpaying firm, S_C^{NT} , can be calculated as²⁷:

$$S_C^{NT} = P_{OBS} / [(1-m_F)P_{MAX} + m_FP_{OBS}] \quad (5.17)$$

where P_{OBS} is the observed premium and P_{MAX} is the maximum premium. Thus the corporate share is simply the ratio of the observed premium to the weighted average of the observed and maximum premia, with the weights being the tax rate at which investors value the tax deductions for exploration.

Calculating corporate and investor shares requires information similar to that required for calculating METRs, i.e. data on the tax parameters and the observed premium. Table 5.4 provides illustrative calculations of sharing or effectiveness based on the observed premia obtained from the three survey participants and the tax parameter assumptions underlying cases 1 to 6 of Table 5.1. The analysis indicates the factors that are important in determining the effectiveness of flow-through shares as a tax-benefit delivery mechanism. Calculations for cases 7 to 9 are not provided since the observed premia are less than the break-even or minimum premia (given in Table 5.1) that would be acceptable to these hypothetical taxpaying firms. Flow-through shares would not be issued by these firms.

²⁷ A similar equation for taxpaying firms is slightly more complicated.

Table 5.4*Flow-through share effectiveness and sharing, exploration*

Survey participant	Observed premium	Measure ¹	Cases 1 & 2	Case 3	Cases 4 & 4	Case 6
Company X	41.8%	Effectiveness index (E)	1.91	1.36	2.48	1.58
		Corporate share (Sc)	52.3%	73.7%	40.3%	63.2%
Company Y	41.8%	Effectiveness index (E)	1.73	1.17	2.27	1.30
		Corporate share (Sc)	57.9%	85.2%	44.0%	76.7%
Company Z	60.0%	Effectiveness index (E)	1.48	1.10	1.68	1.14
		Corporate share (Sc)	67.6%	90.9%	59.4%	87.5%

Assumptions:

Personal income tax rate (mf)	0.485	0.485	0.485	0.485
Capital gains tax rate (cf)	0.000	0.220	0.000	0.220
Exploration write-off rate (z)	1.000	1.000	1.000	1.000
Taxpaying-status parameter (x)	0.000	0.000	0.240	0.240
Corporate income tax rate (tc)	0.500	0.500	0.500	0.500
Incremental transaction costs (t)	0.020	0.020	0.020	0.020
PIP rate ²	0.100	0.100	0.100	0.100

¹ When there are no costs for the government to issue refunds, a value of unity for the effectiveness index would indicate that all tax benefits associated with flow-through shares accrue to the issuing company, i.e. flow-through shares are fully effective. A corporate share of 100 per cent corresponds to an effectiveness-index value of unity.

² Companies X and Z each reported PIP grants earned at a 10 per cent rate. The calculations for these companies assume that the grant is renounced to investors.

Calculations for S_c and E display wide variation across the companies and cases examined. For example, corporate shares range from a low of 40 per cent to a high of 91 per cent. For a given company, S_c increases (or E decreases) as the effective capital gains rate for its flow-through share investors increases and as the company itself becomes more non-taxpaying. The former suggests that high-premium clientele are more effective in securing a larger share of the tax benefits for themselves. Of course, these are precisely the investors who are willing to pay the highest maximum premium. Thus, there is a trade-off for companies. They can either get a higher share from lower-premium clientele or a lower share from higher-premium clientele. The calculations suggest that firms are more effective in the former case and, consequently, so are flow-through shares as a tax-benefit delivery mechanism. In addition, the calculations suggest that if the firms are non-taxpaying as assumed by Jenkins (1990), then their share of the maximum premium is highest. More specifically, the firm receives between 74 per cent and 91 per cent of the maximum premium in case 3. Even in cases 1 and 2, which

assume the lifetime capital gains exemption is available to investors, the corporate shares exceed 50 per cent. Thus, for these three issues, flow-through shares are most effective if the firm is non-taxpaying. Combining these two observations suggests that flow-through shares are a more effective delivery mechanism when firms are non-taxpaying and investors are lower-premium clientele.

As the conclusions from this analysis differ somewhat from those of Jenkins, it is necessary to provide some explanation. First, Jenkins considers only non-taxpaying firms in his analysis thus assuming that the deductions have no value to the issuing firm. This tends to increase the effectiveness-index values. Second, Jenkins measures the premium based on the common share price six months after the flow-through shares were issued. As noted earlier, this is not the appropriate common share price for an evaluation of effectiveness for the firm. In addition, as demonstrated in the next section, common share prices for issuing companies six months after the fact tended to be significantly lower than common share prices on the date of issuance of the flow-through shares. This measurement problem also contributes to high values for Jenkins' effectiveness index. Third, Jenkins concentrates on the effectiveness measure but completely ignores the ability of flow-through shares to promote resource activities as measured using the METR concept. The empirical METRs in Table 5.3 show that flow-through shares still offered a significant incentive for firms to explore. Fourth, Jenkins does not consider any of the possible factors that can explain the existence of sharing in well-functioning capital markets. Fifth, by failing to recognize investor surplus, incremental liquidity risk and incremental transaction costs, he also ignores their implications for other equity-based "refunding" mechanisms.²⁸

Sixth, since his benchmark for comparison is costless full-loss offsetting, Jenkins assumes that an E-index value greater than unity implies that the flow-through shares are ineffective as a tax delivery mechanism. Unfortunately, he fails to consider that the flow-through share mechanism is directed towards incremental expenditures and is available only to firms that raise equity financing through capital markets. More specifically, notwithstanding the

²⁸ With reference only to costless full-loss offsetting, Jenkins (1990) concludes that the effectiveness of flow-through shares as a financial instrument "appears to be poor" (p. 285) and that "the taxation authorities would do well to consider other methods of bringing about the refundability of tax losses" (p.285). The former statement reflects the choice of benchmark, the underlying assumptions employed and measurement problems, while the latter statement fails to recognize the causes of sharing in a well-functioning capital markets and the incentive effects of flow-through shares in promoting resource activities.

possible variations in E-index estimates due to underlying tax parameter assumptions, it is necessary that the flow-through measure be compared to an alternative which:

- relies on capital markets;
- requires the firm to raise external equity financing; and
- requires the firm to incur new expenditures prior to receiving a tax refund from the government.

Although no such alternative mechanism exists, it can be argued that a similar sharing of tax benefits between the investor and firm would occur if it did.²⁹

Case-Study Evidence on Sharing and Effectiveness

The case studies conducted by Peat Marwick Stevenson & Kellogg (1993) yield additional insights into the effectiveness of flow-through shares as a tax-benefit delivery mechanism and the ability of this financing mechanism to promote longer-term exploration and development. They also serve to substantiate many points raised in earlier sections.

Various market-based reasons for sharing of the premium are advanced above. The case studies provide an additional market-based possibility, namely, the influence exerted by large limited-partnership intermediaries involved with flow-through shares. Economic theory indicates that the share of tax benefits received by issuing companies depends on the opportunity cost of foregone deductions, transaction costs and personal tax rates. However, the effectiveness of the delivery mechanism is also influenced by the ease of obtaining financing and the investment horizon of investors. Evidence on these factors is provided through case-study analysis. The ability to market flow-through shares quickly and, thereby, to raise financing rapidly was found to be an attractive feature of this financing mechanism. However, when considered in light of the investment horizon of a typical investor, questions arise as to its longer-term implications for mining and petroleum exploration and development.

²⁹ One alternative could be "common shares with refundability". In essence, this mechanism would require the firm to finance exploration expenses by issuing new common shares. If the firm is non-taxpaying in the year the expenditures are incurred, the government would refund the full value of tax deductions directly to the firm. Thus, in contrast to flow-through shares, the firm rather than the investor would receive the tax "refund". However, the premium attached to the refundable common shares, valued at some corporate rate, would still be shared with investors through the setting of their equilibrium price in capital markets.

Premia

The case studies found that companies and limited partnerships in the sample typically set premia for their flow-through share issues based on some notion of the maximum premium investors would be willing to pay.³⁰ From these calculations, actual premia were established at a somewhat lower level "to provide an incentive for investors to purchase shares". Calculations of the amount of downside protection available to investors were also generally included. These indicated the extent to which the underlying common-share price could fall before investors would be indifferent between purchasing flow-through and common shares. It was also found that the market price for common shares was a much more realistic indicator of asset value for senior companies than for junior companies.³¹

Particularly interesting findings concern the influence of limited partnerships in setting premia for companies of different sizes and involved in different sectors. Senior companies frequently reported that these intermediaries offered them higher premia than would otherwise have been obtainable by issuing shares directly to investors. "Funds liked to 'dress up' their portfolios with reputable companies that would be known to an investor; this provided an offset to the 'moose pasture' shares that were offered by junior exploration companies." Since their alternatives were typically either non-existent or severely limited, junior companies "often sold their shares at little or no premium to the funds". In addition, those limited partnerships that specialized in purchasing flow-through shares from junior companies "tended to pay low premiums to all issuers; they needed to show investors substantial downside protection in order to make their funds marketable". Since tax incentives for mining companies were generally more favourable than those for oil and gas, funds could also "afford to offer higher premia to mining companies".

³⁰ "The analysis often took the form of comparing the differential after-tax cost of FTS to the market price of common, i.e. tax features common to both types of shares were ignored", page 68. In addition, investors were always assumed to be in the top marginal income tax bracket; base-case calculations usually represented investors as being high-premium clientele. As noted on page 59, "issuers and funds almost always assumed that the market price of the shares underlying the FTS units would remain unchanged".

³¹ "...at the time of a FTS issue, the market prices of the stocks of many junior companies were probably an almost fictitious parameter. Prices were often based on limited trading volume, or were the average value of a wide bid and ask spread. These prices, therefore, did not necessarily represent a realistic estimate of the share value, particularly in the context of a new issue.", page 60.

Opportunity Cost of Renouncing Deductions

Few of the companies subject to case-study analysis, particularly the junior companies, were either in a taxpaying position at the time they issued flow-through shares or expected to become taxpaying in the short term. Consequently, the deductions renounced to investors were of little immediate value to them. This is highlighted by the fact that only one of the companies surveyed actually undertook to estimate this opportunity cost in assessing a proposed share issue.

Corporate Transaction Costs

The case studies reinforced the message that the net cost of flow-through shares can vary with the manner of issuance chosen by a company. For example, it was found that certain companies were willing to accept a lower premium for issuing shares to a limited partnership instead of to investors directly due to savings they realized in terms of reduced corporate transaction costs.

Because of relatively low costs of issue (see Table 5.2), companies would seek to issue flow-through shares via private placements directly to investors if possible and, if not, to limited partnerships. Private placement with limited partnerships was attractive because transaction costs associated with brokers were avoided and because the administrative burden (e.g., issuing tax receipts to investors) for the companies was considerably reduced.

Ease of Issue

Flow-through shares were found to have been particularly attractive, especially for junior companies, due to the ease with which funding could be raised. Ease of funding includes the speed of raising financing, flexibility in terms of the amount of funding available, and the availability of funding for both junior and senior companies.

In essence, flow-through shares could be marketed quickly because limited partnerships were established specifically for this purpose and since the issues did not involve extensive stock promotion. The specialized limited partnerships facilitated the negotiation of flow-through share agreements and, due to their size, the issue of flow-through shares by means of private placements. Limited partnerships and private placements also meant that flow-through share funding could be obtained in small increments on short notice which allowed companies to react quickly to opportunities as they arose. Furthermore, limited partnerships often possessed the expertise to judge a proposed flow-through share purchase on its technical merits. This facilitated funding for smaller companies which lacked the ability to promote an issue on their own.

An important related issue concerned the ease with which companies could raise funding to cover overhead and administrative expenses. Opinions on this were mixed with some companies indicating that the availability of flow-through shares facilitated raising financing for these other purposes, while other companies expressed the opposite view.

Investment Horizon

Evidence gathered from the case studies indicates that there was a "fundamental mismatch between the investment horizon of many investors in FTS (particularly tax-motivated limited partnerships), and the financing needs of companies" especially for junior mining companies. Investors tended to sell their shares at the earliest opportunity (i.e. at the end of the holding period required by provincial securities commissions), while companies were typically interested in a longer-term source of funds. The enormous downward pressure on share prices exerted by this typical investor behaviour presented major problems for many issuing companies. It was difficult for companies to withstand the selling pressure if they had not attained some measure of exploration success.

Summary

The METR methodology applied to flow-through shares indicates that this financing mechanism can be cost-effective and promote exploration, especially for non-taxpaying firms. The actual level of incentive depends on the extent of capital-market sharing and on tax parameters for both the firm and its investors. METR estimates based on observed premia received by three companies indicate that they benefitted significantly from flow-through shares.

In terms of flow-through shares as a delivery mechanism, it is argued that the sharing of tax benefits results from the normal functioning of capital markets and that the existence of sharing does not mean that flow-through shares are ineffective. Furthermore, flow-through shares would likely be as effective as any equity-based alternative for encouraging new exploration. On this basis, the effectiveness measure developed by Jenkins fails to reflect the true nature and intent of the flow-through share financing mechanism.

D. Cost-Effectiveness for the Investor

In the previous section, effectiveness and cost-effectiveness of flow-through shares was considered from the viewpoint of the firm or seller. This section continues to explore cost-effectiveness, but from the perspective of the other party to the transaction, i.e. the investor or buyer.

Cost-effectiveness for the investor is addressed by investigating rates of return earned from flow-through shares relative to alternative equity investment opportunities in mining, and oil and gas over the period 1986 to 1990. Three outcomes are possible: rates of return for flow-through shares either exceed, fall below or equal rates of return from investments in common shares in the resource sector.

If the investigation shows that, on a net-of-tax basis, the investors received positive rates of return relative to alternative types of equity investment, then this would suggest one or some combination of the following:

- i) investors paid a premium substantially below the maximum premium;
- ii) exploration financed by flow-through shares resulted in relatively attractive ore findings and unexpectedly high prices for the underlying shares; or
- iii) share prices of issuing companies increased substantially for other reasons.

Alternatively, if the comparison reveals negative rates of return, then one may argue that, in spite of their attractive tax features:

- i) investors paid a premium close to the maximum premium;
- ii) exploration financed by flow-through shares was relatively unsuccessful and resulted in unexpectedly low prices for the underlying shares; or
- iii) there were high costs associated with intermediation.

A finding that relative rates of return for flow-through shares are close to zero (or "normal" in comparison to alternative equity investments) would indicate that flow-through shares were priced such that neither the investor nor the firm benefitted at the expense of the other.

General Methodology

The methodology is based on an evaluation of both absolute and relative rates of return received by investors from flow-through shares purchased through broadly-based limited partnerships. In each case, net-of-tax returns are calculated, as investor returns are significantly influenced by the income tax consequences associated with these investments. Limited-partnership intermediaries are specifically chosen for analysis since they were the dominant source of flow-through share funding for resource firms and offered substantial opportunities for asset diversification and risk reduction to investors.

Absolute rates of return are determined assuming that the investor purchased units in the limited partnership on the date the flow-through shares were issued (i.e. the issuance date) and sold the investment on the date the partnership units were converted into units of an associated mutual fund (i.e. the conversion date). Two main adjustments must be made to gross-of-tax absolute returns from these investments: one in respect of the type of income tax deductions associated with the investment; and the other in respect of the amount of capital gains tax payable by the investor. Income tax deductions (e.g., Canadian exploration expense, Canadian development expense, Canadian oil and gas property expense, mining exploration depletion allowance, etc.) are based on the type of resource activities undertaken by the issuing companies; their value depends on the rate of write off and the marginal income tax rate faced by the investor. The capital gains tax payable by the investor depends on the investor's marginal tax rate, the capital gains inclusion rate, and the availability of the capital gains exemption to the investor.³² Calculating absolute rates of return in this way provides an overall indication of the performance of flow-through shares *per se*.

Absolute rates of return from investments in flow-through shares via limited partnerships are also compared to rates of return that otherwise could have been earned by investing in an "average" share in the mining or petroleum industry. This comparison is necessary to correct for general trends in stock-market activities. For example, it is possible that, during the period between the issuance date and the conversion date, the stock market rose due to increases in market prices for the underlying resource commodities (e.g., precious metals).³³ In such a situation, rates of return realized by the

³² Complications due to the cumulative net investment loss rules are ignored in the analyses of rates of return.

³³ As shown in Chapter 3, significant price increases in precious metals and for the stocks of precious metal companies did occur during this period.

limited partnerships that invested in the flow-through shares of companies mining precious metals would be high regardless of the success of the exploration activity financed by those particular share issues. Therefore, an evaluation of rates of return for such limited partnerships requires that an adjustment be made to reflect the general change in the level of share prices. It is these relative rates of return that allow inferences to be made about the quality of investment and, consequently, the performance of the exploration activity financed by flow-through shares.

In addition, it is interesting to evaluate relative rates of return accruing to investors after the conversion date, at which time the common-share component of the flow-through share became freely tradeable in the open market. If the investments by limited partnerships in flow-through shares generated attractive exploration results, then these shares should perform at least as well as an average share in that industry. This comparison allows for an evaluation of the intrinsic value of the underlying common shares associated with the flow-through shares and, thereby, provides a third way of evaluating the underlying potential of flow-through share investments.

Analytics of Rates of Return

All rate-of-return calculations assume the investor to be resident in Ontario and in the highest marginal tax bracket. The former assumption reflects the fact that Ontario residents accounted for the largest proportion of flow-through share claims (averaging 34 per cent for 1989 and 1990). The latter assumption is adopted since flow-through shares are relatively more beneficial and thus primarily of interest to investors subject to the highest marginal income tax rate (in 1989 and 1990, for example, 71 per cent of investors making claims in respect of flow-through shares were in the highest tax bracket; they accounted for 91 per cent of all such claims). In addition, situations in which the capital gains exemption is and is not applicable are taken into account.³⁴

³⁴ The specific marginal income tax rates employed are: 52.53 per cent for 1987, 46.14 per cent for 1988, 47.18 per cent for 1989, 48.23 per cent for 1990 and 49.11 per cent for 1991. These tax rates capture all changes in overall federal and provincial tax rates and include all personal surtaxes. The corresponding inclusion rates for capital gains tax were 50 per cent for 1987, 66.67 per cent for 1988 and 1989, and 75 per cent thereafter. As statutory income tax rates differ among provinces, after-tax rates of return would also differ for investors residing in other provinces. In general, the lower the tax rate, the higher would be: (i) the after-tax cost of investment; and (ii) the after-tax return to the investor due to the lower effective capital gains tax rate.

Both the absolute and relative rates of return are considered for the period between the issuance date and the conversion date, termed the "holding period" during which the investor is prohibited, by the regulations of provincial securities commissions or the limited partnership agreement, from disposing of the original investment. No attempt is made to annualize any of the returns.³⁵ It is also assumed for simplicity that the tax benefits from investing in flow-through shares were immediately available to the investor on the issuance date. Similarly, any capital gains taxes arising at the conversion date were assumed to be paid by the investor at that time.³⁶ To allow for differing characteristics among investors, which affect the tax benefits attributable to flow-through shares, four absolute and relative rates of return are calculated for each limited partnership in the sample. These allow for evaluation of the performance of the limited partnerships investing in flow-through shares relative to common shares and of the significance of the various tax deductions. Each of the four returns is described below.

Absolute Rates of Return

Common-Share Equivalent Return, No Capital Gains Exemption

This represents the theoretical return which would have been earned from an investment in common shares instead of flow-through shares. Accordingly, it is calculated assuming the investor in the limited partnership does not benefit from tax deductions associated with flow-through shares. In addition, it is assumed that the investor is required to pay capital gains tax on disposition of the common shares. This common-share equivalent return provides an indication of the inherent quality of the investment and serves as a benchmark against which the other three returns can be compared. It is given by the formula:

$$R_1 = (1 - i_c t_H) (P_S - P_P) / P_P \quad (5.18)$$

where P_P is the price at the date of issuance, P_S is the price at the date of conversion, t_H is the highest marginal tax rate in that year, and i_c is the capital gains inclusion rate.

³⁵ Flow-through share issues through these limited partnerships have an average holding period of about 10 months. Thus, associated rates of return closely approximate annual returns.

³⁶ It is often the case that the investor receives the tax deduction over the course of several months and the investment in the limited partnership is made in a number of instalment payments. It can also happen that the investor is unable to sell the shares on the conversion date due to the significant negative impact such an action would have on the market price. However, the available data does not allow for any adjustments to be made to account for these complications.

Common-Share Equivalent Return, Capital Gains Exemption

The second return is identical to the first except that the investor is assumed to be able to benefit from the lifetime capital gains exemption. Since no capital gains tax is applicable at the conversion date, it is given by:

$$R_2 = (P_s - P_p) / P_p \quad (5.19)$$

where the variables are the same as in equation (5.18).

Flow-Through Share Return, No Capital Gains Exemption

The third return explicitly accounts for the tax deductions available to the flow-through share investor and assumes that capital gains taxes are payable at the date of conversion. Thus, the difference between this return and the corresponding common-share return in equation (5.18) is due entirely to the tax deductions enjoyed by the flow-through share investor. This flow-through share return is calculated as:

$$R_3 = [P_s (1 - i_c t_H) + P_p t_H D - P_p] / P_p \quad (5.20)$$

The first term, $P_s(1 - i_c t_H)$, represents the after-tax proceeds from the sale of the flow-through share taking into account the zero adjusted-cost base for purposes of the capital gains tax. The second term, $P_p t_H D$, represents the tax savings from the investment where D is the present value of deductions, grants and bonus deductions in respect of amounts renounced to the investor per dollar of investment. The tax value of these deductions is dependent upon the investor's marginal tax rate, t_H .

Flow-Through Share Return, Capital Gains Exemption

This fourth return differs from that in equation (5.20) solely because of the assumption that the investor pays no capital gains tax on the proceeds of disposition. It is:

$$R_4 = [P_s + P_p t_H D - P_p] / P_p \quad (5.21)$$

Equation (5.21) can be compared with the return from equation (5.19) to evaluate the tax benefit component of flow-through shares.

Relative Rates of Return

While equations (5.18) through (5.21) describe net-of-tax absolute rates of return earned by investors in limited partnerships, relative rates of return provide a better indication of the investment performance of flow-through

shares. Accordingly, the analysis proceeds to compare rates of return earned by investors in flow-through shares through limited partnerships with rates of return otherwise available from investing in an average share in the resource industry.

The methodology for these comparisons is as follows. First, the limited partnerships were classified by type of resource investment. Second, data on monthly price levels and rates of return for the sub-industry corresponding to each partnership were collected; the sub-industries were based on TSE 300 sub-indices for metals and minerals, gold, and oil and gas. For comparison purposes, these returns were matched with the issuance and conversion dates of each partnership. Thus, these sub-index returns represent rates of return enjoyed by a typical share in the relevant sub-industry corresponding to each partnership during the holding period. Third, relative rates of return were calculated by adjusting each of the four absolute rates of return outlined above by the corresponding sub-index returns.

Post-Conversion Relative Rates of Return

The approach employed in the previous two subsections assumes that investors in these limited partnerships liquidate the investment on the conversion date, i.e. the first date possible. Although this behaviour was typical for many limited partnerships, it is possible that, had investors disposed of the investment at a later date, a more attractive rate of return would have been realized.

To address this issue, a slightly different methodology is used to determine rates of return after the conversion date. First, for each partnership in the sample, monthly share prices were collected for each of the twelve months following the conversion date. Second, for each month, an average share price for all sample partnerships was calculated. Third, all share prices were converted to a base price of \$100 for ease of comparison. Fourth, in addition to simple averaging, a value-weighted average was calculated to detect differences, if any, between large and small partnerships. Data were also gathered to determine monthly returns for the corresponding stock-market indices. Similar adjustments to those for the partnership data were made for the corresponding market-index values – termed the "comparison index". This comparison index allows an evaluation of relative rates of return after the conversion date, adjusting for changes in the level of share prices in the corresponding sub-industry. No adjustments for tax consequences are required since these would be the same for the sample partnerships and the comparison index.

Data on Limited Partnerships

For each limited partnership included in this analysis, the following information was required: the amount raised by the partnership, the issuance date of the flow-through shares, the type of deductions flowed through, the marginal tax rate of the investor, the date at which the investment became liquid (i.e. the conversion date), and the value of the investment at the conversion date. In addition, values for the various benchmark portfolios were also required for comparison purposes.

Collection of the required data was not straightforward as no Government agency keeps detailed information on individual flow-through share issues. Although the Department of Energy, Mines and Resources tracks aggregate financing, it does not keep information on the specific details of particular issues necessary for this study. Thus, the main source of data for this section was information for 1989, 1990 and 1991 obtained from the Financial Post.³⁷

Necessary data from this source were available for 44 limited partnerships that invested in flow-through shares during the period 1986 to 1990. These 44 limited partnerships accounted for \$1.67 billion of flow-through share financing. The detailed breakdown of the partnerships is provided in Table 5.5. As can be seen, the sample is dominated by issues in 1987 and 1988 and corresponds roughly to the trends in the overall activity of flow-through shares. Although not shown here, the smallest partnership in the sample raised \$1.2 million (1988); the largest, \$193 million (1988). For the years 1987 to 1990, the sample partnerships together accounted for over 72 per cent of the funds renounced through limited partnerships and, therefore, may be considered as a representative sample.

³⁷ Specifically, the Gingrich Flow-Through Share Chart which is published on the second Tuesday of every month.

Table 5.5
Limited partnerships in the sample

	Number of partnerships	Size of funds (\$ million)	Relative size of funds (%)
1986	7	230.0	13.8
1987	14	586.6	35.1
1988	14	552.3	33.0
1989	7	178.8	10.7
1990	2	124.2	7.4
Total	44	1,671.9	100.0

Empirical Results

Absolute Rates of Return

Table 5.6 provides estimates of each of the four absolute rates of return. Results are provided for each of the five years for which data are available as well as for the entire sample period. For each year, mean and median returns, maximum and minimum returns, and standard deviations are reported. In addition, a value-weighted return for each year is provided to determine whether smaller partnerships had an investment performance different from larger partnerships.³⁸ Columns (1) through (4) list the results for the four returns corresponding to equations (5.18) through (5.21).

Return values in column (1) of Table 5.6 indicate that, if investments in the limited partnerships had no flow-through share features associated with them (that is, if these investments were similar to common shares), then the average rate of return would have been negative 31.1 per cent. These calculations assume that the investor could have benefitted by applying the capital losses realized by these partnerships against capital gains from other investments. Results in column (2) show rates of return with the lifetime capital gains exemption. As most values are negative, they also reveal that, in the absence of any deductions associated with flow-through shares, the share price at conversion date was considerably lower than the issue price; in fact, the share price at conversion was 45.5 per cent lower, on average, than the issue price.

³⁸ The value-weighted mean returns are calculated by weighting the individual returns by the corresponding amount raised in that partnership. If the value-weighted mean return is found to be higher than an unweighted mean return, it implies that larger partnerships provided higher returns than smaller partnerships.

Thus, for a typical limited partnership in the sample, a \$10,000 investment on a before-tax basis had declined to \$5,450 by the conversion date. Moreover, there is some evidence that earlier issues were more attractive than later ones suggesting a possible deterioration in the quality of investment (or a relative overpricing of more recent issues). The average conversion price of issues in 1987 and 1988 were lowest relative to their associated issue prices with rates of return of negative 51.9 per cent and negative 54.4 per cent, respectively. Since the median and mean returns show similar patterns, there is no outlier in the sample. However, the standard deviations show that there is considerable variation in these returns. The value-weighted mean returns are similar to the average returns indicating that there were no major differences between the pricing of large and small partnerships. Overall, these results indicate that, in the absence of the tax value associated with flow-through shares, investments in the limited partnerships would have earned significantly negative returns.

Columns (3) and (4) of Table 5.6 provide returns from flow-through shares and thus include the value of tax deductions associated with exploration expenses under alternative assumptions concerning the capital gains treatment applicable on disposition of the shares. Column (3) indicates that investing an equal amount in each partnership in the sample would have earned a positive after-tax rate of return of 2.1 per cent without the capital gains exemption. This is primarily because the decline in share value by conversion date was more than offset by the lower after-tax cost of a partnership unit due to the tax deductions. In this sample, the average after-tax cost for an Ontario investor in the highest marginal tax rate was 35 per cent of the issue price. As with columns (1) and (2), there is considerable year-to-year variation in actual returns earned by investors; the 1986 partnerships realized significantly higher returns whereas those formed in 1988 realized mostly negative returns. Moreover, the standard deviation, and the minimum and maximum returns all indicate that there was a large variation among partnerships. Not surprisingly, an investor who could access the capital gains tax exemption received a higher return; column (4) reveals an average after-tax rate of return with capital gains exemption of 19.2 per cent for the sample.

A comparison of columns (1) and (3) of Table 5.6 reveals the impact of the capital gains tax and the zero adjusted-cost base for flow-through shares. It shows that, on average, investors received an extra 33 per cent return over and above the common-share equivalent. However, there was a significant decrease in this return over the five years. Investors who participated in partnerships in 1986 received significantly higher returns than those who invested in later years.

Table 5.6

Absolute rates of return from investments in limited partnerships

	<u>Common share equivalent return</u>		<u>Flow-through share return</u>		Column 3 minus column 1	Column 4 minus column 2
	Without capital gains exemption (1)	With capital gains exemption (2)	Without capital gains exemption (3)	With capital gains exemption (4)		
(per cent)						
1986						
Mean return	-16.5	-22.7	28.2	49.6	44.7	72.2
Median return	-14.6	-21.1	27.7	52.5	43.3	71.5
Standard deviation	10.8	14.6	10.9	14.6	4.2	3.4
Minimum return	-35.1	-47.6	10.3	24.1	40.8	69.6
Maximum return	-1.5	-2.0	43.8	69.5	54.0	80.2
Value-weighted mean return	-15.1	-5.5	2.5	5.1	48.4	74.7
1987						
Mean return	-35.9	-51.9	2.0	16.7	37.9	68.6
Median return	-35.5	-51.2	1.7	15.9	37.2	68.0
Standard deviation	17.4	25.3	17.3	25.0	2.3	2.9
Minimum return	-54.2	-79.1	-18.3	-11.7	35.1	61.4
Maximum return	17.0	24.6	54.2	92.5	44.0	74.7
Value-weighted mean return	-39.7	-57.3	-1.5	11.5	38.3	68.8
1988						
Mean return	-37.3	-54.4	-9.6	4.7	27.7	59.1
Median return	-36.5	53.3	-9.4	5.2	27.6	58.8
Standard deviation	7.3	10.7	8.7	11.8	3.1	3.1
Minimum return	-50.2	-73.2	-26.4	-17.4	22.7	54.1
Maximum return	-25.8	-37.6	1.3	21.0	35.7	67.1
Value-weighted mean return	-37.4	-54.6	-7.8	6.4	29.6	61.0
1989						
Mean return	-25.1	-39.4	0.7	22.7	25.8	62.2
Median return	-19.8	-31.0	4.9	24.9	25.1	61.3
Standard deviation	12.0	18.9	13.2	19.6	5.4	5.5
Minimum return	-49.8	-78.0	-27.3	-19.4	19.7	55.9
Maximum return	-13.3	-20.9	12.0	40.5	37.1	73.9
Value-weighted mean return	-21.4	-33.7	2.3	26.4	23.7	60.1
1990						
Mean return	-24.7	-39.2	-2.3	20.2	22.5	59.3
Median return	-24.7	-39.2	-2.3	20.2	22.5	59.3
Standard deviation	6.8	10.8	10.6	14.5	3.8	3.8
Minimum return	-31.5	-49.9	-12.8	5.6	18.7	55.5
Maximum return	-17.9	-28.4	8.3	34.7	26.3	63.1
Value-weighted mean return	-28.6	-45.3	-8.3	11.9	20.3	57.2
1986-90						
Mean return	-31.1	-45.5	2.1	19.2	33.1	64.7
Median return	-33.9	-48.9	1.1	16.5	35.1	65.2
Standard deviation	14.8	21.6	18.0	23.8	8.0	6.3
Minimum return	-54.2	-79.1	-27.3	-19.4	18.7	54.1
Maximum return	17.0	24.6	54.2	92.5	54.0	80.2
Value-weighted mean return	-32.8	-47.9	1.1	17.3	33.9	65.2

Similarly, the relative advantage of flow-through shares for an investor with access to the capital gains exemption can be deduced by comparing columns (2) and (4). Once again, the comparison indicates that, on average, the investor benefitted by 65 per cent because the zero adjusted-cost base did not affect the after-tax returns due to the capital gains exemption. As before, this difference (or the attractiveness of flow-through shares) declines significantly from 1986 to 1990.

These results indicate that the most attractive returns were earned from investments in earlier years and by investors who enjoyed the lifetime capital gains exemption. As the lifetime exemption was a result of a specific government policy and affected returns from all investments, the most representative results for flow-through share investments would be those which assume no capital gains exemption (column 3). In this case, the earnings from these partnerships were not excessive; on average, the investor earned 2 per cent over the period, but was also subjected to highly variable returns both between and within years. Correspondingly, if management costs associated with the limited partnerships were small, then the firms rather than the investors received most of the benefits of the flow-through measure in absolute terms.

As indicated above, these results may not be the actual returns earned by the individual investor due to assumptions about the tax implications of the transaction. However, no definite conclusions can be made as to whether these results overstate or understate the actual results. In fact, these results assume that:

- i) the investor pays the entire amount of the investment on the closing date – since, in many cases, this is not the case, the results are biased downward (i.e. the actual returns adjusted for the time value of money would be higher than those shown in Table 5.6);
- ii) the investor receives an immediate tax credit – if this is not the case, then these results are biased upwards; and
- iii) the investor pays capital gains tax on the date of disposal – to the extent that the investor does not, then these results are biased downward.

The overall bias would depend upon the structure of individual partnerships and the circumstances of the individual investor. However, the magnitude of these results indicate that these biases would not materially change the main conclusion of the analysis; namely, that flow-through share investments through limited partnerships did not produce significantly high returns for the investor between 1986 and 1990.

Relative Rates of Return

Table 5.7 presents results which account for changes in the share prices of an average company in the mining or petroleum industry. That is, these calculations indicate relative rates of return earned by limited partnerships, after adjusting for tax implications. The two columns in Table 5.7 show what the investor earned through an investment in a limited partnership over and above what would have been earned if the underlying shares purchased by the partnership had performed in a manner comparable to an average common share in that industry.³⁹ Positive values indicate that the limited partnerships invested in shares of companies that performed better than the average share in that industry; the reverse is true if the values are negative.

Five conclusions can be drawn from Table 5.7. First and foremost, all returns are negative indicating that, after adjusting for relative performance, the average limited partnership investing in flow-through shares fared worse than if it had invested in a flow-through share of a "typical" resource sector company in the corresponding sub-industry. Second, the relatively poor performance by limited partnerships is not confined to any particular year. Third, both the median and minimum returns are very negative indicating that, in relative terms, the investors fared even worse than the average return would indicate. Fourth, although investors in the partnerships earned high absolute rates of return in 1986 and 1987 (see Table 5.6), these returns can be attributed primarily to high share prices enjoyed by the resource sector and cannot be attributed to the success of limited partnerships. Fifth, a comparison of the returns that an investor would have earned simply by investing in a typical share (negative 0.1 per cent; based on a weighted average of matched sub-index returns) with the 2.1 per cent return earned from investing in a typical flow-through share partnership in the sample indicates that the investor would have been better off by only 2 per cent in spite of the generous tax deductions. Overall, from the viewpoint of investors, these results indicate that relative rates of return are significantly negative and that an investment in the limited partnership typically fared worse than an investment in the corresponding average share for that industry.

³⁹ Only two columns are shown here since relative returns using comparisons of R_1 and R_2 are identical to those using R_3 and R_4 .

Table 5.7*Relative rates of return from investments in limited partnerships*

	Return relative to investment in "average" common stock	
	Without capital gains exemption	With capital gains exemption
	(per cent)	
1986		
Mean return	-54.3	-73.8
Median return	-63.9	-86.3
Standard deviation	35.9	48.5
Minimum return	-108.9	-147.6
Maximum return	-1.7	-2.5
1987		
Mean return	-27.2	-39.1
Median return	-25.5	-37.0
Standard deviation	23.4	33.5
Minimum return	-63.3	-92.3
Maximum return	30.4	44.0
1988		
Mean return	-31.3	-45.6
Median return	-27.9	-40.7
Standard deviation	14.7	21.5
Minimum return	-65.3	-95.3
Maximum return	-8.9	-12.9
1989		
Mean return	-20.7	-32.6
Median return	-19.7	-30.9
Standard deviation	16.6	26.0
Minimum return	-55.6	-87.0
Maximum return	0.1	0.1
1990		
Mean return	-9.5	-15.0
Median return	-9.5	-15.0
Standard deviation	6.0	9.5
Minimum return	-15.5	-24.5
Maximum return	-3.5	-5.5
1986-90		
Mean return	-31.0	-44.6
Median return	-26.4	-38.6
Standard deviation	25.0	34.6
Minimum return	-108.9	-147.6
Maximum return	30.4	44.0

In summary, flow-through share investments did not earn excessive rates of return. In fact, their performance was significantly below average. This indicates that the common shares of companies purchased by the limited partnerships in the sample fared much worse than a typical share in their industry. This could be the result of either poor exploration results associated with the expenditures undertaken by the firms or a relatively high premium paid by the investor which allowed the firms to undertake exploration at a lower cost.

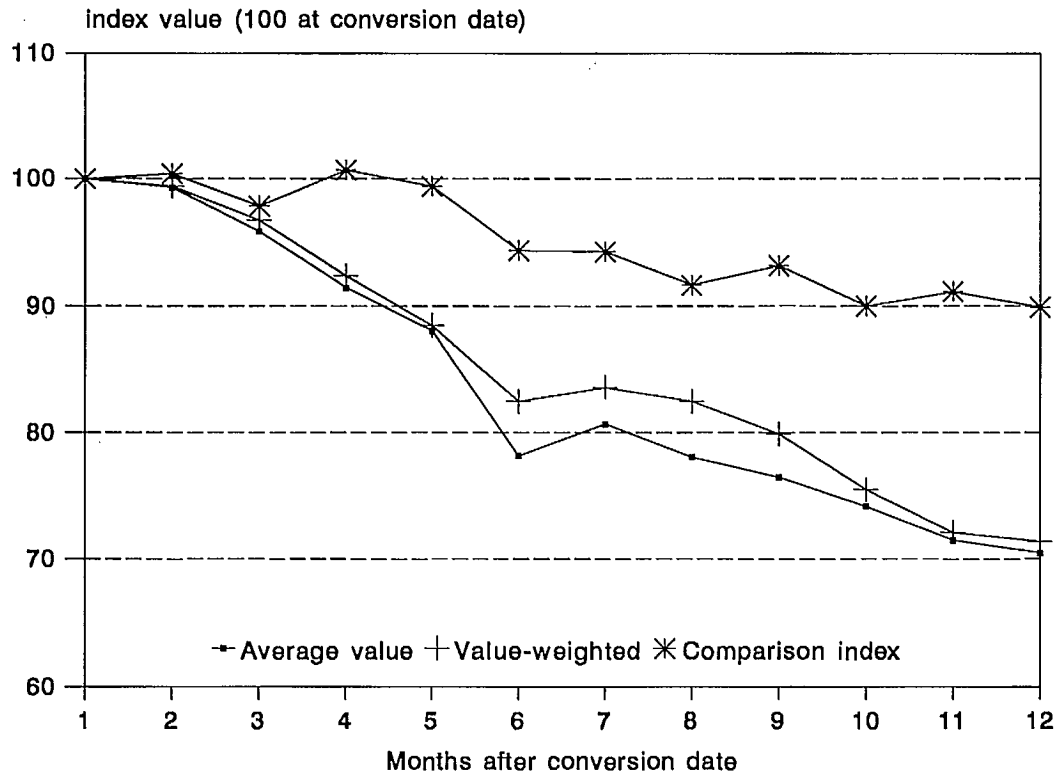
Post-Conversion Relative Rates of Return

The results in Tables 5.6 and 5.7 assume that the investor liquidated the investment on the conversion date. Since this did not always occur, it is interesting to investigate the consequences of relaxing this assumption. Necessary data were available for only 25 of the 44 sample partnerships accounting for 66 per cent of the total funds raised by the sample. In a few cases, data for each month were not available; in those cases, average prices in surrounding months were used as a proxy. These cases were very few and this averaging is not expected to materially affect the results.

Chart 5.1 shows the results based on the data for these 25 partnerships by plotting the time-series of values for three price indices: namely, the simple average of the 25 partnerships, the value-weighted average, and the average for the comparison index indicating the performance of an average share in that industry.

Three conclusions can be drawn from Chart 5.1. First, for the twelve months following the conversion date, the prices of the limited partnership shares continued to fall and the average investment declined in value by 30 per cent. Second, the value-weighted portfolio also declined by 29 per cent indicating that both small and large partnerships showed similar declines in value. Third, the comparison index, representing the share price of a typical share in that sector, declined by 10 per cent, which is 20 per cent less than either the average or the value-weighted portfolio. This implies that, during the first year following conversion, the partnerships fared worse than a typical share in the corresponding industry. Thus, an investor who chose not to sell the partnership shares on (or immediately following) the conversion date received a lower return than if the partnership shares had been sold and the proceeds reinvested in a typical share in the same industry. Moreover, as noted in Table 5.6, the average after-tax return for an investor who sold shares on the conversion date was 2 per cent, but this return would have become negative within a month had this investor continued to hold the shares after the conversion date.

Chart 5.1
Portfolio value, post conversion date



Summary

Three approaches are used to evaluate the investment performance of flow-through shares acquired through limited partnerships: absolute and relative rates of return are calculated corresponding to the holding period, and relative rates of return are also determined after the conversion date. The results indicate that rates of return enjoyed by the investors in limited partnerships were not very attractive and that there was considerable variation both across years and within years. The pricing may have favoured the investor in 1986 (on an absolute basis), but in later years pricing moved in favour of the firms or partnerships involved with flow-through shares. If the transaction costs associated with issuing flow-through shares to a partnership were similar to those of issuing common shares, then these results indicate that

most of the tax benefits associated with flow-through shares were captured by the issuing firms. Moreover, these benefits accrued to firms whose shares performed relatively worse than an average share in the corresponding industry.

E. Incrementality of Flow-Through Shares

The discussion of theoretical METRs indicated that flow-through shares can provide significant encouragement to exploration especially, but not solely, for firms that are currently non-taxpaying. This conclusion was found to hold regardless of the existence of special grant-based incentives or bonus deductions for exploration which would serve simply to reduce METRs for flow-through shares even further. Illustrative empirical METR calculations reinforced this message for currently non-taxpaying firms in spite of the sharing of the premium between investors and issuing companies.

"Encouragement to exploration" can take many forms. At one extreme, it may refer to the additional financing raised as a direct result of flow-through shares. Of course, the entire amount of this additional financing would not be available to be spent on exploration by mining and petroleum companies because of the transaction costs which must be incurred to secure it. Furthermore, it is not clear that incremental spending necessarily corresponds to a proportionate increase in physical activity. The absence of a one-to-one mapping could arise, for example, if the quality of exploration planning was compromised or the costs of exploration spending increased as a direct consequence of the net amount of financing raised through flow-through shares. This type of leakage is termed "overheating". Finally, incremental physical activity may or may not result in incremental discoveries (and associated developments and economic production). However, even if success in this sense is not achieved, new information about the Canadian resource base would be gained which might assist future exploration efforts.

The case studies of issuing companies reported in Peat Marwick Stevenson & Kellogg (1993) provide empirical and anecdotal evidence on incremental financing, incremental spending, incremental physical activities and new discoveries of mineral resources and petroleum reserves generated by flow-through shares over the period 1987 to 1991. This section briefly describes the case-study selection process and alternative types of incrementality, and then summarizes the main findings of the case studies in terms of the incrementality of flow-through shares.

Case-Study Participants

To assist in interpreting the results, the process for selecting the issuing companies for case-study analysis needs to be briefly described.⁴⁰ The focus was on gaining insights into incrementality results for mining and petroleum companies that were "large" in terms of renunciations and number of flow-through share agreements. Secondary considerations in choosing these larger companies included a desire for the sample to reflect a degree of balance both in regional representation and with respect to time, i.e. that the flow-through share agreements in the sample were not limited to any one region or year. As such, this component of the sample (10 companies) was not chosen randomly. However, five additional companies were chosen randomly from among companies with renunciations equalling \$500 thousand. Incrementality results for these "small" companies can be generalized and are compared in broad terms to the results for the large companies.

Characteristics of the issuing companies selected are provided in Table 5.8. Mining companies in the sample were responsible for 5 per cent of all renunciations of mining-related CEE from 1987 to 1991. No mining-related CDE was incurred by these companies; this is consistent with the finding in Chapter III that industry-wide renunciations of these expenses were essentially negligible. Petroleum companies in the sample accounted for 8.5 per cent of all renunciations of petroleum-related CEE, 1.6 per cent of all renunciations of petroleum-related CDE and 78 per cent of renunciations of COGPE between 1987 and 1991.

Additional evidence on incrementality was obtained through interviews with limited partnerships, the assets of which had been subsequently transferred to mutual funds. These included the five largest fund groups and a smaller fund which specialized in financing oil and gas activities. As shown in Table 5.8, 42 per cent of all renunciations by means of flow-through shares between 1987 and 1991 were made to these six limited partnerships. Since these case-study participants did not engage directly in resource activities, their contributions in estimating incrementality are entirely anecdotal. However, the size of the limited partnerships and their influence on resource companies means that they provide an important perspective.

⁴⁰ See Peat Marwick Stevenson & Kellogg (1993) for further detail on the selection of issuing companies (and limited partnerships) and the conduct of the case studies.

Table 5.8
Case-study participants

Company	Head office location	Year expenses incurred	Number of agreements	Renunciations				COGPE	Comments
				CEE mining	CDE mining	CEE oil	CDE oil		
(dollars)									
1	Calgary	1987	2	-	0	30.0	-	-	3rd largest expenditures, oil
2	Calgary	1991	1	-	-	-	-	117.6	largest expenditures, oil
3	Calgary	1987	3	0.7	-	15.0	-	-	largest expenditures, oil & mining
4	Calgary	1987-91	15	-	-	3.8	1.3	-	3rd largest projects, oil
5	Toronto	1987	1	10.2	-	-	-	-	largest single project, mining
6	Toronto	1987-89	31	12.8	-	-	-	-	largest projects, mining
7	Toronto	1987-91	18	45.3	-	-	-	-	largest expenditures, mining
8	Montreal	1987-90	20	12.8	-	0.2	-	-	2nd largest expenditures, oil & mining
9	Val d'Or	1987	7	32.6	-	-	-	-	2nd largest expenditures, mining
10	Quebec	1987-91	25	7.6	-	-	-	-	3rd largest projects, mining
11	Vancouver	1990	1	0.5	-	-	-	-	\$500K, mining
12	Vancouver	1988	1	0.5	-	-	-	-	\$500K, mining
13	Calgary	1987-89	3	0.3	-	0.2	-	-	\$500K, oil & mining
14	Calgary	1987	2	-	-	0.5	-	-	\$500K, oil
15	Toronto	1987	1	0.5	-	-	-	-	\$500K, mining
Total			131	123.8	0.0	49.7	1.3	117.6	

Mutual fund	Head office location	Year expenses incurred	Number of partnerships	Number of companies per partnership	Number of investors per partnership	Renunciations	
						CEE mining	CDE oil
(dollars)							
1	Vancouver	1987-89	6	29 to 274	829 to 14,007	511.1	13.3
2	Vancouver	1986-88	3	26 to 59	1,259 to 4,207	62.9	-
3	Calgary	1987-88	2	10 to 11	854 to 1,012	-	14.1
4	Toronto	1987-90	10	28 to 115	2,445 to 9,883	473.0	114.0
5	Toronto	1987-88	2	26 to 57	1,999 to 6,880	97.3	-
6	Toronto	1987-90	6	13 to 36	221 to 2,444	57.9	48.4
Total			29			1,202.2	189.8

Types and Focus of Incrementality

Two basic types of incrementality may be associated with flow-through shares: scale and time.⁴¹ Scale incrementality could arise if flow-through shares result in new or larger projects taking place than would otherwise have been the case. The incremental impact of the additional activity would involve either the entire project or the addition, as appropriate. Time incrementality would be associated with projects that are undertaken earlier than had previously been planned. This type of incrementality would pertain to the time value of investment.

However, a difficulty arises in applying these definitions to estimate the incremental impact of flow-through shares. It can be argued that, since the resource base is fixed in both size and quality, all investments in mining and petroleum are inherently time incremental. As lower-cost resources are discovered, developed and depleted, they are replaced by higher-cost sources of supply. According to this view, therefore, flow-through shares could only act to accelerate activity.

The convention of a "time window" extending from 1987 to the mid-1990s was adopted as a practical solution to this problem. In essence, if a project was determined to have been brought forward "within" this time window, it was considered to be time incremental. If, on the other hand, a project was found to have been brought forward "into" the time window, it was considered to be scale incremental.

The incrementality analyses of Peat Marwick Stevenson & Kellogg focused on individual resource projects as opposed to mining and petroleum companies. This reflected the fact that the link between a resource project and a particular company was often not strong due to the nature of the exploration process. For example, "in the absence of flow-through share financing, the project might well have been advanced by another company, so that the incremental impact of flow-through shares on the project may have been nil, even if flow-through share financing was a pre-requisite for exploration by the specific issuing

⁴¹ Locational incrementality is also often discussed in these types of analyses. It would be associated with a project undertaken in Canada instead of in another country due to flow-through shares. In this case, the incremental impact would be the entire project. However, locational incrementality is indistinguishable from either scale or timing incrementality as it applies to the mining and petroleum industries. Thus, for the purposes of this evaluation, locational incrementality is not separately identified.

company".⁴² Since it is tied more directly to the key objective of increased exploration and development, project-level incrementality is a more appropriate focus for analysis than company-level incrementality from the perspective of society in general.⁴³

Incremental Financing

The peak of flow-through share financing in 1987 and 1988 corresponded to a period of high prices for some mineral commodities, a strong stock market and an attractive fiscal regime. Within this very favourable market and fiscal environment, it was widely acknowledged by the case-study participants that the flow-through share financing mechanism "led to a boom in exploration financing" for the mining sector. Their impact on the oil and gas industry was less pronounced, but it would appear that flow-through shares "served to moderate a decline in oil and gas exploration activity that would otherwise have been prompted by a fall in the price of oil" in 1986. While numerical estimates of financing incrementality are not provided by Peat Marwick Stevenson & Kellogg, they can be inferred from the estimates of expenditure incrementality reported below and the estimates of transaction costs in Table 5.2.

Interesting repercussions are noted in Peat Marwick Stevenson & Kellogg (1993) stemming from the financing for mining exploration made available by flow-through shares in the mid-1980s.

Even if the Canadian tax regime reverted to its state in the mid-1980s, it is extremely unlikely that the use of flow-through shares would become as widespread as it was during that period... There was almost universal acknowledgement that the amount of money raised was more than the mining industry could reasonably absorb. Many claim that the resulting excesses ruined the credibility of the exploration industry, and have turned retail investors off any future participation in the sector.

⁴² This and other quotations contained in this section were taken from Peat Marwick Stevenson & Kellogg (1993).

⁴³ Peat Marwick Stevenson & Kellogg (1993) provides company-level incrementality estimates as well. The main difference lies in higher company-level incrementality estimates for the small companies in the sample.

Incremental Expenditures

Table 5.9 provides estimates of incremental expenditures by type of company (mining versus petroleum) and by size of company (large versus small) based on case-study findings for individual firms. Incrementality results for mining relate solely to exploration. It was determined by Peat Marwick Stevenson & Kellogg that the \$117.6 million of COGPE renounced by company 2 in Table 5.8 was entirely non-incremental. Since renunciations of petroleum-related CDE equalled only 3.1 per cent of the remaining renunciations for this industry, incrementality results for oil and gas are almost entirely in respect of exploration expenditures as well.

Table 5.9

Project-level incrementality of flow-through shares, 1987-91

Type of incrementality	Sector				Size of company			
	Mining ¹		Oil and gas ²		Large		Small ³	
	(\$ million)	(per dollar renounced)	(\$ million)	(per dollar renounced)	(\$ million)	(per dollar renounced)	(\$ million)	(per dollar renounced)
Expenditure:								
Scale	46.5	0.38	15.2	0.09	60.7	0.21	1.0	0.40
Timing	13.5	0.11	0.0	0.00	13.4	0.05	0.1	0.04
Total	60.0	0.49	15.2	0.09	74.1	0.26	1.1	0.44
Physical activity	47.0	0.48	15.2	0.09	61.4	0.21	0.8	0.33

¹ The 11 mining companies subject to case-study analysis were involved in exploration only.

² One of the six companies renounced \$117.6 million of COGPE which was judged to be non-incremental. Over 97 per cent of the remaining expenditures involved exploration only.

³ The five companies that each renounced \$500 thousand.

Source: Peat Marwick Stevenson & Kellogg (1993).

Incremental mining exploration spending in Table 5.9 amounted to \$60 million or 49 per cent of all exploration spending by the mining companies in the sample. Incremental petroleum exploration expenditures of \$15.2 million were incurred. These expenditures equalled 9 per cent of all spending by the petroleum companies in the sample or, by adjusting for the non-incremental COGPE incurred, 30 per cent of all petroleum exploration expenditures. Thus, expenditure incrementality for mining was greater than expenditure incrementality for oil and gas in both dollar and percentage terms. At \$74.1 million, expenditure incrementality for the larger firms in the sample is greater than for the smaller firms (\$1.1 million). However, the reverse is true in percentage terms – expenditure incrementality for the smaller firms is 44 per cent of their total spending; for the larger firms, it is 26 per cent (or 43 per cent if the non-incremental COGPE is removed from consideration).

Scale incrementality is also substantially larger than time incrementality for all categories of companies. By being especially beneficial to projects that would not otherwise have been undertaken until at least the mid-1990s, flow-through shares greatly accelerated the pace of mining and petroleum exploration activities.

Incremental Physical Activity

The case studies uncovered considerable evidence of overheating in the mining industry, but not in the petroleum industry. "The peak in financing coincided with (and perhaps caused) a decline in project quality, and an increase in the cost of inputs." Consequently, incremental exploration expenditures in mining did not translate into proportionate increases in incremental physical exploration activities.

Reasons for overheating centred on timing considerations associated with flow-through share financing. In essence, investors purchased flow-through shares towards the end of a calendar year when they became aware of their year-end tax position. In order for resource expenses to be eligible for deduction in the same calendar year, resource companies typically sought to incur and renounce expenditures in that year or within the first 60 days of the subsequent calendar year. Furthermore, exploration expenditures were of more interest to investors due to their higher tax write-offs. With the tax-motivated increases in exploration activities in December, January and February of each year, costs of exploration also increased. Drilling cost increases "were repeatedly cited as a major disadvantage of the FTS phenomenon".⁴⁴ Time constraints for incurring expenditures also put pressure on the quality of exploration planning during these months. That is, drilling was being conducted, but there was less analysis of the results.

Due to a lack of company-specific data, physical incrementality for both type and size of company were estimated by adjusting aggregate expenditure incrementality estimates to account for the impacts of overheating. Three adjustments were made. First, it was assumed that there was no overheating in oil and gas. This is based on the excess capacity that existed in that industry due to the adverse effects of the 1986 fall in world oil prices. Second, 5 per cent overheating was assumed for certain mining companies in the sample that were able to minimize problems of overheating due to a strong

⁴⁴ The exact size of the price increase was less certain – opinions ranged from 50 per cent to 250 per cent. The increases may have varied substantially by region with higher cost rises in northwestern Quebec and northeastern Ontario, and smaller rises in Manitoba and British Columbia.

bargaining position. In essence, since these companies conducted exploration activities throughout the year, they were able to avoid paying "inflated" exploration costs to their contractors in January and February. Third, 15 per cent overheating was assumed for all other mining companies.

These assumptions are reflected in the case-study findings in Table 5.9 concerning incremental physical activities. There is no impact of overheating on incremental oil and gas expenditure estimates. Physical incrementality for mining exploration expenditures is estimated to be 11 per cent less than expenditure incrementality. Incremental resource activities for both large and small firms are also lower relative to their incremental expenditures – by 5 per cent for the larger firms and by 11 per cent for the smaller firms.

Incremental Discoveries

Some, possibly incremental, discoveries associated with flow-through share financing were made by the companies that participated in the case studies. The discoveries can be categorized as being: i) uneconomic to develop given existing market conditions; ii) under development; or iii) in production. However, interpreting these results is not straightforward. The focus of the case-study selection process on larger companies (i.e. those that raised substantial financing or made several flow-through share issues) combined with the relatively low probability of making a new discovery especially in mining suggest a sample bias favouring companies which achieved some degree of early success. Consequently, the number of incremental discoveries may be overrepresented in the sample.

To offset this potential bias, case-study participants were also asked to identify other exploration successes that they felt were directly tied to flow-through share financing. A consensus emerged on three or four new mines. One of these was judged to be entirely non-incremental. It was concluded that another was incremental. Insufficient information was available to judge the incrementality of the remaining two mines. No dollar estimates of reserves were made.

In any commentary on the "success" of flow-through shares in facilitating the development of new mines, the long lead-time between mining exploration and production needs to be kept in mind. This process can take decades so that the results of exploration efforts in the mid-1980s may not yet be fully known.

Major ore bodies may yet be discovered as a result of exploration work conducted using FTS. Such discoveries may occur because of the exploration activity funded by FTS that leads directly to a find. They may even occur through the more efficient use of exploration effort in other bodies, as a result of information gained in FTS-funded exploration that downgrades the attractiveness of a particular project.

There was a consensus among case-study participants that the activities generated by flow-through shares substantially increased the amount of information available on the Canadian resource base, especially in mining. This knowledge base may prove useful in facilitating new incremental discoveries in the future.

F. Costs and Rates of Gold Discovery

A study is being conducted by the Department of Natural Resources which considers, among other things, the costs and rates of gold discovery in Canada since 1946. Some preliminary findings of this work are presented here.

Between 1983 and 1990, the combination of flow-through shares, fiscal incentives and favourable market conditions led to a major increase in gold exploration activity in Canada and to the discovery of substantial quantities of gold relative to the amounts discovered in the period from 1946 to 1979. (The 1980 to 1982 period is atypical on account of the discovery of the very large gold deposit at Hemlo, Ontario.) However, most of the gold deposits discovered between 1983 and 1990 were small. This may reflect a concentration of exploration efforts on already-known but less-promising mineral occurrences and deposits to meet the short-term objectives of flow-through share investors, namely, of being able to claim tax deductions for exploration in the same taxation year as the expenditures are incurred.

Because the majority of flow-through share investors incurred losses on investments made between 1983 and 1987 and gold prices fell sharply after 1987, exploration activity in Canada decreased after 1988 and fell continuously throughout the recession of the early 1990s to 1993 (the most recent year for which data are available) when base-metal prices reached all-time lows in constant dollar terms. As a result of the sharp decline in exploration activity, follow-up programs that might have taken place under more favourable conditions on some of the promising deposits and showings discovered between 1983 and 1990 have not yet been initiated. Nonetheless, about 13 per cent of the total number of gold and gold-rich base metal deposits discovered in Canada during this period have been brought to production. Furthermore, the 1983 to 1990 period is shorter than the usual cycle of initial exploration, deposit

discovery, deposit appraisal and mine development so that additional mine development and production is expected to result with increases in the market price of gold. Successful exploration programs typically take about ten years from the start of exploration to mine production, and about six years from deposit discovery to mine production.

More gold was also discovered during the three years from 1988 to 1990 than in the preceding three-year period. These improved results may stem partly from earlier gold exploration programs coming to fruition. A substantial number of showings were found between 1983 and 1988, but it became much more difficult to raise financing through flow-through shares (and other means) after 1988. As a result, the various broadly-based limited partnerships became much more selective in choosing projects for funding, so that only the highest quality exploration projects went forward.

The unit cost of discovering gold in Canada between 1985 and 1990 was about 2.5 times higher than during the two most recent "typical" periods of gold exploration, i.e. 1976 to 1978 and 1982 to 1984.

G. Federal Tax Expenditure Estimates

Table 5.10 provides federal tax expenditure estimates for exploration expenditures financed by flow-through shares. The estimates distinguish between mining and petroleum exploration activities and are reported annually for the period 1987 to 1991.

The basic idea underlying the calculations is to compute the federal tax cost of allowing investors to claim CEE in the same year that it is incurred net of both the capital gains tax payable by investors when the shares are sold and the federal tax cost that would have otherwise been incurred had flow-through shares not been available to mining and petroleum companies. The tax cost due to investors is provided in column (4) of Table 5.10. It is based on actual renunciations of CEE in column (1) of Table 5.10 and assumes that investors are subject to the highest marginal income tax rate for the particular year. This assumption tends to overstate federal tax expenditures.⁴⁵

Federal capital gains tax revenue depends on the selling price of the flow-through shares. The common-share equivalent return with capital gains exemption for the period 1986 to 1990 equals negative 46 per cent in

⁴⁵ As noted previously, the top marginal tax rate applied to 90 per cent of flow-through share investors in 1989 and 1990. Top federal rates, including surtaxes, equalled: 35.0 per cent for 1987; 29.9 per cent for 1988; 30.6 per cent for 1989; 31.3 per cent for 1990; and 31.9 per cent for 1991.

Table 5.6. This suggests that, on disposition, investors received an average of 54 per cent of the issue price of their flow-through shares. Furthermore, the average holding period for these issues was found to be just under a year so that the present value of the selling price is determined using, for simplicity, a 10 per cent rate of discount. The product of the capital gains inclusion rate⁴⁶ and the top marginal tax rate for the particular year is then applied to the discounted selling price to estimate the amount of federal capital gains tax paid by investors in column (5) of Table 5.10. Since data are not available on the use of the lifetime capital gains exemption and cumulative net investment loss rules by flow-through share investors, they are not included in the calculations. These omissions tend to understate federal tax expenditures.

Table 5.10
Federal tax expenditure estimates, exploration

Year	Renunciations			Federal tax cost, investors (4)	Capital gains tax, investors (5)	Federal tax cost, firms (6)	Federal tax expenditure (7)	Column (2) / column (7) (8)
	Actual (1)	Incremental (2)	Non- incremental (3)					
(millions of dollars)								
Mining								
1987	1,078.1	528.3	549.8	377.6	92.7	48.3	236.6	2.2
1988	821.2	402.4	418.8	245.3	80.3	32.6	132.4	3.0
1989	299.4	146.7	152.7	91.6	30.0	10.6	51.1	2.9
1990	198.0	97.0	101.0	62.0	22.8	7.0	32.2	3.0
1991	63.8	31.3	32.5	20.4	7.5	2.3	10.6	2.9
Subtotal	2,460.5	1,205.6	1,254.9	796.8	233.3	100.7	462.9	2.6
Petroleum								
1987	228.3	68.5	159.8	80.0	19.6	14.0	46.3	1.5
1988	118.4	35.5	82.9	35.4	11.6	6.5	17.3	2.0
1989	113.1	33.9	79.2	34.6	11.3	5.5	17.8	1.9
1990	104.3	31.3	73.0	32.7	12.0	5.1	15.6	2.0
1991	22.1	6.6	15.5	7.0	2.6	1.1	3.4	2.0
Subtotal	586.2	175.9	410.3	189.6	57.1	32.1	100.4	1.8
Total	3,046.7	1,381.5	1,665.2	986.4	290.4	132.8	563.3	2.5

If flow-through shares had not been available, the incrementality results in Table 5.9 suggest that 51 per cent of the mining-related CEE and 70 per cent of the petroleum-related CEE that was renounced to investors would still have been incurred. The federal tax cost of these expenditures depends on the taxpaying status of the (possibly different) firms undertaking them and the

⁴⁶ 50 per cent for 1987; 66 2/3 per cent for 1988 and 1989; and 75 per cent for 1990 and 1991.

relevant corporate income tax rates. The average value of the taxpaying-status parameter for the exploration companies is unknown. However, for simplicity, it is once again assumed to be 24 per cent.⁴⁷ The top corporate income tax rate, including surtaxes, is taken to apply each year.⁴⁸ The federal tax cost due to resource companies in this hypothetical alternative scenario is reported in column (6) of Table 5.10.

Federal tax expenditure estimates for 1987 to 1991, equal to column (4) minus the sum of columns (5) and (6), appear in column (7) of Table 5.10. They reveal three interesting results. First, 82 per cent of the federal tax expenditures were in respect of mining-related CEE. Second, estimates for both mining and petroleum declined dramatically over the period from a total of \$283 million in 1987 to \$14 million in 1991. Third, incremental mining exploration expenditures financed by flow-through shares were about three times as large as federal tax expenditures in respect of mining-related CEE. Incremental petroleum exploration expenditures were about twice as large as foregone federal tax revenues. These ratios, provided in column (8) of Table 5.10, were calculated by dividing incremental expenditures (column (2)) by federal tax expenditures (column (7)).

H. Key Findings

Key findings and conclusions on the economics of flow-through shares are listed in this section.

Premia and METRs

- Both maximum premia and theoretical METRs depend entirely on income tax parameters.
- Due to the normal functioning of capital markets, the observed premium may be less than the maximum premium. Similarly, the empirical METR may be higher than the theoretical METR. Specific reasons include investor surplus, incremental liquidity risk, incremental transaction costs and the influence of limited-partnership intermediaries.
- Comparing the maximum premium an investor would in theory be willing to pay with the premium actually observed on capital markets allows an estimate of the extent of sharing of tax benefits between investors and resource firms.

⁴⁷ The same value used in the analysis of cost-effectiveness.

⁴⁸ Corporate rates equal: 36.6 per cent in 1987; 32.4 per cent in 1988; and 28.8 per cent thereafter.

- Comparing theoretical and empirical METRs reveals how sharing can affect the ability of the tax system to encourage or discourage exploration and development.
- Comparing METRs for flow-through shares, retained earnings and common shares provides indications of the relative cost-effectiveness of each and the relative encouragement offered by the tax system to resource activities financed in different ways.

Cost-Effectiveness for the Firm

- Flow-through shares can be cost-effective and promote exploration. The actual level of incentive depends on the extent of capital-market sharing and on corporate and personal tax parameters.
- Theoretical METRs are lowest, in both absolute and relative terms, for non-taxpaying firms.
- Theoretical METRs for taxpaying firms can be negative and less than METRs for common shares. This implies that the tax system can offer encouragement even to taxpaying firms to increase their exploration efforts.
- Illustrative empirical METR calculations support the proposition that flow-through shares provided a significant incentive for exploration by currently non-taxpaying firms, even though premia were shared between companies and their investors. However, other things equal, flow-through shares would not be a favoured option for taxpaying firms as they are the least cost-effective financing option.
- Incentive grants and bonus deductions increase cost-effectiveness and promote exploration by reducing METRs regardless of the financing option employed.

Sharing and Effectiveness

- Jenkins argues that measuring the extent of sharing allows assessment of the relative effectiveness of flow-through shares as a tax-benefit delivery mechanism.
- However, it is maintained here that the existence of capital-market sharing does not mean that flow-through shares are ineffective. Furthermore, this financing option would likely be as effective as any equity-based financing alternative for encouraging new exploration. On this basis, the effectiveness measure developed by Jenkins fails to reflect the true nature and intent of the flow-through share financing mechanism.

- Illustrative calculations indicate that flow-through shares are a more effective delivery mechanism when firms are non-taxpaying and investors are lower-premium clientele.
- Economic theory indicates that the share of tax benefits received by issuing companies depends on the opportunity cost of foregone deductions, transaction costs and personal tax rates. However, the effectiveness of the delivery mechanism is also influenced by the ease of obtaining financing and the investment horizon of investors. Evidence on these factors is provided through case-study analysis.
- Ease of financing includes the speed of raising financing, flexibility in terms of the size of funding available, and the availability of funding for both junior and senior companies. The case studies found that ease of financing was a particularly attractive feature of flow-through shares.
- The case studies revealed a fundamental mismatch between the investment horizon of flow-through share investors and issuing companies. The former typically sold their shares at the earliest opportunity and this resulted in substantial downward pressure on share prices. In contrast, companies were interested in a longer-term source of funds.

Cost-Effectiveness for the Investor

- Analyses of rates of return earned by investors in certain limited partnerships reveal that the investment performance of flow-through shares was not very attractive.
- The pricing of flow-through shares may have favoured the investor in 1986 but, in later years, moved in favour of the firms or partnerships. If there were no incremental transaction costs associated with issuing flow-through shares, then most of the tax benefits were captured by issuing firms.
- Moreover, these benefits accrued to firms whose shares performed relatively worse than an average share in the corresponding industry.

Activity Promotion and Incrementality

- Four types of incrementality are identified through the case studies: incremental financing, incremental expenditures, incremental physical activities and incremental discoveries. The difference between them depends on transaction costs, overheating and success, respectively.

- While empirical estimates of incremental financing are not provided, there was a consensus among case-study participants that the combination of flow-through shares and favourable market and fiscal conditions resulted in a boom in financing for mining exploration. The impact on oil and gas activities was significantly less pronounced.
- Incrementality for mining exploration expenditures was estimated at 49 per cent of all exploration spending by the mining companies in the sample. Incrementality for petroleum exploration expenditures equalled 30 per cent of all exploration spending by the petroleum companies in the sample.
- There was considerable evidence of overheating in mining, but not in oil and gas. Consequently, incrementality estimates for physical mining activities are less than incremental mining exploration expenditures by 11 percentage points.
- Estimates of incremental discoveries were not possible due to insufficient information. However, anecdotal evidence suggests some incremental discoveries were directly attributable to flow-through shares. Furthermore, information obtained through exploration financed by flow-through shares may lead to incremental discoveries in the future.
- Substantial discoveries of smaller gold deposits were made between 1983 and 1990 relative to earlier periods, but they have not yet been fully appraised due to existing unfavourable market conditions. The unit cost of these discoveries was about 2.5 times as high as during "typical" periods – this is additional evidence of overheating. The ratio of the value of gold discoveries to the cost of exploration was about one-half the ratio for typical periods. These findings suggest that flow-through share financed exploration between 1983 and 1990 was not as successful as exploration efforts in earlier periods.

Federal Tax Expenditure Estimates for Exploration

- Over 80 per cent of federal tax expenditures for exploration financed by flow-through shares was in respect of mining.
- Federal tax expenditures for both mining and petroleum exploration declined dramatically from 1987 to 1991.
- Each dollar of federal tax expenditure on exploration financed by flow-through shares resulted in three dollars of mining exploration and two dollars of petroleum exploration.

Chapter VI

CONCLUSIONS

Flow-through shares are one way for mining and petroleum companies to finance their exploration and development activities in Canada. These tax-advantaged equity instruments are issued by means of flow-through share agreements between resource companies and their investors. For every flow-through share purchased from a mining or petroleum company under such an agreement, investors receive an equity interest in the company plus the right to income tax deductions associated with new expenditures on exploration and development.

This evaluation has analyzed the performance of the flow-through share mechanism in terms of its relevance, effectiveness and cost-effectiveness in achieving the policy objectives of:

- encouraging additional exploration and development in Canada;
- promoting equity investments in mining and petroleum companies; and
- assisting junior (typically non-taxpaying) exploration companies.

The time period for empirical analysis is principally from 1987 to 1991, but goes back to 1983 in some cases. This chapter summarizes the key findings of the evaluation with respect to each of these objectives.

A. Relevance

The evaluation found that flow-through shares addressed an actual need and were consistent with government priorities during the evaluation period from 1983 to 1991. Flow-through shares are one means by which the federal government pursues its policy objectives of stimulating exploration and development, encouraging risk-taking and equity investments in mining and petroleum companies, and assisting junior exploration companies. Flow-through shares help to stimulate exploration and development by, in essence, allowing mining and petroleum companies to transfer otherwise unusable or unused tax deductions relating to these investments to investors in exchange for a premium over the market price of the company's common shares.

Flow-through shares occupy a unique place among the various specialized financing alternatives available to facilitate investments in exploration and development by mining and petroleum companies. Four alternatives are considered in this evaluation: joint ventures, joint exploration corporations,

partnerships and limited partnerships. These financing options allow investors to claim income tax deductions for Canadian exploration expense (CEE), Canadian development expense (CDE) or Canadian oil and gas property expense (COGPE) in the manner most suitable to the particular circumstances and preferences of investors; their distinct characteristics appeal to different types of investors. The flow-through share mechanism stands in marked contrast to each of these financing alternatives, possessing a unique combination of features which render it the most readily accessible financing structure and result in its relatively widespread commercial application.

The flow-through share financing mechanism responded to a need identified by mining and petroleum companies. It was conceived by them after exploration and development expenditures became fully deductible in calculating income tax in 1947. The mechanism allowed junior companies to obtain the funding or expertise necessary to explore and develop a promising mineral or petroleum prospect. It provided a practical and efficient commercial forum for recognizing and accommodating the differing contributions of the issuing company and its investors, and facilitated financing for exploration and development by allowing investors to realize directly and immediately the tax value associated with resource expenditures. This expenses-for-shares transaction was subsequently recognized in income tax legislation for the 1954 taxation year, at which time certain restrictions were introduced to define its scope and operation. Income tax conditions on flow-through shares have evolved substantially since that time.

For mining and petroleum companies, flow-through shares can provide a less costly means of raising equity-based financing for exploration and development. In addition, by permitting a widespread share issue, they allow access to a broad range of investors while minimizing the impact on corporate management and control. Although flow-through shares are available to all mining and petroleum companies, the mechanism is designed to be of principal benefit to non-taxpaying junior exploration companies, i.e. companies which are unable to utilize income tax deductions for exploration and development and whose access to alternative sources of financing are limited.

Corporate income tax data for 1987 to 1990 indicate that a "typical" issuing company was a non-taxpaying Canadian public corporation based in either British Columbia, Alberta, Ontario or Quebec. However, a marked distinction existed between mining and petroleum companies. Mining companies were more likely to be non-taxpaying public corporations based in either British Columbia, Ontario or Quebec. Petroleum companies were more likely to be taxpaying Canadian controlled private corporations either based in Alberta or

with a multi-jurisdictional base of operations. These differences reflect both the differing nature of the two industries and the geographical location of mineral and petroleum resources in Canada.

For investors, flow-through shares are an alternative type of resource investment which offers substantial liquidity, is tax-advantaged relative to other forms of risk capital, and can reduce the risk associated with mining and petroleum investments depending on how investments in flow-through shares are structured. Under a flow-through share agreement, the investor enjoys limited liability, a specified share in any profits of the corporation, and a residual right in the property of the corporation upon dissolution.

Based on personal income tax data for 1989 and 1990, a "typical" flow-through share investor was a married male in his forties residing in Quebec or Ontario, an employee of either the private or public sector, and in the top income tax bracket. However, none of these characteristics was displayed by more "aggressive" investors, i.e. those who invested the largest share of their income in flow-through shares. While there was no "typical" aggressive investor, they were more likely to be: married females; under 30 years of age; residents of either the Yukon, Saskatchewan, Manitoba or New Brunswick; medical doctors or dentists; and subject to the lowest income tax rates.

B. Effectiveness

Evaluation findings are mixed in respect of the effectiveness of flow-through shares in achieving its objectives. On the positive side, flow-through shares:

- raised equity-based financing primarily for mining and petroleum exploration, especially gold exploration;
- accounted for a large share of all funding for mining exploration (averaging 60 per cent for the period 1987 to 1991);
- resulted in significant incremental spending on mining and petroleum exploration and significant exploration drilling activity;
- benefitted the economies of Alberta, British Columbia, Ontario and Quebec; and
- benefitted non-taxpaying junior exploration companies.

However, incremental exploration activity generated by flow-through shares was not particularly high, inflated exploration drilling costs (i.e. overheating) were experienced in the mining industry, and there was little evidence that the incremental exploration spending and drilling activity resulted in incremental discoveries attributable to this financing mechanism. Flow-through shares were

also often tax-motivated investments which focused on more valuable exploration write-offs and which were characterized by relatively rapid spending by issuing companies and share disposition by investors. The evaluation also found that the effectiveness of flow-through shares in raising financing depended crucially on resource-commodity price levels (especially world prices for gold and silver), general economic conditions (e.g., the 1990 economic recession), the economic prospects of the issuing company, the fiscal treatment of exploration and development expenditures renounced to investors, and the bargaining power of investors relative to the issuing companies.

Premia and Sharing

The maximum premium over the price of a common share that a flow-through share investor would be willing to pay equals the value to that investor of the tax deductions and incentives for exploration or development. However, the normal functioning of capital markets generally results in the premium actually received by issuing companies (i.e. the observed premium) being less than the maximum possible. Specific reasons advanced for this capital-market sharing between investors and issuing companies include tax-induced investor surplus, incremental liquidity risk, incremental transaction costs, and the market power of broadly-based limited-partnership intermediaries.

It has been proposed by other authors that the degree of sharing between issuing companies and investors can be used to assess the relative effectiveness of flow-through shares as a mechanism for delivering the value of tax benefits to issuing companies. Specifically, sharing is evidence of ineffectiveness. However, it is demonstrated here that the existence of sharing does not mean that flow-through shares are ineffective. Rather, such so-called "effectiveness measures" fail to reflect the true nature and intent of flow-through shares. Furthermore, it is argued that this financing mechanism is as effective as any equity-based financing alternative designed to achieve the same objectives, and is a more effective delivery mechanism where firms are non-taxpaying and investors are subject to low tax rates and cannot access the lifetime capital gains exemption.

Levels of Flow-Through Share Financing

Amounts of CEE flowed through to investors (i.e. renunciations of CEE) equalled \$3.0 billion or 93 per cent of all expenses renounced between 1987 and 1991. Renunciations of mining-related CEE equalled 75 per cent of all renunciations over this period. About 75 per cent of companies that issued flow-through shares between 1987 and 1991 were mining companies. The bulk

of renunciations were made by a disproportionately small number of issuing companies and the general trend after 1987 was for fewer companies to renounce smaller amounts of both CEE and CDE.

Renunciations of mining-related CEE, in 1991 dollars, rose from \$45 million in 1983 to a peak of \$1.1 billion in 1987 due to the combined effects of:

- improvements to the basic design of this financing mechanism (e.g., income tax changes affecting investor liability and the increasing involvement of broadly-based limited partnerships in the transaction);
- favourable market conditions for mining (e.g., relatively high prices for gold and silver, and for mining stocks); and
- bonus deductions for mining exploration (i.e. the mining exploration depletion allowance) and the lifetime capital gains exemption.

The attractiveness of flow-through shares was significantly reduced after 1987 due to:

- a deterioration in market conditions (e.g., falling commodity and share prices for gold and silver, and the 1990 economic recession); and
- the 1987 income tax reform which reduced their tax-advantaged status (e.g., by reducing personal income tax rates, phasing out the mining earned depletion allowance and introducing the cumulative net investment loss rules).

Nevertheless, the \$65 million of mining-related CEE renounced in 1991 was almost 50 per cent higher than the \$45 million (in 1991 dollars) renounced in 1983.

Due to the location of mineral deposits and petroleum reserves in Canada, flow-through shares had important regional impacts. Ontario, British Columbia and Quebec were the principal beneficiaries in the case of mining; Alberta was the principal beneficiary in the case of oil and gas. Of the 2,035 companies that issued flow-through shares between 1987 and 1991, 98 per cent were located in British Columbia, Alberta, Ontario and Quebec, with the provinces ranked in that order. These companies accounted for 95 per cent of the \$3.3 billion renounced over this period. However, the provincial ranking was reversed in terms of the average amount renounced per company.

Partnership Intermediaries

Flow-through shares were facilitated significantly by the participation of limited partnerships in the transaction. Partnership intermediaries were the dominant means of issuing flow-through shares. They accounted for 61 per cent

(\$2.0 billion) of renunciations between 1987 and 1991, and raised funds almost entirely for exploration and primarily for mining. In contrast, direct issuance was the dominant mode for all categories of expenses renounced by petroleum companies. Mining companies that employed both partnership intermediaries and direct issuance accounted for the largest amount of renunciations from 1987 to 1991. Most petroleum companies used only direct issuance.

Most renunciations by means of partnership intermediaries occurred in 1987 and 1988, although these renunciations remained high in proportion to total renunciations from 1987 to 1990. The number of partnerships, companies renouncing to partnerships and amounts renounced to partnerships declined significantly each year after 1987. The bulk of expenses were renounced to a disproportionately small number of partnerships which included the "broadly-based" limited partnerships. Partnerships that were the most successful in raising flow-through share financing also achieved the greatest amount of asset diversification and risk reduction by entering into agreements with large numbers of companies.

Impacts on Exploration and Development

The pattern of mining exploration expenditures from 1983 to 1991 mirrors the pattern of renunciations of mining-related CEE through flow-through shares. Levels of exploration expenditure increased generally from 1983, peaked in 1987 and 1988, and fell thereafter. After 1986, annual renunciations of mining-related CEE averaged 60 cents per dollar of mining exploration and ranged from a high of 82 cents per dollar in 1988 to a low of 17 cents per dollar in 1991. Thus, flow-through shares played a significant role in financing mining exploration, but their importance declined precipitously after 1988.

Over the period 1983 to 1991, the annual average amount of exploration expenditures in the petroleum industry was about four times that in the mining industry. The pattern of exploration expenditures was also markedly different from the mining industry with petroleum exploration peaking in 1984 and 1985 and declining sharply thereafter. Renunciations of petroleum-related CEE accounted for a relatively constant annual average of only 6 cents per dollar of petroleum exploration. There is evidence that world oil price levels and government incentives were more important factors influencing petroleum exploration spending than the availability of flow-through share financing.

Renunciations of CDE and COGPE were relatively insignificant from 1987 to 1991, and flow-through shares were not an important source of financing for either development or petroleum properties.

Incremental mining exploration expenditures attributable to flow-through shares are estimated at 49 per cent of all exploration spending between 1987 and 1991 by the mining companies that participated in the case studies. Incrementality for petroleum exploration expenditures equalled 30 per cent of all exploration spending by the petroleum companies in the sample. Due to overheating in mining, physical incrementality (i.e. incremental drilling activity) for mining exploration is estimated to have been 11 percentage points lower than incremental mining exploration spending.

While empirical estimates of incremental discoveries could not be generated, anecdotal evidence suggests that some incremental discoveries were directly attributable to flow-through shares. Furthermore, information obtained through exploration financed by flow-through shares may lead to incremental discoveries in the future.

Junior Exploration Companies

Junior companies benefitted significantly from flow-through shares. Their share of mining exploration more than tripled from 15 per cent in 1983 to over 51 per cent in 1987, but fell after 1988 to 21 per cent in 1991. The bulk of this exploration spending was financed by flow-through shares. Due to the participation of limited partnerships, flow-through share funding for junior companies could also be raised with relative ease although these companies often received only a small premium on their shares.

Underlying Investment Rationale

In considering a potential investment in flow-through shares, an investor would be interested in both its tax features and its longer-term investment potential. However, evidence strongly suggests that the issuance of flow-through shares between 1983 and 1991 was based more on tax considerations than the economic merit of the underlying resource activity. Mutual fund managers reported that investors were almost solely interested in the tax write-offs available from flow-through shares. One indication of this is the finding that investors usually did not purchase flow-through shares until the end of any given year, at which time they were more aware of their tax situations. In order to ensure that resource expenses were eligible for deduction in the same calendar year, resource companies generally sought to incur and renounce exploration expenditures (which were more valuable for tax purposes) in that year or within the first 60 days of the subsequent calendar year. As noted above, there was considerable evidence of overheating in the mining industry in terms of increased drilling costs and declines in project quality. In contrast, there was no evidence that the petroleum industry was affected by overheating.

A key reason for this difference may have been significant excess capacity in the petroleum industry caused by the adverse effects of the 1986 world oil price decline.

Another indication of tax-motivated investments was the fundamental mismatch between the investment horizons of investors and issuing companies. Investors tended to sell their shares at the earliest opportunity while companies, particularly junior explorers, were more interested in a longer-term source of funds. The enormous downward pressure on share prices exerted by this investor behaviour presented major problems for issuing companies that had not yet attained some measure of exploration success. While substantial quantities of gold were discovered between 1983 and 1990 relative to the period from 1946 to 1979, the small size of the deposits suggests that exploration effort may have been concentrated on already-known and less-promising mineral deposits in order to meet the needs of flow-through share investors within a relatively short time frame.

C. Cost-Effectiveness

As in the case of effectiveness, evaluation findings in respect of the cost-effectiveness of flow-through shares are mixed. On one hand, flow-through shares resulted in substantially more incremental exploration spending than federal tax revenues foregone. Economic theory indicates that they are the most cost-effective equity-based financing option for non-taxpaying exploration companies. Furthermore, empirical evidence reveals that they provided a significant incentive for exploration by non-taxpaying firms. On the other hand, flow-through shares performed poorly as equity investments in mining and petroleum.

Incremental Spending Per Dollar of Federal Tax Expenditure

Federal tax expenditures for mining and petroleum exploration financed by flow-through shares declined dramatically from \$283 million in 1987 to \$14 million in 1991. Over 80 per cent of the tax expenditures over this period were in respect of mining. Between 1987 and 1991, each dollar of federal tax expenditure resulted in incremental expenditures of, on average, \$3 in the case of mining exploration and \$2 in the case of petroleum exploration.

Cost-Effectiveness for Investors

From the perspective of the investor, the investment performance of flow-through shares was not very attractive. The analysis of rates of return earned by investors in certain limited partnerships reveals that, although the pricing of flow-through shares favoured the investor in 1986, it moved in favour of the firm or the partnership between 1987 and 1990. If there were no

incremental transaction costs associated with issuing flow-through shares, then most of the tax benefits were captured by issuing firms. Moreover, these benefits accrued to firms whose shares performed worse than an average share in the corresponding industry.

Cost-Effectiveness for Issuing Companies

From the viewpoint of the firm, flow-through shares can be cost-effective and promote exploration. The actual level of incentive depends on:

- tax parameters applicable to investors and issuing corporations. The former determine the maximum premium obtainable from issuing flow-through shares. Both categories of tax parameters determine the tax rate on an additional dollar invested in exploration and development (i.e. the marginal effective tax rate or METR); and
- the extent of sharing of the flow-through share premium between issuing companies and investors.

Income tax considerations affecting the maximum premium include personal income tax rates, rates of deductibility for renounced expenses, the capital gains inclusion rate, the availability of the lifetime capital gains exemption and the operation of the cumulative net investment loss rules. METRs are affected by the flow-through share premium, corporate income tax rates, the rate of resource allowance, the taxpaying status of the firm and the dividend tax credit rate.

Mining and petroleum companies are subject to the lowest METR on exploration and development financed by flow-through shares (i.e. the theoretical METR) when they receive the maximum premium possible from their investors. Theoretical METRs are lowest for non-taxpaying firms both absolutely and relative to METRs for exploration financed by either retained earnings or common shares. This implies that flow-through shares are the most cost-effective equity-based financing option for non-taxpaying firms. Theoretical METRs for taxpaying firms can be negative, which implies that the tax system encourages exploration by them, and less than METRs for common shares, which implies that flow-through shares are relatively more cost-effective. However, retained earnings are the most cost-effective financing option for taxpaying firms.

To the extent that the premium actually received by resource companies falls below the maximum premium, the METR on their resource investments (i.e. the actual or empirical METR) increases. However, while sharing increases the METR, illustrative empirical METR calculations support the proposition that flow-through shares still provided significant incentive for exploration by

firms that were not fully taxpaying. Based on METR considerations alone, flow-through shares would not be a favoured option for fully taxpaying firms as they are the least cost-effective financing option. Incentive grants and bonus deductions were found to increase cost-effectiveness and promote exploration by reducing METRs regardless of the financing option employed.

Cost-Effectiveness for Society in General

In terms of the overall benefit to the Canadian economy, there were substantial discoveries of smaller gold deposits between 1983 and 1990 relative to earlier periods, but they have not yet been fully appraised due to existing unfavourable market conditions. In addition, due in part to overheating, the unit cost of discoveries between 1985 and 1990 was about 2.5 times as high as during "typical" periods. The ratio of the value of gold discoveries to the cost of exploration was about one-half the ratio for typical periods. Taken together, these findings suggest that flow-through share financed exploration between 1983 and 1990 may not have been as cost-effective as exploration efforts in earlier periods.

D. An Overall Perspective

Over the period 1983 to 1991, flow-through shares were generally relevant, effective and cost-effective in meeting the federal government's policy objectives of encouraging exploration in Canada, stimulating equity-based investments in mining and petroleum companies, and assisting junior exploration companies.

Numerous factors affected the cost and accessibility of flow-through shares between 1983 and 1991. The level and the share of exploration spending financed by flow-through shares were found to move in concert with fiscal and market conditions. However, the quantitative impact of individual factors affecting flow-through shares and exploration activities is not separately identified in this evaluation.

During the 1983 to 1987 period of favourable commodity and stock prices for gold and silver, key factors that exerted a positive influence on flow-through shares, and thus on exploration activity, included the mining earned depletion allowance which was introduced in 1983, the increasing participation of large limited-partnership intermediaries in flow-through share investments between 1983 and 1987, the lifetime capital gains exemption which was introduced in 1985, and income tax changes in 1986 which limited investor liability in flow-through shares. Empirical evidence indicates that the tax benefits of

flow-through shares were shared between investors and issuing companies and that this sharing tended to vary inversely with firm size due, in part, to the influence of the limited partnerships.

At the same time that commodity and stock prices for gold and silver began to fall, the 1987 reform of the income tax system exerted a negative impact on flow-through shares by, for example, phasing out the mining earned depletion allowance, reducing personal income tax rates and introducing the cumulative net investment loss rules. As a result, flow-through share financing moved more in line with historic levels by 1991. In addition, empirical evidence reveals that flow-through shares performed very poorly when compared to an equity investment in the TSE sub-index for mining and petroleum companies between 1986 and 1990. This poor investment performance would have directly affected the demand for flow-through shares as well. Compounding this, the 1990 economic recession adversely affected the general environment for exploration and flow-through shares.

Large amounts of equity-based financing for exploration were raised by flow-through shares between 1983 and 1991 so that the mechanism was effective in this sense. However, the effectiveness of flow-through shares in generating incremental mining and petroleum exploration was reduced due, for example, to disproportionate increases in gold exploration activity, to overheating in mining exploration, to downward pressure being exerted by large limited partnerships on the premium received by junior companies, and to tax-motivated flow-through shares investments during the mid-1980s. Flow-through shares were a cost-effective means to finance exploration in that they induced incremental exploration spending in excess of federal tax expenditures, but the same factors that reduced effectiveness also reduced their cost-effectiveness. Regardless, flow-through shares were a cost-effective financing mechanism for non-taxpaying companies throughout the period and as effective as any possible equity-based financing alternative designed to achieve the same objectives.

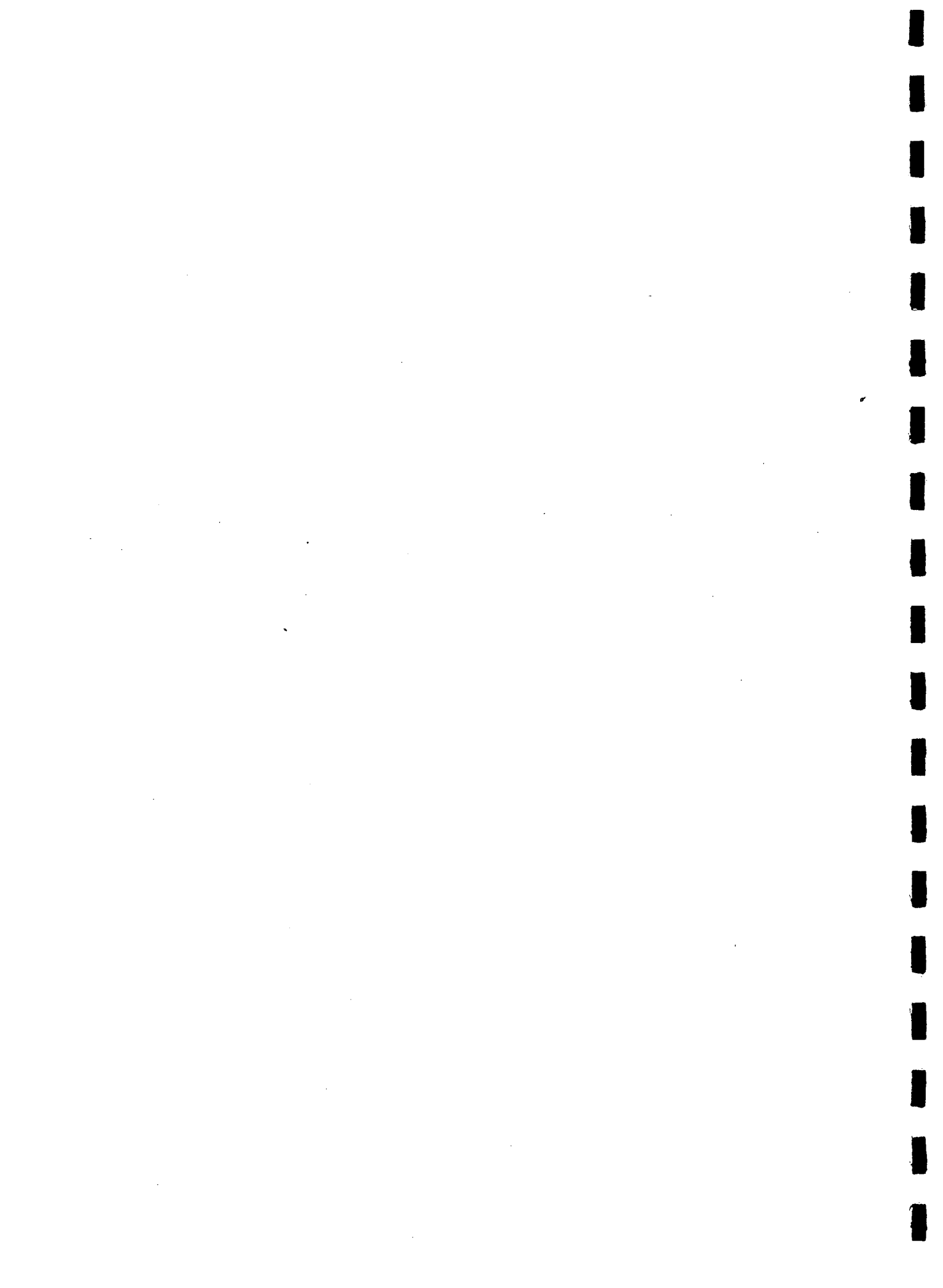
While the fiscal regime and market conditions combined to make flow-through shares appear to be an attractive investment in the mid-1980s, flow-through share investments made at that time did not perform well. This finding, together with the existence of a much less favourable environment, implies that interest in flow-through shares, especially by individual investors, was considerably lower in 1991 than in 1987. Of course, the degree of investor interest and its underlying determinants directly impact on the role for limited partnerships in facilitating the flow-through share transaction. In particular, reduced demand for flow-through share investments due to economic conditions and the experience of investors, together with the smaller tax value

of deductions for exploration and development, significantly reduced participation by limited partnerships in 1991. With diminished investor interest and involvement by limited partnerships, the effectiveness of flow-through shares in assisting junior companies and in financing a high share of exploration spending was compromised as well.

Within the much less favourable investment climate that existed in 1991, the motivation for investing in flow-through shares tended to be their underlying investment potential as opposed to their tax features as was the case in the mid-1980s. This meant that flow-through share investors were less concerned with relatively quick exploration successes and, therefore, that their investment horizons in 1991 more closely matched those of the issuing companies. Flow-through share agreements also began to move beyond their preoccupation with the search for gold to encompass a more balanced portfolio of minerals. With these changes, the pace of exploration activities and the occurrence of discoveries can be expected to slow as companies analyze exploration results more fully before continuing with an exploration program and the quality of exploration work improves. This, in turn, would likely lead to an increase in the average size of discoveries and allow these discoveries to be brought more quickly into production. Furthermore, the more even pace of exploration effort by issuing companies across a given year would largely eliminate the negative impacts of overheating during the winter season. This would have a significant positive impact on effectiveness in terms of incremental exploration drilling activity stimulated by flow-through shares, and would further enhance their cost-effectiveness in terms of federal tax expenditures associated with this form of financing.

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Appendix I

THE FLOW-THROUGH SHARE MECHANISM TODAY

This appendix examines key concepts and reporting requirements underlying the definition of a flow-through share as presently provided for in the *Income Tax Act*¹ (principally in sections 66 through 66.4) and in the *Income Tax Regulations*². This discussion is intended to be of a somewhat more technical nature than that found elsewhere in the report. As the title indicates, the focus is on the application of the various legislative provisions to flow-through share agreements entered into as of September 1993.

A. Definition of a Flow-Through Share

A flow-through share is defined under paragraph 66(15)(d.1) of the Act as:

- i) a share, a right to a share (including a warrant) and any interest in a share, other than a prescribed share, of the capital stock of a principal-business corporation,
- ii) that is issued to a person pursuant to a written agreement entered into after February 1986,

under which the corporation agrees, in exchange for consideration,

- iii) to incur, within a period commencing on the date on which the agreement is entered into and ending 24 months after the month in which the agreement is entered into, Canadian exploration expense, Canadian development expense, or Canadian oil and gas property expense of at least equal amount as the consideration, and
- iv) to renounce to the person within 30 days after the end of that "two-year" qualifying period, in prescribed form, an amount of Canadian exploration expense, Canadian development expense, or Canadian oil and gas property expense not exceeding the consideration received by the corporation³.

¹ S.C. 1970-71-72, c. 63, as amended.

² Consolidated Regulations of Canada, 1978, c. 945, as amended.

³ Proposed changes announced in the December 2, 1992, *Economic and Fiscal Statement* would allow renunciation to take place before March of the calendar year immediately following the year in which the two-year period for incurring eligible expenses expires.

B. Key Concepts

Each of the various technical terms (i.e. prescribed share, principal-business corporation, person, the eligible expenses and renunciation) embodied in the definition of a flow-through share is reviewed in this section. In the discussion of each, references to the relevant provisions of the *Income Tax Act* or Regulations, as applicable, are provided.

Prescribed Shares

Common shares are equity investments that are free from any ancillary entitlement to benefit (and are typically subject to market valuation). A corporation can, however, design its shares to effectively guarantee the purchaser a minimum return irrespective of market developments. Such shares are prescribed in Regulation 6202.1 and are specifically excluded from being flow-through shares under paragraph 66(15)(d.1) of the Act. The purpose of this exclusion is to ensure that flow-through shares represent genuine risk capital and, thereby, enjoy the rewards and suffer the risks associated with common shares.

A prescribed share includes a share of the capital stock of a principal-business corporation, the price of which is determined more than 60 days after the agreement is entered into, or that carries an entitlement to the benefit of the purchaser or an obligation on the part of either party to a flow-through share agreement in the form of:

- a dividend that is either fixed or limited;
- an amount to be received on dissolution, liquidation or winding-up of the corporation that is either fixed or limited;
- a right, including a right conferred by warrant, to convert or exchange the share for another share of the corporation that is also a prescribed share;
- an obligation on the part of the issuing corporation to reduce the paid-up capital in respect of the share;
- any obligation to provide assistance, make a loan or payment, transfer property or confer any other benefit that may be considered to be a repayment of the consideration for which the share was issued;
- any obligation to ensure that any loss is limited or that earnings are derived in respect of the share, other than from a sale of the share at its fair market value;

- a reasonable expectation of the issuing corporation acquiring or cancelling the share, reducing its paid-up capital, or repaying the consideration for which the share was issued within five years of the issue date of the share, other than through an amalgamation or winding-up of a subsidiary wholly-owned corporation;
- a reasonable expectation of an undertaking being effected within five years of the issue date of the share that would result in the share being a prescribed share, other than a sale of the share at its fair market value;
- a reasonable expectation of the terms of share purchase being modified within five years after the issue date of the share that would result in the share being a prescribed share;
- assistance, a loan or payment, a transfer of property or any other benefit conferred by the issuing corporation to assist the purchaser in acquiring the share either directly or indirectly; or
- a right under any arrangement, that can reasonably be considered to have been contemplated prior to the flow-through share agreement being entered into, to exchange the share for a prescribed share of another corporation other than a share of a mutual fund corporation.

Principal-Business Corporation

Principal-business corporations are limited to those corporations involved in the petroleum or mining sectors of the economy. In accordance with paragraph 66(15)(h) of the Act, they include corporations whose principal business is any combination of the following four activities:

- exploring or drilling for, producing, refining or marketing petroleum or natural gas, or operating a petroleum or natural gas pipeline;
- exploring for or mining minerals;
- processing mineral ores to recover metals, processing metals recovered from the mineral ores, or fabricating metals; or
- producing or marketing sodium chloride or potash, or processing sodium chloride or potash in the manufacture of other products.

A corporation all or substantially all of the assets of which are shares of the capital stock of related corporations whose principal businesses involve one or more of these four activities, also qualifies as a principal-business corporation.⁴

Person

A person is defined in subsection 248(1) of the Act to include individuals and corporations. Subsection 66(16) deems a partnership to be a person and the taxation year of a partnership to be its fiscal year for the purposes of the renunciation of expenses under a flow-through share agreement. In addition, a partner's share⁵ of the partnership's flow-through share expenses is deemed, under subsection 66(18), to be incurred by the partner at the end of the fiscal period of the partnership.

Eligible Expenses and Related Concepts

Expenses referred to in the definition of a flow-through share and, consequently, those eligible for flow-through share treatment are Canadian exploration expense (CEE), Canadian development expense (CDE), and Canadian oil and gas property expense (COGPE). CEE or CDE that also qualifies as Canadian exploration and development overhead expense (CEDOE) may, however, not be renounced to the flow-through share investor.

Canadian Exploration Expense

Oil and Gas

As it relates to petroleum and natural gas, CEE distinguishes between costs incurred in finding oil or gas, costs related to certain oil or gas wells that are capable of production, and costs incurred in developing the ability to produce oil or gas from an underground location. An "oil or gas well" is defined in subsection 248(1) of the Act to include any well drilled to determine the existence, location, extent or quality of a natural accumulation of petroleum or

⁴ Under paragraph 251(2)(c) of the Act, related corporations include any two corporations controlled by the same person or group of persons, or by related persons or groups of persons.

⁵ Under Section 66.8 of the Act, a limited partner cannot deduct partnership resource expenses in excess of the amount the partner has at risk in the partnership.

natural gas, or to produce petroleum or natural gas, other than an exploratory probe or a well drilled from below the surface of the earth. As defined in paragraph 66.1(6)(a), petroleum-related CEE includes:

- *finding costs*, i.e. any expense incurred for the purpose of determining the existence, location, extent or quality of an accumulation of petroleum or natural gas in Canada including geological, geochemical or geophysical (Geo-3) expenses and costs of an exploratory probe;
- *exploration drilling costs*, i.e. any expense incurred in drilling or completing an oil or gas well in Canada, building a temporary access road to the well or preparing the well site if the well:
 - results in the discovery of a new accumulation (the discovery well);
 - is abandoned without ever having produced (a dry hole);
 - does not produce within two years after completion of drilling (a shut-in well); or
 - is certified⁶ by the Minister of Energy, Mines and Resources to be expected to cost in excess of \$5 million and not to produce within two years after completion of drilling (a high-cost well); and
- *pre-production development costs*, i.e. any expense incurred in, and before, bringing an accumulation of petroleum or natural gas into production in reasonable commercial quantities from an underground location including overburden removal costs, costs of sinking a mine shaft and costs of drilling a well from below the surface of the earth.

Qualifying costs incurred in a taxation year that do not satisfy the conditions of a discovery well or a dry hole by the sixth month of the subsequent taxation year are initially classified as CDE. Qualifying costs incurred in a taxation year that do not satisfy the condition of a shut-in well by the end of that year are also initially classified as CDE. If the conditions are subsequently satisfied then the costs are deemed, under subsection 66.1(9), to be exploration drilling costs at that time and are included, under subparagraph 66.1(6)(a)(ii.2), as CEE. This deeming provision applies equally to CDE renounced under a flow-through share agreement.

With respect to a dry hole, a shut-in well and a high-cost well, production for the purpose of testing in accordance with generally accepted engineering practices and for burning natural gas and related hydrocarbons to protect the environment does not, under paragraph 66.1(6)(d), disqualify drilling costs from being CEE.

⁶ Within six months after the end of the taxpayer's taxation year.

"Deemed CEE"

Income tax amendments announced in the *Economic and Fiscal Statement* of December 2, 1992, would in essence deem petroleum-related CDE (discussed below), to a maximum of \$2 million per petroleum company or associated group of companies, to be CEE upon renunciation. Such "deemed CEE" treatment would be limited to qualifying CDE incurred after December 2, 1992, by a principal-business corporation in respect of a flow-through share agreement.

Mining

As it relates to mining, CEE distinguishes between costs incurred in finding mineral resources and costs related to developing those resources up to the point of commercial production. A mineral resource is defined in subsection 248(1) of the Act to consist of: base or precious metal deposits; coal deposits; oil sands deposits; or mineral deposits where the principal mineral extracted is an industrial mineral contained in a non-bedded deposit (as certified by the Minister of Energy, Mines and Resources), sylvite, halite, gypsum, kaolin, or silica from sandstone or quartzite.⁷ As defined in paragraph 66.1(6)(a), mining-related CEE includes:

- *grass-roots mining expenses*, i.e. any expense incurred for the purpose of determining the existence, location, extent or quality of a new mineral resource that would be associated with a new mine including costs of prospecting, Geo-3 surveys, drilling by rotary, diamond, percussion or other methods, trenching, digging test pits, and preliminary sampling; and
- *pre-production development costs*, i.e. any expense incurred in, and before, bringing a new mine in a known mineral resource in Canada into production in reasonable commercial quantities including costs of clearing, removing overburden and stripping, and costs of sinking a mine shaft or constructing an audit or other underground entry.

⁷ "Minerals" are also defined in subsection 248(1) of the Act to exclude petroleum, natural gas and related hydrocarbons other than coal and oil sands.

60-Day Amounts

Under subsection 66(12.66) of the Act, CEE that is oil and gas finding costs or exploration drilling costs, or grass-roots mining expenses and that is incurred within 60 days after the end of a calendar year may be deemed to have been incurred and renounced on the last day of the preceding calendar year if certain conditions are met.⁸ For such expenses to qualify as "60-day amounts":

- a flow-through share agreement must be entered into before the end of the calendar year;
- the investor must pay the consideration for the share in money before the end of the calendar year;
- the investor and corporation must deal with each other at arm's length throughout the 60 days⁹; and
- the corporation must:
 - satisfy the conditions for renunciation (see section on "Ability to Renounce", below);
 - renounce the sixty-day amount within 90 days after the end of the calendar year; and
 - indicate the effective date of renunciation as the last day of the preceding calendar year.

Deductibility

Under subparagraph 66.1(6)(b)(ix) of the Act, the amount of CEE that can be deducted for income tax purposes must be reduced by the amount of any assistance¹⁰ received or receivable. Under subsection 66.1(2), it is presently mandatory for principal-business corporations to fully deduct CEE to the extent

⁸ An income tax amendment announced in the *Economic and Fiscal Statement* of December 2, 1992, would add "deemed CEE" (other than a corporation's share of partnership expenses) to the list of expenses eligible for treatment as 60-day amounts.

⁹ For the specific purposes of 60-day amounts, subsection 66(17) of the Act deems a partnership and a corporation not to deal with each other at arm's length only where the corporation (or a member of the partnership with whom the corporation does not deal at arm's length) is allocated a share of the 60-day amounts of the partnership.

¹⁰ "Assistance" is defined in paragraph 66(15)(a.1) of the Act to be any type of assistance or benefit from a person or public authority.

of their income for the year.¹¹ For other taxpayers, subsection 66.1(3) provides the CEE deduction, at the same 100 per cent rate, to be optional against any income.

Canadian Resource Property

The definitions of CDE and COGPE draw in part on the definition of a Canadian resource property in paragraph 66(15)(c) of the Act. This provision distinguishes between natural accumulations of petroleum or natural gas (i.e. oil and gas properties), the underground storage of petroleum or natural gas, and mineral resources (i.e. mining properties). An oil or gas property or a mining property may take any of the following three forms:

- *real property*, i.e. any oil or gas well in Canada, or any real property in Canada the principal value of which depends on its petroleum or natural gas content or its mineral resource content;
- *activity rights*, i.e. any right, licence or privilege (either acquired or preserved) to prospect or explore for, drill for, or take petroleum or natural gas or minerals in Canada; or
- *rentals or royalties*, i.e. any rental or royalty based on the amount or value of production of petroleum or natural gas or minerals in Canada.

In addition, "underground storage rights", i.e. any right, licence or privilege (either acquired or preserved) to store petroleum or natural gas underground in Canada, qualifies as a Canadian resource property.

Canadian Development Expense

Oil and Gas

As it concerns petroleum or natural gas, CDE distinguishes between costs of underground storage rights and costs related to three general categories of wells: oil or gas wells other than discovery wells, dry holes, shut-in wells, high-cost wells and recompleted oil or gas wells; recompleted oil or gas wells; and wells that are used to assist in the recovery of petroleum or natural gas. As defined in paragraph 66.2(5)(a) of the Act, petroleum-related CDE includes:

- *development drilling costs*, i.e. any expense incurred in drilling or completing an oil or gas well in Canada, building a temporary access road to the well or preparing the well site other than an exploration drilling cost;

¹¹ An amendment to the *Income Tax Act* announced in the *Economic and Fiscal Statement* of December 2, 1992, would make the deduction of CEE elective for principal-business corporations for taxation years ending after that date.

- *recompletion costs*, i.e. any expense incurred in drilling or recompleting an oil or gas well in Canada after the commencement of production from the well (a recompleted oil or gas well);
- *other drilling costs*, i.e. any expense incurred in Canada in drilling for water or gas for injection into a petroleum or natural gas formation (a water or gas well), or incurred in drilling or converting a well for either: the disposal of waste liquids from an oil or gas well (a waste disposal well); the injection of water, gas or any other substance to assist in the recovery of petroleum or natural gas from another well (an injector well); or the monitoring of fluid levels, pressure changes or other phenomena in an accumulation of petroleum or natural gas (a monitoring well); and
- costs of underground storage rights other than payments to the Crown to preserve a taxpayer's rights in respect of such rights¹².

Mining

As it concerns mining, CDE distinguishes between development costs incurred after the mine has achieved commercial production and costs of mining properties. As defined in paragraph 66.2(5)(a) of the Act, mining-related CDE includes:

- *post-production development costs*, i.e. any expense incurred in sinking, excavating or extending a mine shaft, main haulage way or similar underground work designed for the continued use of an existing mine that has come into production in a known mineral resource in Canada; and
- costs of mining properties other than production-based Crown rentals or royalties, and payments to the Crown to preserve a taxpayer's rights in respect of such properties¹³.

¹² Such Crown rental payments are, however, fully deductible from income under Regulation 1211(c).

¹³ Crown rental payments in respect of real property or activity rights are, however, fully deductible under Regulation 1211(b) if they are made prior to the commencement of commercial production. Otherwise, these Crown rental payments as well as the production-based Crown rentals or royalties in respect of mining properties are not deductible from income under paragraph 18(1)(m) of the Act.

Deductibility

Under subparagraph 66.2(5)(b)(xi) and paragraph 66.1(9)(g) of the Act, the amount of CDE that can be deducted must be reduced by the amount of any assistance received or receivable. Under subsection 66.2(2), CDE is an optional deduction against income at the rate of 30 per cent per annum on a declining balance basis.

Canadian Oil and Gas Property Expense

COGPE applies only to petroleum or natural gas. As defined in paragraph 66.4(5)(a) of the Act, COGPE includes:

- costs of oil and gas properties other than production-based Crown rentals or royalties, and payments to the Crown to preserve a taxpayer's rights in respect of such properties¹⁴; and
- net royalty payments to the Province of Saskatchewan¹⁵.

Under subparagraph 66.4(5)(b)(viii), the amount of COGPE that can be deducted must be reduced by the amount of any assistance received or receivable. Under subsection 66.4(2), COGPE is an optional deduction against income at the rate of 10 per cent per annum on a declining balance basis.

Canadian Exploration and Development Overhead Expense

Under paragraphs 66(12.6)(b) and 66(12.62)(b) of the Act, CEDOE cannot be renounced by a principal-business corporation to a flow-through share investor (see also the section on Ability to Renounce, below). As defined in Regulation 1206(1), CEDOE is CEE or CDE incurred by the corporation in respect of:

- administration, management or financing;
- salary, wages or other benefits of an employee whose duties are not all or substantially all directed towards exploration or development;
- maintenance or rental of, or taxes or insurance on property that is not all or substantially all used for the purposes of exploration or development; or

¹⁴ Crown rental payments in respect of oil and gas activity rights are, however, deductible under Regulation 1211(d) to a maximum annual rate of \$2.50 per hectare if production did not occur during the taxation year. Otherwise, Crown rental payments as well as the production-based Crown rentals or royalties in respect of oil and gas properties are not deductible from income under paragraph 18(1)(m) of the Act.

¹⁵ Net royalty payments are considered a cost of acquiring a petroleum or natural gas lease as they were negotiated in lieu of a land bonus payment.

- the use of property of, compensation for services of or acquisition of materials, parts or supplies from a person connected¹⁶ with the corporation to the extent that the expense exceeds the costs incurred by the person.

Renunciation

Ability to Renounce

Subject to certain conditions being met, subsections 66(12.6), 66(12.62) and 66(12.64) of the Act permit a principal-business corporation to renounce CEE, CDE and COGPE, respectively, incurred by it to a person who acquires flow-through shares of the corporation. Conditions that must be satisfied for renunciation to occur include the following:

- consideration must be given by a person to the corporation for the issue of a flow-through share of the corporation under an agreement;
- the expenses must be incurred by the corporation within the two-year qualifying period;
- the renunciation must occur within the two-year qualifying period or within 30 days thereafter¹⁷;
- the renunciation must be net of any CEDOE incurred by the corporation;
- the renunciation must be net of any assistance related to the expenses that is received by or expected to be received by the corporation; and
- the total amount of renounced expenses must exceed neither the consideration for the share nor the expenses incurred by the corporation.

Renunciation is effective either on the date on which the renunciation is made or, in respect of 60-day amounts for example, on the earlier date indicated on the required information return (see section on the T101 Summary and Supplementary, below).

Restrictions on and Adjustments to Renunciation

Subsection 66(12.67) of the Act restricts the amount of CEE, CDE or COGPE that can be renounced under subsections 66(12.6), 66(12.62) or 66(12.64) to those expenses incurred by a principal-business corporation or a corporation

¹⁶ Under subsection 251(6) of the Act, persons can be connected by blood relationship, by marriage or by adoption.

¹⁷ This condition is to change; see footnote 3.

related to it. Subsection 66(12.71) restricts the expenses that can be renounced to those that would otherwise have been deductible in calculating the income of the principal-business corporation.

Subsection 66(12.73) requires a principal-business corporation to adjust any excessive renunciation of expenses and to file a statement with the Minister of National Revenue indicating the reduction. Furthermore, this provision authorizes the Minister to make the reduction unilaterally where the corporation fails to comply within 30 days of receiving written notice indicating that such a reduction is required for the purposes of assessing tax.

Effects of Renunciation

The consequences of renouncing eligible expenses are laid out in subsections 66(12.61), 66(12.63) and 66(12.65) of the Act, in respect of CEE, CDE and COGPE, respectively. In accordance with each of these subsections, the renounced expenses are deemed to be:

- incurred, on the effective date of renunciation, by the person to whom they are renounced; and
- on and after the effective date of renunciation, never to have been incurred by the principal-business corporation.

C. Reporting Requirements

The definition of a flow-through share alludes, in the phrase "in prescribed form"¹⁸, to reporting requirements connected with its issue. These requirements are outlined in this section. As before, references to specific provisions of the *Income Tax Act* or Regulations, as applicable, are provided.

Principal-Business Corporations

In addition to satisfying the conditions for renunciation noted above, subsections 66(12.6), 66(12.62) and 66(12.64) of the Act set out a reporting requirement that must be met by a principal-business corporation before any renunciation of eligible expenses under a flow-through share agreement can occur. In particular, issuing corporations are required to file a T100 Information Return with the Minister of National Revenue. These subsections further indicate that the effective date of renunciation must be set out in a T101 Summary.

¹⁸ Subsection 244(16) of the Act deems every form purporting to be prescribed or authorized as a form authorized by the Minister of National Revenue.

T100 Information Return

In accordance with subsection 66(12.68) of the Act, the first reporting requirement for a principal-business corporation that seeks to issue flow-through shares is the filing of a T100 Information Return (see attached copy; Rev. 93) together with a copy of the flow-through share selling instrument¹⁹ or, in the case where there is no selling instrument, the signed flow-through share agreement. As indicated in paragraph 66(15)(h.1), the selling instrument must describe the terms of the offering including the price and number of shares. Filing of the prescribed form and documentation must be made by the end of the month following the earlier of the month in which the selling instrument is first delivered to a potential investor or the month in which the agreement is entered into. Once received, the selling instrument or agreement is given a unique identification number by Revenue Canada.²⁰

T101 Summary and Supplementary

Once a T100 Information Return has been filed, the principal-business corporation may renounce, at any time within the qualifying period for renunciation, eligible expenses that it has incurred. Thus, more than one renunciation can occur (and often does) relating to a single flow-through share agreement. For each renunciation that does take place, subsection 66(12.7) of the Act specifies that the corporation must file a T101 Summary (see attached copy; Rev. 93) with the Minister of National Revenue. Filing of this prescribed form must be made by the end of the month following the month in which the renunciation is made.

¹⁹ Where a selling instrument accompanies the T100 Information Return, Revenue Canada also requests a signed copy of the flow-through share agreement plus a listing of investors upon closing of the share offering.

²⁰ If warrants are included in a selling instrument, two identification numbers are required: one for the flow-through shares and one for the warrants. If warrants are part of a signed flow-through share agreement, on the other hand, one identification number is initially provided; a second identification number is given to the warrants when and if they are exercised. In either case, the principal-business corporation must advise Revenue Canada of the date on which the warrants are exercised. Once exercised, warrants are treated by Revenue Canada as if they were issued under a separate flow-through share agreement that is subject to a new two-year qualifying period, commencing at that time, in which eligible expenses are to be incurred by the principal-business corporation and that allows the corporation to renounce those expenses subject to the usual conditions specified for flow-through shares.

Under Regulation 228, the corporation also must make an information return, the T101 Supplementary (see attached copy; Rev. 93), for each person to whom an amount is renounced. A copy of each T101 Supplementary must be filed with the Minister of National Revenue together with the T101 Summary.

Where the corporation, acting as an agent for the flow-through share investor, receives assistance relating to expenses either renounced or to be renounced, then the corporation must, under subsection 66(12.701) of the Act, indicate to the Minister of National Revenue the share of such assistance attributable to each investor. The prescribed forms for this purpose are the T101 Summary and Supplementaries. This information must be filed by the end of the month following the month in which investor is entitled to receive the assistance.

Partnership Intermediaries

Additional reporting requirements apply to eligible expenses renounced to a partnership under a flow-through share agreement. Under subsection 66(12.69) of the Act, each such partnership must submit a T102 Summary (see attached copy; Rev. 93) together with T102 Supplementaries (see attached copy; Rev. 93), the latter indicating the share of expenses attributable to each partner or limited partner under the agreement. Accompanying these prescribed forms must be a copy of each T101 Supplementary that the partnership receives from principal-business corporations with which it participates in flow-through share agreements. The various forms must be filed with the Minister of National Revenue by the end of the third month following the end of the fiscal period of the partnership. For administrative purposes relating to flow-through shares alone, each partnership is authorized by Revenue Canada to use the lowest identification number indicated on the T101 Supplementaries submitted to it for a particular agreement.

Where the partnership, acting as an agent for its members, receives assistance relating to expenses renounced to it, then the partnership must, under subsection 66(12.691), indicate to the Minister of National Revenue the share of such assistance attributable to each member. The prescribed forms for this purpose are the T102 Summary and Supplementaries. This information must be filed by the end of the third month following the end of the earlier of the calendar year or the fiscal period of the partnership in which the assistance was received.

Other Procedural Provisions

Inspections

Where a principal-business corporation makes a renunciation under subsections 66(12.6), 66(12.62) or 66(12.64) of the Act, the Minister of National Revenue is authorized under subsection 66(12.72) to verify at any time, including prior to the filing of a T2 return for that year by the corporation, any information relating to the CEE, CDE or COGPE incurred, the amounts renounced or any assistance in respect of the expenses. For these purposes, a person authorized by the Minister of National Revenue may, under Sections 231 to 231.3, enter the premises of the business and inspect, audit or examine any relevant documents or property.

Late Filings

As indicated above, a principal-business corporation must file a T100 Information Return before it is able to renounce CEE, CDE or COGPE. If T101 and T102 Summaries and Supplementaries are not filed by principal-business corporations and partnership intermediaries within the time intervals specified in subsections 66(12.69) through 66(12.701) of the Act, then any renunciation is effectively disallowed under those same subsections by deeming the eligible expenses or assistance never to have been incurred by the person or the partnership, as applicable.

In spite of these provisions, however, a T100 Information Return, a T101 Summary or Supplementary, or a T102 Summary or Supplementary may be filed, under subsection 66(12.74), after the date required in subsections 66(12.68) to 66(12.701), if the corporation or partnership pays the appropriate penalty to the Receiver General. Where the required form is late by more than 90 days, the approval of the Minister of National Revenue is required as well.

Penalties

The penalty applicable to late filings, under subsection 66(12.75) of the Act, ranges from a minimum of \$100 to a maximum of \$15,000. Within this range, the actual penalty is determined as 0.25 per cent of the amount of either:

- the eligible expenses intended to be renounced by the corporation under subsection 66(12.68), renounced by the corporation under subsection 66(12.70), or attributed by the partnership under subsection 66(12.69); or

- the assistance relating to the expenses reported, under subsections 66(12.691) and 66(12.701), by the partnership or corporation when acting as an agent in respect of the assistance.

Penalties applicable under subsections 163(2.2) and 163(2.3) apply to any person who makes or is involved in the making of a false statement or an omission in respect of eligible expenses. The former subsection deals with any renunciation of eligible expenses made under subsections 66(12.6), 66(12.62) and 66(12.64); the latter with the reporting, required under subsections 66(12.691) or 66(12.701), of assistance relating to renounced expenses that is received by the partnership or corporation when acting as an agent for its members or investors, respectively. The penalty for a false statement or an omission equals 25 per cent of the amount of any:

- excess renunciation of expenses; or
- excess assistance reported.

FLOW-THROUGH SHARE INFORMATION

A principal-business corporation has to complete this form when it agrees to issue, or prepares a selling instrument for flow-through shares as required by subsection 66(12.68).

Submit one completed copy of this form and a copy of the agreement to issue shares or the selling instrument to:

Revenue Canada - Customs, Excise and Taxation,
Employer Services Division
875 Heron Rd., Ottawa, Ontario.
K1A 1A2

File these documents on or before the last day of the month following the earlier of:

- the month in which the corporation entered into the agreement to issue the shares;
- the month in which the corporation first delivered the selling instrument to a potential investor;

Share price must be determined no later than 60 days from the date the agreement is entered into as set out in paragraph 6202.1(2) (a) of the Income Tax Regulations.

If you do not file this form by the due date, we will consider it as filed on time when the penalty is paid, as set out in subsections 66(12.74) and 66(12.75). The penalty amount is .0025% of the amount to be renounced by the corporation, with a minimum penalty of \$100 and a maximum penalty of \$15,000.

For expenses incurred after December 2, 1992, a principal business corporation or associated group of companies are allowed every year to reclassify and renounce up to \$2 million of qualified Canadian oil and gas development expenses as deemed Canadian oil and gas exploration expenses. Please note that this change is a result of draft amendments to the *Income Tax Act* released on December 2, 1992, which have yet to receive Royal Assent.

"Assistance", "flow-through share", "principal-business corporation" and "selling instrument" are defined in paragraphs 66(15)(a.1), (d.1) (h) and (h.1) respectively.

The subsections, paragraphs, and subparagraphs referred to in this form are from the *Income Tax Act*.

We will notify you by letter of the identification number assigned to this form.

Identification

Name of corporation (print)		Corporation account number
Address		Mailing address (if different)
Person to contact for more information		Telephone number ()
Location of records		

Certification

I, _____, certify that the information given on this form and on any document attached thereto, is true, correct and complete.

Please print name

Date	Signature of Authorized Officer	Position or Title
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Information Required

1. Price at which the corporation will issue the flow-through shares
2. Number of flow-through shares the corporation will issue
3. Will the corporation apply for any type of assistance related to any expenses set out in 6 below? ☐ Yes ☐ No
4. If yes, state:
 - (a) name of assistance program
 - (b) amount of assistance to be applied for
5. If you apply for any assistance, state the portion that will be:
 - (a) flowed out to investors
 - (b) retained by the corporation

6. Total expenses to be incurred and renounced in accordance with the agreement or selling instrument:
Under subsection 66(12.6), Canadian Exploration Expense as defined in;

- (a) subparagraphs 66.1(6)(a)(i), (i.1) (ii), (ii.1) & (ii.2) (Oil and Gas) – Total expenses to be incurred (+) _____
 Minus: applicable assistance to be retained by the corporation (–) _____
 Minus: expenses to be incurred but not renounced (–) _____
 Amount to be renounced (a) _____
- (b) subparagraphs 66.1(6)(a)(iii) & (iii.1) (Mining exploration & mining development) – Total expenses to be incurred (+) _____
 Minus: applicable assistance to be retained by the corporation (–) _____
 Minus: expenses to be incurred but not renounced (–) _____
 Amount to be renounced (b) _____
- Total of (a) and (b)

Under subsection 66(12.601), Canadian Development Expense as defined in;

- (c) subparagraphs 66.2(5)(a)(i) & (i.1) (Oil and Gas) – Total expenses to be incurred (+) _____
 Minus: applicable assistance to be retained by the corporation (–) _____
 Minus: expenses to be incurred but not renounced (–) _____
 Amount to be renounced (c) _____

Under subsection 66(12.62), Canadian Development Expense as defined in;

- (d) subparagraphs 66.2(5)(a)(i) & (i.1) (Oil and Gas) – Total expenses to be incurred (+) _____
 Minus: applicable assistance to be retained by the corporation (–) _____
 Minus: expenses to be incurred but not renounced (–) _____
 Amount to be renounced (d) _____
- (e) subparagraphs 66.2(5)(a)(ii.1) & (iii) (Mining) – Total expenses to be incurred (+) _____
 Minus: applicable assistance to be retained by the corporation (–) _____
 Minus: expenses to be incurred but not renounced (–) _____
 Amount to be renounced (e) _____
- Total of (d) + (e)

Under subsection 66(12.64), Canadian Oil and Gas Property Expense as defined in;

- (f) subparagraph 66.4(5)(a)(i) – Total expenses to be incurred (+) _____
 Minus: applicable assistance to be retained by the corporation (–) _____
 Minus: expenses to be incurred but not renounced (–) _____
 Amount to be renounced (f) _____

Total

7. Period during which expenses are to be incurred: from _____ to _____

SUMMARY OF RENUNCIATION OF CANADIAN EXPLORATION EXPENSE, DEEMED CANADIAN EXPLORATION EXPENSE, CANADIAN DEVELOPMENT EXPENSE AND CANADIAN OIL AND GAS PROPERTY EXPENSE AND ALLOCATION OF ASSISTANCE

A principal-business corporation will use this form to renounce, after it has complied with subsection 66(12.68), an amount under subsections 66(12.6), (12.601), (12.62), and (12.64) of Canadian exploration expense, deemed Canadian exploration expense, Canadian development expense, and Canadian oil and gas property expense, and to allocate any assistance to an investor who acquired flow-through shares from the corporation.

The Corporation must incur the expense to be renounced within 24 months of the date the agreement to issue the shares was signed. Once the expense is incurred, the corporation has until the end of February of the following year to renounce it. If this deadline is missed, a late renunciation may be accepted upon the payment of the late filing penalty, where in the opinion of the Minister it would be just and equitable to do so. Please note that this change is a result of draft amendments to the *Income Tax Act* released on December 2, 1992, which have yet to receive Royal Assent.

The renunciation date and the effective date of renunciation do not have to be the same day. The renunciation date is the date the authorized officer signs the Renunciation and Certification box. It is effective either on the date it is made, or an earlier date as set out on line 2 in the detail section. However, the effective date must be after the expense has been incurred. If an expense is incurred in the first 60 days of the year, you must make the renunciation on or before March 31 of that year effective December 31 of the previous year.

For expenses incurred after December 2, 1992, a principal business corporation or associated group of companies, are allowed every year to reclassify and deduct up to \$2 million of qualified Canadian oil and gas development expenses as deemed Canadian oil and gas exploration expenses. Please note that this change is a result of draft amendments to the *Income Tax Act* released on December 2, 1992, which have yet to receive Royal Assent.

The corporation has to file one completed copy of this form together with related T101 Supplementary forms with Revenue Canada - Customs, Excise and Taxation, 875 Heron Rd., Ottawa, Ontario, K1A 1A2, Attention: Employer Services Division. These forms must be filed on or before the last day of the month after the month in which the corporation made the renunciation or allocation of assistance.

If you do not file these forms by the due date, we will consider them as filed on time when the penalty is paid, as set out in subsections 66(12.74) and (12.75). The penalty amount is .0025% of the amount renounced by the corporation, with a minimum penalty of \$100 and a maximum penalty of \$15,000.

A principal-business corporation renouncing an amount in excess of the amount to which it is entitled under the relative subsection may be liable to a penalty of 25% of the amount of such excess.

Assurance", "flow-through share", and "principal-business corporation" are defined in paragraphs 66(15)(a.1), (d.1) and (h) respectively.

As well, where a corporation receives or is entitled to receive assistance as an agent for the holders of its flow-through shares and fails to file the T101 forms, we will consider the expense relating to the assistance as not having been incurred by the corporation (subsection 66(12.7) and (12.701)).

Subsections, paragraphs, and subparagraphs referred to in this form are from the *Income Tax Act*.

Identification		Identification number from related T100 <div style="border: 1px solid black; display: inline-block; width: 100px; height: 20px;"></div>
Name of corporation (print)	Corporation account number <div style="border: 1px solid black; display: inline-block; width: 100px; height: 20px;"></div>	
Address	Mailing address (if different)	
Person to contact for more information	Telephone number ()	
Location of records		

Certification

T [redacted] above named corporation hereby renounces under subsection 66(12.6), 66(12.601), 66(12.62), or 66(12.64), an amount as specified above to the person(s) who acquired flow-through shares under the agreement(s) specified above. I, [redacted] certify

Please print name _____

that the information given on this return and related T101 Supplementary forms is true, correct and complete.

D	Signature of Authorized Officer	Position or Title
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Details of Renunciation and Allocation of Assistance

	Day	Month	Year
1. Date of agreement to which this renunciation applies (attach schedule if more than one)			
2. Effective date of renunciation			
3. Total number of related T101 Supplementary forms attached			
4. Amounts renounced:			
Under subsection 66(12.6), Canadian exploration expense as defined in;			
(a) Subparagraphs 66.1(6)(a)(i), (i.1), (ii), (ii.1), & (ii.2) (oil and gas) – Total expense incurred	(+)		
Minus applicable assistance retained or to be retained by the corporation	(–)		
Minus expense incurred but not renounced	(–)		
Amount renounced			(a)
(b) Subparagraphs 66.1(6)(a)(iii) & (iii.1) (Mining) – Total expense incurred	(+)		
Minus applicable assistance retained or to be retained by the corporation	(–)		
Minus expense incurred but not renounced	(–)		
Amount renounced			(b)
Total of (a) and (b)			
Under subsection 66(12.601), deemed Canadian exploration expense as defined in;			
(c) subparagraphs 66.2(5)(a)(i) & (i.1) (oil & gas) – Total expense to be incurred	(+)		
Minus applicable assistance to be retained by the corporation	(–)		
Minus expense to be incurred but not renounced	(–)		
Amount to be renounced			(c) ▶
Under subsection 66(12.62), Canadian development expenses as defined in;			
(d) Subparagraphs 66.2(5)(a)(i) & (i.1) (oil and gas) – Total expense incurred	(+)		
Minus applicable assistance retained or to be retained by the corporation	(–)		
Minus expense incurred but not renounced	(–)		
Amount renounced			(d)
(e) Subparagraphs 66.2(5)(a)(ii.1) & (iii) (Mining) – Total expense incurred	(+)		
Minus applicable assistance retained or to be retained by the corporation	(–)		
Minus expense incurred but not renounced	(–)		
Amount renounced			(e)
Total of (d) + (e)			
Under subsection 66(12.64), Canadian oil and gas property expense as defined in;			
(f) Subparagraph 66.4(5)(a)(i) – Total expense incurred	(+)		
Minus applicable assistance retained or to be retained by the corporation	(–)		
Minus expense incurred but not renounced	(–)		
Amount renounced			(f) ▶
Total			
5. (a) Amount of assistance related to expense in 4 above flowed out or to be flowed out to investors			
(b) Amount of assistance related to expenses previously renounced (at which time the applicable assistance was undetermined) flowed out or to be flowed out to investors			
6. (a) Amount included in 4(a) and 4(b) above under subsection 66(12.66) for expense incurred within the first 60 days of the following year			
(b) Amount included in 4(c) above under subsection 66(12.66) for expense incurred within the first 60 days of the following year			
7. Cumulative amounts renounced to date (including above amounts):			
Canadian exploration expense under subsection 66(12.6)			
Deemed Canadian exploration expense under subsection 66(12.601)			
Canadian development expense under subsection 66(12.62)			
Canadian oil and gas property expense under subsection 66(12.64)			
8. Description of location where exploration or development carried out or of Canadian oil and gas property (including province, territory or area, municipality and name of property, if any):			

Revenue Canada / Revenu Canada
 Customs, Excise and Taxation / Accise, Douanes et Impôt

SUMMARY OF RENOUNCED RESOURCE EXPENSE AND ASSISTANCE ATTRIBUTABLE TO MEMBERS OF A PARTNERSHIP

For departmental use only

- This form has to be completed by a partnership that attributed assistance or that incurred Canadian resource expenses because of a renunciation of an amount under subsections 66(12.6), (12.601), (12.62), or (12.64) of the *Income Tax Act*.
- Send one completed copy of this form, copy 1 of form T102 Supplementary and copy 2 of related Form(s) T 101 Supplementary statement to Revenue Canada Customs, Excise and Taxation, Employer Services Division, 875 Heron Road, Ottawa, Ontario, K1A 1A2. File these documents on or before the last day of the third month after the end of the fiscal period in which the partnership incurred the expenses because of the renunciation. If a partnership, whose fiscal period ends December 31, receives or is entitled to receive assistance as an agent for its members, it must file the T102 forms on or before March 31 after its year end. Partnership having a year end other than December 31 should refer to subsection 66(12.691) for filing instructions.
- If you cannot file this form by the due date, we will consider it as filed on time when the penalty is paid, as set out in subsections 66(12.74) and (12.75). The penalty amount is .0025% of the amount to be renounced by the partnership, with a minimum penalty of \$100 and a maximum penalty of \$15,000.
- Enter on all the T102 Supplementary forms, the lowest identification number indicated on the T101 Supplementary form(s) filed with this return.
- If a partnership does not file the T102 forms for the share of expenses attributed to each member of the partnership, the partnership will be deemed not to have incurred the expense. As well, if a partnership receives or is entitled to receive assistance as an agent for its members, and does not file the T102 forms, the expense relating to the assistance will be deemed not to have been incurred by the partnership under subsection 66(12.69) and paragraph (12.691)(c).

Partnership's name (please print)		Fiscal period ending <div style="text-align: center; font-weight: bold;">19</div>
Address		Mailing address (if different)
Person to contact for more information		Telephone number
Total number of T102 Supplementary forms filed with this return ▶	Total number of partnership units outstanding ▶	Identification number entered on T102 Supplementary forms ▶

Amounts renounced or attributed to partnership according to T101 Supplementary forms filed with this return (attach schedule if there is not enough space):

Effective date of renunciation Day Month Year			Identification number	Expenses incurred because of renunciation				Assistance attributed to partner	Net partnership loss
				Canadian exploration expenses	Deemed Canadian exploration expenses	Canadian development expenses	Canadian oil and gas property expenses		
Total (This amount must agree with total of respective amounts reported on T102 Supplementary forms filed.)									
Amount per partnership unit									


Certification

I, _____ (please print) _____ certify that the information given on this return (form T102 Summary and T102 Supplementary forms) is true, correct and complete.

_____ Date _____ Signature of authorized partner _____

(Français au verso)


FLOW-THROUGH SHARES: AN EVALUATION REPORT

 Revenue Canada Customs, Excise and Taxation		Revenu Canada Accise, Douanes et Impôt		T101 Supplementary – Supplémentaire Rev.93	
RENOUNCED RESOURCE EXPENSE/ASSISTANCE STATEMENT RELEVÉ - RENONCIATION AUX FRAIS RELATIFS À DES RESSOURCES ET ATTRIBUTION D'AIDE FINANCIÈRE					
(10) Canadian exploration expense Frais d'exploration au Canada		(11) Deemed Canadian exploration expense Frais d'exploration réputés au Canada		(12) Canadian development expense Frais d'aménagement au Canada	
(13) Canadian oil and gas property expense Frais pour biens canadiens relatifs au pétrole et au gaz		(14) Assistance paid or due to investor Aide financière attribuée à l'investisseur		(15) Date investor is entitled to assistance Date d'admissibilité de l'investisseur à l'aide financière	
Note: Amounts may be verified and adjusted as permitted by subsections 66(12.72) and (12.73) of the <i>Income Tax Act</i> .		Remarque: Les montants peuvent être vérifiés et rajustés conformément aux paragraphes 66(12.72) et (12.73) de la <i>Loi de l'impôt sur le revenu</i> .			
Investor's social insurance or corporation number N° d'assurance sociale ou n° de corporation de l'investisseur					
Person to whom expense/assistance renounced/attributed (name and full address) Personne pour qui on a renoncé aux frais ou à qui l'aide financière a été attribuée (nom et adresse au complet)					
Name and address of renouncing corporation Nom et adresse de la corporation renonçant aux montants					

Privacy Act / Personnal Information Bank Number
 N° de la banque des données de la loi sur la protection des renseignements personnels
 RCT/P-PU-005

For instructions, see reverse
 Voir les instructions au verso

For taxation office
 Pour le bureau d'impôt

 Revenue Canada Customs, Excise and Taxation		Revenu Canada Accise, Douanes et Impôt		T102 Supplementary – Supplémentaire Rev. 93	
STATEMENT OF RENOUNCED RESOURCE EXPENSE/ASSISTANCE ATTRIBUTABLE TO MEMBERS OF A PARTNERSHIP RELEVÉ - RENONCIATION AUX FRAIS RELATIFS À DES RESSOURCES EN FAVEUR DES MEMBRES D'UNE SOCIÉTÉ DE PERSONNES ET ATTRIBUTION D'AIDE FINANCIÈRE					
(10) Canadian exploration expense Frais d'exploration au Canada		(11) Deemed Canadian exploration expense Frais d'exploration réputés au Canada		(12) Canadian development expense Frais d'aménagement au Canada	
(13) Canadian oil and gas property expense Frais pour biens canadiens relatifs au pétrole et au gaz		(14) Amount Montant		Assistance attributed to partner Aide financière attribuée à l'associé	
(15) Net partnership loss Perte nette de la société de personnes		Partnership fiscal period ending Fin de l'exercice financier de la société de personnes			
Note: Amounts may be verified and adjusted as permitted by subsections 66(12.72) and (12.73) of the <i>Income Tax Act</i> . Remarque: Les montants peuvent être vérifiés et rajustés conformément aux paragraphes 66(12.72) et (12.73) de la <i>Loi de l'impôt sur le revenu</i> .		Name and address of partnership – Nom et adresse de la société de personnes			
Partner's social insurance or corporation number N° d'assurance sociale ou n° de corporation de l'associé		Number of partnership units owned Nombre d'unités détenues de la société		Member of partnership to whom expenses/assistance attributed (surname first and full address) Membre de la société de personnes pour qui on a renoncé aux dépenses ou à qui le montant d'aide a été attribué (Nom et adresse au complet)	

For instructions, see reverse
 Voir les instructions au verso

For taxation office
 Pour le bureau d'impôt

Appendix II

ADMINISTRATIVE ASPECTS OF FLOW-THROUGH SHARES

This appendix describes the special procedures and structures established by Revenue Canada to administer flow-through shares, outlines various policy-related issues that were identified through that administration, and provides certain data in respect of the costs of administering flow-through shares and the revenues recovered through audit and reassessment.

Section A provides information on the origins of Revenue Canada's filing and audit functions for flow-through shares. Sections B, C and D deal with the filing, audit and reassessment functions, respectively. Section E presents data on costs of administering flow-through shares, filing penalties, excessive renunciations by issuing corporations, reassessment revenues from flow-through share investors, and tax recovery per audit hour.

A. Origins of the Filing and Audit Functions

Prior to March 1986, there were no special procedures or structures for administering income tax provisions in respect of flow-through shares. There were no specific reporting requirements and any verification of flow-through share expenditures was conducted by Revenue Canada as part of its regular auditing of corporate income tax returns.

The federal budget of February 26, 1986, set forth a fundamental change in the income tax treatment of the expenses-for-shares transaction. New provisions allowed a mining or petroleum corporation to incur CEE, CDE or COGPE and then renounce these expenses to flow-through share investors. No longer was the flow-through share investor required to incur eligible resource expenses personally and, consequently, to assume the risk of personal liability associated with the resource undertaking. The new provisions became effective for all flow-through share agreements entered into after 1986, and were optional at the discretion of the issuing corporation for flow-through share agreements entered into between March and December 1986.

Specific administrative procedures and structures in respect of flow-through shares accompanied this important conceptual change in the operation of the flow-through share mechanism. The requirements for reporting in prescribed form, the establishment of a central filing function, and the inclusion of certain investigative and punitive provisions were designed to document and monitor the use of flow-through shares from initial intention and subscription, through

renunciation and allocation, to any subsequent verification and audit. Responsibility for all administrative aspects of the revamped flow-through share mechanism was centralized in a new head office function located within the Tax Incentives Audit Section of Revenue Canada. Duties of the new head office function included facilitating an orderly flow of information, identifying problem areas, instituting policies and audit procedures, and coordinating audits and reassessments.

B. Filing Function

All prescribed forms that are filed in respect of flow-through shares are directed to a central filing function at the Ottawa Taxation Centre. Upon receipt, the forms are reviewed by taxation clerks to ensure completeness and accuracy. Separate guidelines, established by the Tax Incentives Audit Section, for each of the three prescribed filings highlight matters of particular importance.

T100 Filing

As concerns the T100 filing, clerks at the Ottawa Taxation Centre are responsible for ensuring that:

- the issuing corporation has filed the T100 Information Return and either the selling instrument or the flow-through share agreement within the time period allowed by income tax legislation. If not, the clerk assesses the late-filing penalty and, where the filing is more than 90 days late, forwards the prescribed forms to head office for Ministerial approval;
- the information reported on the T100 Information Return is consistent with the flow-through share agreement or selling instrument;
- the flow-through share agreement is in writing, signed and dated by all parties to the agreement;
- the issuing corporation has agreed to incur eligible expenses within the allowed 24-month period from the date the flow-through share agreement was entered into, in an amount not less than the consideration received for the shares;
- the issuing corporation has agreed to renounce eligible expenses within the allowed 25-month period from the date the flow-through share agreement was entered into, in an amount not exceeding the consideration received for the shares;
- the price for which the flow-through shares are to be issued is either explicitly stated in the flow-through share agreement or otherwise determinable by way of formula within 60 days from the date of the agreement; and

- the flow-through share agreement does not violate any other prescribed share rules.

T101 Filing

As concerns the T101 filing, clerks at the Ottawa Taxation Centre are responsible for ensuring that:

- the issuing corporation has filed the T101 Summary and Supplementaries within the time period allowed by income tax legislation. If not, the clerk assesses the late-filing penalty and, where the filing is more than 90 days late, forwards the prescribed forms to head office for Ministerial approval;
- the T101 Supplementary contains the effective date of renunciation, the identification number assigned to the T100 Information Return and the investor's social insurance number or corporate identification number, as applicable; and
- the Renunciation and Certification box on the T101 Summary is properly dated and signed.

T102 Filing

As concerns the T102 filing, clerks at the Ottawa Taxation Centre are responsible for ensuring that:

- the partnership has filed the T102 Summary and Supplementaries, and T101 Supplementaries within the time period allowed by income tax legislation. If not, the clerk assesses the late-filing penalty and, where the filing is more than 90 days late, forwards the prescribed forms to head office for Ministerial approval;
- the Certification Box on the T102 Summary is properly dated and signed;
- Copy 2 of all related T101 Supplementaries is included; and
- the T102 Supplementary contains the partnership's fiscal period and identification number, and the partner's social insurance number or corporate identification number as applicable.

Flow-Through Share Data Bases

Information from the T100, T101 and T102 filings is entered into separate data bases for administrative purposes and for the purpose of monitoring trends in levels and types of flow-through share financing. The data bases can also be linked with other data bases maintained by Revenue Canada to examine, for example, tax and financial characteristics of issuing corporations.

C. Audit Function

Revenue Canada's audit function involves the official examination of the accounts of issuing corporations or partnership intermediaries to ascertain and verify both the classification and amount of eligible expenses and, thereby, to ensure the proper application of the flow-through share mechanism. To the extent that the audit function uncovers issues that are both contentious and persistent, guidelines are established to apply the flow-through share legislation fairly and consistently among taxpayers. Where an audit results in the disallowance of certain expenses, the audit function involves the further step of facilitating an adjustment under which the issuing corporation effectively chooses which of its investors will be reassessed and by how much.

The Tax Incentives Audit Section

The head office function for flow-through shares contained within the Tax Incentives Audit Section was responsible for training field auditors in district offices to conduct the actual audits and for reviewing the completed audit files to identify and monitor problem areas. This group established policies concerning the treatment of contentious issues and set out guidelines to ensure a consistent application among taxpayers.

The process of establishing policies and guidelines involved substantial liaison with the federal departments of Finance, Justice and Natural Resources. The Department of Finance was consulted to provide policy direction in considering the reasonableness of audit policies in light of existing legislation and implications for future legislative challenge and reform. The Department of Justice considered the potential for prosecution in cases where there was concern over possible fraudulent intent. The Department of Natural Resources provided technical expertise essential to the determination and classification of certain expenditures incurred by mining and petroleum companies.

Under the direction of the Tax Incentives Audit Section, audits of issuing corporations were undertaken for each of the 1986, 1987 and 1988 taxation years. No new audits relating to flow-through shares were undertaken for subsequent taxation years. Instead, all available resources were devoted to the completion and further selection of those audit files that provided the greatest potential for tax recovery through reassessment. (The reassessment function is discussed below). The centralized audit function for flow-through shares was terminated on April 1, 1992.

Audit Issues

Income tax changes, market conditions for mining and active promotion efforts from the investment community combined to provide an attractive environment for flow-through share financing and mining exploration activities following the February 1986 federal budget. Given these circumstances, the head office audit function became particularly concerned with ensuring a proper utilization of the flow-through share mechanism and soon identified a number of specific areas of concern. These can be labelled as follows:

- grass roots mining expenses versus pre-production development expenses;
- capital expenditures;
- Canadian exploration and development overhead expense;
- assistance;
- expenses incurred outside the statutory time period;
- oil and gas drilling costs; and
- other items including the issuance of prescribed shares, duplication of expenses and inappropriate expenses.

Grass-Roots Mining versus Pre-Production Development Expenses

Mining development expenses incurred prior to the commencement of commercial production are included in CEE along with grass-roots mining expenses. Distinguishing between the two was of critical importance since only the latter qualified for the mining exploration depletion allowance. However, the distinction between grass-roots mining expenses and pre-production development expenses is not subject to absolute demarcation. The definition of CEE does not contain a primary purpose test stipulating that an expense must be incurred solely, principally or substantially for the purposes of the particular subparagraphs. Furthermore, the definition of grass-roots mining expenses neither specifically excludes pre-production development expenses nor requires a dual purpose expense to be allocated between the two types of expenses. In fact, substantial amounts of pre-production development expenses can be considered dual purpose expenses insofar as there exists a secondary purpose with respect to grass-roots exploration.

Except where expenses were incurred all or substantially all for the purposes of mine development, Revenue Canada allowed the taxpayer the discretion to claim expenses as either grass-roots mining expenses or pre-production development expenses. Determination of whether expenses were, in fact,

incurred all or substantially all for pre-production development purposes was made by officials from the Department of Natural Resources or by outside consultants hired by Revenue Canada.

Capital Expenditures

The centralized audit function established policies with respect to three types of capital expenditures: depreciable property; eligible capital expenditures; and utilities service connection.

Depreciable Property

Certain issuing corporations included expenditures on depreciable properties described in Schedule II of the Income Tax Regulations in their CEE pools for renunciation to flow-through share investors. These corporations argued that the wording "any expense" in the definition of CEE was broad enough to include the amounts so claimed.

Revenue Canada took the position that the costs of depreciable properties could not be included as CEE, but rather were claimable by issuing corporations at the appropriate rate established for purposes of the capital cost allowance. This position was based on the view that the *Income Tax Act* is clear in allowing costs of depreciable property to be claimed only as capital cost allowance. The exception to this general rule was where depreciable property was exhausted in exploration activity in which case it could be renounced as CEE.

Eligible Capital Expenditures

Eligible capital expenditures, or "capital nothings", consist of expenditures made on account of goodwill and other capital items which do not come within one of the capital cost allowance schedules¹. For example, in the mining industry, costs incurred by a principal-business corporation to build a permanent access road on property owned by another person would generally qualify as an eligible capital expenditure. Issuing corporations argued that the wording "any expense" in subsection the definition of CEE together with the lack of a primary purpose test allowed an eligible capital expenditure to be classified as CEE.

¹ "Capital nothings" are defined in paragraph 14(5)(b) of the Act and are deductible under paragraph 20(1)(b).

Revenue Canada accepted the position of the issuing corporations in this case. In contrast to the provisions regarding depreciable property, the *Income Tax Act* does not provide for a singular treatment of eligible capital expenditures incurred in the petroleum and mining industries. Therefore, eligible capital expenditures meeting one of the purpose tests as grass-roots mining expenses or pre-production development expenses can be classified as CEE and renounced to flow-through share investors.

Utilities Service Connection

Income tax legislation allows a deduction for amounts paid for utilities service connection to a place of business². Once again, issuing corporations argued that the wording "any expense" in the definition of CEE and the lack of a primary purpose test allowed the utilities service connection to be classified as CEE.

Revenue Canada accepted the position of the issuing corporations, again noting that, unlike the provisions with respect to depreciable property, the *Income Tax Act* does not provide for a singular treatment of this type of expense. Therefore, expenses in respect of utilities service connection that meet one of the purpose tests as grass-roots mining expenses or pre-production development expenses can be classified as CEE and renounced to flow-through share investors.

Canadian Exploration and Development Overhead Expense

The income tax treatment afforded CEDOE represents an attempt to ensure that CEE and CDE are restricted to resource-related activities and are not subject to overstatement on account of overhead expenses. CEDOE can be incurred by an issuing corporation and deducted in computing its income or loss, but cannot be renounced to investors as CEE or CDE. Revenue Canada established a number of policies in considering CEDOE and the flow-through share mechanism.

First, no amount of CEE or CDE incurred in respect of administration, management or financing can be renounced to flow-through share investors.

² Specifically, in paragraph 20(1)(ee).

Second, CEE or CDE incurred in respect of salaries, wages or remuneration must be classified as CEDOE and are not eligible for renunciation where the duties of the relevant persons are not all or substantially all directed toward exploration or development. Junior companies argued that this rule unduly penalized those companies where a small number of persons performed a variety of tasks without spending all or substantially all of their time on exploration and development activity. Revenue Canada responded by modifying its policy to mitigate undesirable effects in these circumstances. In particular, the "all or substantially all" rule would continue to apply to all management personnel above the immediate supervision of operating personnel. An exception would be made in the case of junior companies without distinct levels of supervision, where the executive officers were at least partly engaged in personally conducting the exploration activity or supervising operating personnel who conducted the exploration activity. The duties of the executive officers would be examined, and an appropriate share of salaries, wages or remuneration classified as CEE or CDE. This policy is designed to prevent undue hardship where the junior company has insufficient personnel to designate any one salary as being strictly in respect of exploration or development.

Third, amounts in respect of leased or rented property were also subject to the "all or substantially all" rule. Once again, however, issuing corporations argued that this policy was too restrictive. For example, where the exploration department occupies a portion of a leased building with other departments under a common lease, regulations require that the portion of the rent attributable to the exploration department be treated as CEDOE. However, issuing corporations are able to avoid classification of these expenses as CEDOE simply by signing a separate lease for the space occupied by the exploration department. Similarly, if leased equipment is used partly for production purposes and partly for exploration activity, the lease can be split to reflect the relative time allotments and allow for deductibility as CEE. In response to these concerns, Revenue Canada adopted a policy which allows rental and lease payments to be allocated based on percentage and usage, without the need to execute alternate agreements.

Fourth, that portion of CEE associated with administrative expenses and the profit margin of any person "connected" to the issuing corporation must be classified as CEDOE and would not be eligible for renunciation by the issuing corporation. In essence, two corporations are connected for purposes of the *Income Tax Act* if they do not deal with each other at arm's length or one of the

corporations owns a significant equity interest in the other³. The general intent of the connected provisions is to prevent an issuing corporation from effectively circumventing the CEDOE rules and inflating the amount of CEE or CDE for renunciation, by channelling exploration and development activities through a connected person. In the absence of the connected provisions, for example, an issuing corporation could utilize a connected corporation to conduct exploration activity on its behalf and pay the connected corporation for services rendered in an amount sufficient to cover direct expenses, administrative expenses plus a profit margin, all on account of CEE eligible for renunciation to flow-through share investors. On the other hand, if the issuing corporation had incurred the expenses itself, only the direct expenses would qualify as CEE eligible for renunciation⁴.

Assistance

Expenses renounced under a flow-through share agreement may attract some form of financial assistance. Income tax provisions stipulate that renounced expenses must be net of any such assistance received or receivable by the issuing corporation. Financial assistance includes any amount received or receivable from any person, government, municipality or public authority by way of grant, subsidy, rebate or other form of assistance or benefit. Hence it is

³ More specifically, a principal-business corporation and a person are connected for the purposes of CEDOE, if they are not dealing with each other at arm's length (as defined in Section 251 of the Act), or the person has an equity percentage (as defined in paragraph 95(4)(b) of the Act) of not less than 10 per cent in the particular corporation, or the person has an equity percentage of not less than 10 per cent in another corporation which other corporation has an equity percentage of not less than 10 per cent in the particular corporation. Moreover, the principal-business corporation will be connected to another corporation where any person has an equity percentage of not less than 10 per cent in each of the corporations. Any determination as to arm's length or equity percentage is made with respect to the facts and share distribution in effect at the time the expense is incurred by the corporation that may be connected.

⁴ This issue may be clarified by a specific example. Assume that Corporation 1 and Corporation 2 are engaged in a 60-40 joint venture. Corporation 1 is the operator of the joint venture and charges Corporation 2 a 10 per cent fee for services rendered. Where Corporation 1 incurs \$500,000 of CEE on behalf of the joint venture, the resulting operator's fee charged to Corporation 2 is \$20,000 ($\$500,000 \times .40 \times .10$). Hence, Corporation 1 incurs CEE in the amount of \$300,000 and Corporation 2 incurs CEE in the amount of \$220,000. Where the two corporations are not connected, the operator's fee remains classified as CEE so long as the fee does not relate to the performance of executive and administrative functions above the operating level of the exploration activity. Where the two corporations are connected, the operator's fee is considered CEDOE regardless of whether it represents management and administration costs or profit margin.

imperative that the auditor ensure compliance by cross-referencing assistance and renunciations to prevent any excess deductions in the hands of the flow-through share investor.

Expenses Incurred Outside the Allotted Time Period

A flow-through share agreement can stipulate any period within which expenses may be incurred and renounced to a maximum of 24 and 25 months, respectively, from the date the agreement is entered into. The general intent of the time limit is to preserve the concept of flow-through shares as stimulating new exploration activity, and to prevent renunciation of expenses incurred by the issuing corporation prior to the date of the agreement.

However, this restriction can cause some difficulty where the flow-through share agreement is contingent on some event. For example, a properly signed and dated agreement entered into on June 1, 1988, contingent on regulatory approval, which approval was received on October 1, 1988, would be effective as of that latter date. Consequently, October 1 would be the date qualifying expenses could first be incurred for the purposes of renunciation. For administrative purposes, however, Revenue Canada would recognize the practical realities of the agreement and would allow the parties to use the earlier date of June 1, 1988, for the purpose of incurring qualifying expenses, providing the T100 filing was made in accordance with the earlier date.

Similarly, where the original agreement stipulates a time period of less than 24 months for incurring qualifying expenses, and the parties indicate that more time will be required, Revenue Canada allows the parties to extend the time period only, to the maximum 24 months from the original date of agreement. Beyond these limited adjustments, Revenue Canada adheres strictly to the legislated time periods and maintains the disallowance of expenses incurred outside the prescribed period.

Oil and Gas Drilling Costs

The manner in which expenses incurred in drilling an oil or gas well are classified as CEE can give rise to uncertainty for flow-through share investors in certain situations. For example, qualifying exploration drilling costs incurred in a taxation year which do not satisfy the conditions of a discovery well or a dry hole by the sixth month of the subsequent taxation year are initially classified as CDE. Similarly, qualifying costs incurred in a taxation year that do not satisfy the condition of a shut-in well by the end of that year are also initially classified as CDE. If the conditions for a discovery well, dry hole or shut-in well are subsequently satisfied, then the costs are deemed to be CEE at that time.

Certain issuing corporations attempted to renounce exploration drilling expenses to flow-through share investors as CEE before the status of the well had been unequivocally determined. Revenue Canada rejected this practice and adopted a policy requiring issuing corporations to report the expenses associated with an "undefined" or "standing" well as CDE, not CEE.

Other items

Other instances of an inappropriate utilization of the flow-through share mechanism also occurred. The following three issues were also identified through the audit process: issuance of prescribed shares; duplication of expenses; and inappropriate expenditures. While they occurred on a less regular basis than the issues discussed above, the financial impact of these three issues was far from insignificant (see Section E).

Prescribed Shares

As mentioned above, Revenue Canada examines flow-through share agreements in light of the prescribed share rules. The general intent of these rules is to allow a renunciation of expenses where the investor acquires a bona fide equity interest (i.e. one whose value is determined by market forces), but to deny flow-through treatment where the shares are used as a means of obtaining a predetermined after-tax return over a relatively short period of time.

The prescribed share rules prevent issuing corporations from providing any assistance, loan payment, or other benefit, including the payment of a dividend, that might reasonably be considered to constitute, directly or indirectly, a repayment or return by the issuing corporation of all or part of the consideration for which the share was issued. The actual determination as to prescribed share status must be made in accordance with the specific wording of the applicable regulation and often turns on technical legal arguments. Where the flow-through share is held to be a prescribed share, the investor is denied the renunciation of expenses.

Duplication of Expenses

Duplication of expenses is not unique to the flow-through share mechanism. Rather, it is a common oversight in the preparation of financial and taxation statements that is considered in all audit proceedings.

Inappropriate Expenditures

The consideration of inappropriate expenditures encompasses all expenses that fail to qualify as CEE, CDE or COGPE under the applicable income tax provisions. The most common types of inappropriate expenditures revealed

through audits of flow-through share activities involved operating expenses, the resale of seismic data, and certain processing and salvaging operations, none of which qualify as expenses eligible for renunciation.

D. Reassessment Function

Legislative Basis for Reassessment

Where the aggregate of all amounts that an issuing corporation renounces to flow-through share investors exceeds the total amount of expenses available for renunciation as determined by the audit function, income tax legislation requires the issuing corporation to reduce the amount renounced to one or more persons to effect a reduction in the aggregate renunciation equal to the amount of the excess. Where the issuing corporation fails to make such an adjustment within 30 days after receiving notice in writing from the Minister of National Revenue, the Minister can make the required reduction unilaterally.

It is important to note that these provisions neither cause a reassessment of the issuing corporation that renounces the expenses nor subject the issuing corporation to any penalty in respect of an excessive renunciation. Rather, the issuing corporation is responsible only for adjusting the amount renounced. Following adjustment, it is the flow-through share investor who is liable for reassessment.

Reassessment Issues

Revenue Canada follows a general policy of reassessing each taxpayer and tax return only once. With respect to the flow-through share mechanism, implementing this policy can be particularly difficult. The degree of interconnectedness among investors, issuing corporations and partnership intermediaries, and the permissive nature of the provisions requiring excess renunciations to be adjusted among one or more persons, present a complex operating environment for the reassessment function.

To appreciate how interconnectedness among investors, issuing corporations and partnership intermediaries can make reassessment difficult, consider the case where an issuing corporation signs a flow-through agreement to incur and renounce \$1 million of CEE to a partnership comprised of 10,000 partners owning equal equity interests and the entire renunciation is later disallowed. The resulting income adjustment would be \$100 for each of the 10,000 individual investors. Thus, the audit and adjustment process for just one issuing corporation has the potential to cause reassessment for hundreds or even thousands of taxpayers. If the partnership has agreements with more than one issuing corporation, then partners may be subject to further reassessment with respect to each flow-through share agreement entered into

between the partnership and the various issuing corporations. Yet another layer of complexity is added where the partners have more than one flow-through share investment, whether through other partnership structures or through the acquisition of flow-through shares directly from issuing corporations.

An important consequence of the permissive nature of the requirement for adjusting excessive renunciations is that it is not always possible to determine before the fact where an issuing corporation will choose to allocate the adjustment. This arises because issuing corporations are subject to adjustment on the basis of their aggregate renunciations to all persons and are allowed to allocate the adjusted amount to any one or more of those persons as they choose. The ability to allocate permissively creates significant uncertainty as to the potential reassessment revenues at the investor level and further complicates the deployment of audit resources on the part of Revenue Canada.

Consider the case where an issuing corporation renounces \$1 million to each of three partnerships for an aggregate renunciation of \$3 million, and \$1 million is later disallowed following audit. Income tax provisions allow the issuing corporation to allocate the \$1 million adjustment at its discretion among the three partnerships. Thus, the entire amount could be allocated to any one of the partnerships or it could be allocated among two or three of the partnerships. Moreover, where each of the partnerships has a different number of partners, among whom the allocation will be distributed on a pro-rata basis, the possible impact in terms of the reassessment of investors is even more uncertain.

The issuing corporation has a vested interest in minimizing the potential for investors to be reassessed for two reasons. First, issuing corporations often undertake an agreement to compensate a partnership for any disallowed expenses. Second, issuing corporations would seek to preserve the renunciation of expenses to investors to avoid disgruntling investors and to maintain the company's ability to attract funding in subsequent years.

Clearly, the reassessment function presents an unique set of operating constraints. The complex network of investment structures and the allocation of adjusted amounts combine to form an environment that requires careful selection of reassessment criteria and skilled deployment and coordination of audit resources.

Reassessment Criteria

The magnitude of investor participation in flow-through share financing in the mid to late 1980s effectively precluded a comprehensive audit and reassessment process. Instead, the Tax Incentives Audit Section developed

audit selection procedures and reassessment criteria to operate within the complex investment framework in a cost-effective manner and to respect departmental policy that investors be reassessed only once.

The Tax Incentives Audit Section stipulated that district offices undertake the initial selection of files for audit based on a certain percentage coverage for different ranges of mining and petroleum expenditures. The results of these initial audits were then compiled by the Tax Incentives Audit Section for the purpose of screening the audited files and coordinating the reassessment of investors by the district offices and taxation centres.

The concept of screening audit files represented a shift in focus from the adjustment required at the level of the issuing corporation to the potential for reassessment at the level of the investor. This aggregation of audit results at the investor level allowed the Tax Incentives Audit Section to consider the potential for reassessment in terms of the number of investors and the dollar amount per investor. Various threshold levels could then be considered so as to balance potential proceeds and estimated costs of reassessments. Furthermore, additional strategic files could also be selected for audit to optimize reassessment revenues.

An example is presented in Table A2.1 to illustrate the administrative complexity of the reassessment process and the logistics of the reassessment function. In this example, it is assumed that Revenue Canada establishes a reassessment threshold of \$1000 as being the minimum amount necessary for any reassessment to be cost effective.

Table A2.1
Reassessment example

Issuing corporation	Amount renounced	Partnership	Number of partners	Allocation adjustment		Reassessment per investor	
				Pro-rata basis	Alternate scenario	Pro-rata basis	Alternate scenario
	\$			\$	\$	\$	\$
1	1,000,000	X	10,000	300,000	1,000,000	30	100
1	3,000,000	Y	1,000	900,000	200,000	900	200
2	1,000,000	Y	1,000	500,000	500,000	500	500
2	100,000	Z	50	50,000	50,000	1,000	1,000

Assume that Company 1 has total renunciations of \$4 million; \$1 million renounced to Partnership X and \$3 million to Partnership Y. Of the total amount renounced, \$1.2 million is disallowed. Assume that Company 2 has

total renunciations of \$1.1 million; \$1 million renounced to Partnership Y and \$100,000 renounced to Partnership Z. Of the total amount renounced, \$550,000 is disallowed. Each issuing corporation is able to allocate the disallowed amount at its own discretion. *A priori*, Revenue Canada can make a "best guess" only that each corporation will allocate the disallowed amount on the same basis as total renunciations. In other words, Revenue Canada can only speculate that Company 1 will allocate one-quarter of the disallowed amount to Partnership X and three-quarters to Partnership Y, and that Company 2 will allocate ten-elevenths of the disallowed amount to Partnership Y and one-eleventh to Partnership Z. Based on this assumed allocation and the number of investors in each partnership, Revenue Canada would choose to reassess investors in Partnerships Y and Z since adjustments at the investor level of \$1000 and \$1400, respectively, meet the departmental threshold requirement. The total reassessment amounts to \$1.45 million. Revenue Canada would also audit additional issuing corporations involved with Partnerships Y and Z.

At the same time, Revenue Canada could not proceed solely on the basis of the assumed allocation and close all audit files relating to Partnership X. Closing all those files pertaining to Partnership X would send a clear signal as to which partnerships were to be audited and which investors were to be reassessed. If Company 1 became aware of this reassessment procedure it might choose to allocate the maximum amount possible to Partnership X in order to minimize reassessment at the investor level. In fact, if Company 1 were to allocate \$1 million to Partnership X, there would be a significant negative impact on potential reassessment revenues. The reassessment per investor would now be \$100 for Partnership X, \$700 for Partnership Y and \$1000 for Partnership Z. Based on the \$1000 threshold requirement, only investors in Partnership Z would be reassessed, representing a total reassessment of just \$50,000. Therefore, it would be essential for Revenue Canada to continue to audit issuing corporations dealing with Partnership X in order to prevent a potentially significant loss of reassessment revenue.

Thus, establishing reassessment criteria and implementing them through the audit of specific issuing corporations presents a formidable task. The network of investment structures would seem to require a comprehensive audit process, yet the magnitude of the flow-through share mechanism effectively precludes any such blanket audit procedure. Moreover, where the files selected for audit indicate the need for an adjustment of amounts renounced, the discretion afforded issuing corporations to allocate adjusted amounts among one or more persons imparts significant uncertainty with respect to the potential for effective reassessment and tax recovery at the investor level.

E. Statistics on Flow-Through Share Administration

Costs of administering flow-through shares by the Department of National Revenue are included in Table A2.2. These costs totalled \$10.2 million over the five-year period from April 1, 1987, to March 31, 1992. Of this total, 76 per cent of the costs were in respect of the audit function of the district offices; 16 per cent in respect of the work of the Tax Incentives Audit Section; 7 per cent in respect of the filing function; and 1 per cent in respect of the reassessment function. With respect to the latter, the reassessment of flow-through share returns for the period 1986-88 was coordinated entirely within the 1991-92 fiscal year.

Table A2.3 provides information on numbers and amounts of filing penalties levied on issuing corporations and partnerships by fiscal year from 1987-88 to 1991-92, and distinguishes between filing penalties of less and more than 90 days. Three points are of particular note. First, filing penalties accounted for over \$350,000 in revenues. Second, penalties relating to T100 filings were the most prevalent and accounted for the vast majority of these revenues (i.e. over 80 per cent). Third, filing penalties decreased significantly each year after fiscal year 1988-89 (the first full fiscal year following the introduction of mandatory reporting requirements in respect of flow-through shares) reflecting an increased familiarity with, and understanding of, the reporting requirements on the part of issuing companies and partnerships.

Table A2.4 reports on amounts of excessive renunciations by issuing corporations, as determined by Revenue Canada, and on amounts by which flow-through share investors were reassessed for the 1986, 1987 and 1988 calendar years. Adjustments on the part of issuing corporations totalled \$29.9 million for these three years whereas reassessments totalled \$35.3 million. The difference between these two amounts largely reflects different rates of deductibility for the disallowed expenses as well as the availability of the mining exploration depletion allowance for investors. It is noteworthy that prescribed shares, the duplication of expenses and inappropriate expenditures accounted for over 50 per cent of both excessive renunciations and reassessments.

Data by fiscal year on the number of audits conducted and the time spent on those audits are contained in Table A2.5. Over the period 1987-88 to 1991-92, over 106,000 hours were spent conducting about 2,000 audits of issuing corporations that made renunciations under flow-through share agreements.

Table A2.2
Administrative costs

	Filing function, Ottawa		Audit function, Tax Incentives Audit Section		Audit function, District Offices		Reassessment function, Taxation Centres		All functions	
	Taxation Centre									
	Person year	Dollars	Person year	Dollars	Person year	Dollars	Person year	Dollars	Person year	Dollars
1987-88	4.0	129,331	3.0	219,986	11.9	660,034	-	-	18.9	1,009,351
1988-89	4.8	164,475	5.5	390,293	52.3	3,009,604	-	-	62.6	3,564,372
1989-90	4.0	145,152	5.0	367,708	26.2	1,567,179	-	-	35.2	2,080,039
1990-91	3.5	132,849	4.0	306,083	24.0	1,478,496	-	-	31.5	1,917,428
1991-92	4.5	170,807	4.0	306,083	16.6	1,022,626	3.7	109,000	28.8	1,608,516
Total	20.8	742,614	21.5	1,590,153	131.0	7,737,939	3.7	109,000	177.0	10,179,706

Source: Department of National Revenue.

Table A2.3
Filing penalties

	T-100 filing		T-101 filing		T-102 filing		All filings	
	Number	Penalties	Number	Penalties	Number	Penalties	Number	Penalties
		\$		\$		\$		\$
Filings less than 90 days late:								
1987-88	5	494	1	750	-	-	6	1,244
1988-89	142	129,434	2	449	5	9,275	149	139,158
1989-90	81	88,646	11	18,587	-	-	92	107,233
1990-91	27	18,777	8	2,657	-	-	35	21,434
1991-92	33	6,685	2	473	-	-	35	7,158
Subtotal	288	244,036	24	22,916	5	9,275	317	276,227
Filings more than 90 days late:								
1987-88	9	2,071	1	274	1	675	11	3,020
1988-89	40	29,873	8	2,425	1	15,000	49	47,298
1989-90	22	5,054	5	1,528	3	8,300	30	14,882
1990-91	18	3,382	nil	nil	nil	nil	18	3,382
1991-92	9	7,556	nil	nil	nil	nil	9	7,556
Subtotal	98	47,936	14	4,227	5	23,975	117	76,138
All late filings	386	291,972	38	27,143	10	33,250	434	352,365

Source: Department of National Revenue.

Table A2.4
Audit adjustments

Type of adjustment	1986	1987	1988	All years
(millions of dollars)				
Excessive renunciations by issuing corporations:				
Grass-roots mining vs. pre-production development	-	851,569	1,418,645	2,270,214
Capital expenditures	-	5,728,827	146,209	5,875,036
Canadian exploration and development overhead expense	-	1,180,910	230,345	1,411,255
Assistance	-	451,585	42,979	494,564
Expenses incurred outside the allotted time period	87,255	1,131,227	1,877,187	3,095,669
Oil and gas drilling costs	27,434	383,080	690,825	1,101,339
Prescribed shares, duplicated and inappropriate expenses	9,338,793	1,823,798	4,475,075	15,637,666
Total excessive renunciations	9,453,482	11,550,996	8,881,265	29,885,743
Reassessments of flow-through share investors:				
Grass-roots mining vs. pre-production development	-	283,572	472,409	755,981
Capital expenditures	-	7,624,605	194,897	7,819,502
Canadian exploration and development overhead expense	-	1,568,176	307,050	1,875,226
Assistance	-	509,592	57,291	566,883
Expenses incurred outside the allotted time period	87,255	1,488,373	2,502,290	4,077,918
Oil and gas drilling costs	19,204	277,633	505,199	802,036
Prescribed shares, duplicated and inappropriate expenses	11,408,818	2,252,091	5,725,587	19,386,496
Total reassessments	11,515,277	14,004,042	9,764,723	35,284,042

Source: Department of National Revenue.

Table A2.5
Audit statistics

	Number	Hours
1987-88	79	2,225
1988-89	744	31,381
1989-90	492	26,628
1990-91	379	26,359
1991-92	287	19,726
Total	1,981	106,319

Source: Department of National Revenue.

As shown in Table A2.6, tax recovery per audit hour for the federal government averaged \$105 over the five-year period⁵. While revenues from the reassessment of flow-through share returns (\$35.3 million) more than covered the costs of their administration by Revenue Canada (\$10.2 million), the tax recovery per direct audit hour was well below the \$500 departmental benchmark established for all audit programs.

This relatively small tax recovery per audit hour for flow-through shares was an important determinant in the decision to discontinue the head office function effective April 1, 1992. Another crucial factor was the marked decline in renunciations that occurred following the 1987 federal tax reform. It was felt that the resources used in administering flow-through shares could be more effectively employed elsewhere in the audit directorate of Revenue Canada. Consequently, the auditing of flow-through shares was returned to the regular T2 audit program at that time. However, the central filing function remains in effect at the Ottawa Taxation Centre to provide a necessary base of information for any future audits of flow-through shares.

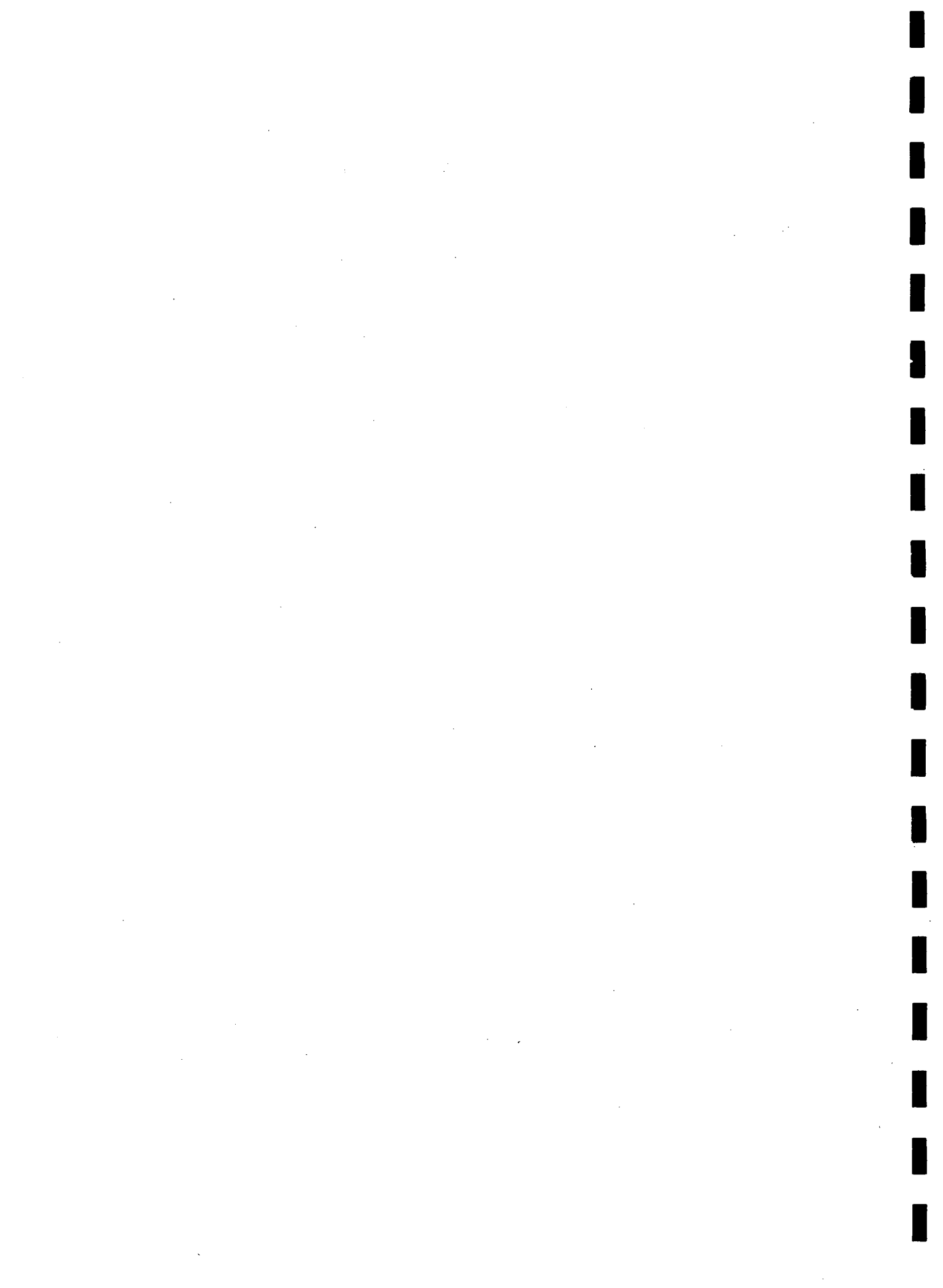
Table A2.6

Tax recovery per audit hour

Total reassessments (from Table A2.4)	\$35,284,042
Federal tax recovery ¹	\$11,185,041
Audit Hours (from Table A2.5)	106,319
Tax recovery per audit hour	\$105
Departmental benchmark	\$500

¹ Based on a 31.7 per cent average marginal income tax rate.

⁵ This calculation assumes a 31.7 per cent federal rate of income tax. This rate is an average of statutory federal income tax rates, including surtaxes, that were applicable to individuals in the highest tax brackets from 1987 to 1991 – specifically, 35 per cent for 1987; 29.9 per cent for 1988; 30.6 per cent for 1989; 31.3 per cent for 1990; and 31.9 per cent for 1991.



Appendix III

A LEGISLATIVE HISTORY OF THE FLOW-THROUGH SHARE MECHANISM

This appendix presents a legislative history of the flow-through share mechanism which reveals how it has evolved over time and has interacted with various federal and provincial fiscal measures. Section A concerns federal income tax enactments that have defined the scope and operation of the flow-through share mechanism. Section B provides an overview of two federal incentive programs directed toward exploration and development in the petroleum and mining industries that interacted significantly with the flow-through share mechanism. Section C summarizes some current provincial incentives for flow-through shares.

A. Federal Income Tax Treatment

The flow-through share mechanism is a specialized financing mechanism available to petroleum and mining companies to facilitate their exploration and development activities. This mechanism attempts to provide mutual economic benefits by effecting a transfer of tax-deductible expenses between taxpayers in exchange for valuable consideration.

Rational investors predicate their decision to invest in flow-through shares both on the underlying investment potential of the issuing corporation and on the provisions of the income tax system governing the renunciation of exploration and development expenses. Evaluation of investment potential is subject to market-based valuation and requires a thorough analysis of the longer-term prospects of the issuing corporation. The provisions of the income tax system that define the scope and operation of the flow-through share mechanism are evaluated in light of the particular circumstances of investors in the short term.

While the fundamentals of financial analysis and market-based valuation have remained relatively consistent over the years, federal income tax enactments governing the flow-through share mechanism have been subject to substantial revision and evolution. The following sections provide a detailed chronology of those legislative changes that have defined the scope and operation of the flow-through share mechanism. Table A3.1 provides a brief summary of key legislative changes that have affected this financing mechanism.

Table A3.1

*A chronology of key legislative changes
affecting flow-through shares*

Date	Description of Change
pre-1942	Exploration and development not deductible for income tax purposes.
1942	Special income tax credits provided for exploration and development.
1947	Exploration and development fully deductible by corporations and partnerships whose principal business was mining or petroleum.
1954	Expenses-for-shares transaction given express income tax recognition; restricted to Canadian exploration and development expense (CEDE) incurred by principal-business corporations (PBCs).
1972	Transaction extended to individuals and non-PBCs; deductibility restricted to 20 per cent of CEDE on a declining balance basis against any income. Proceeds of disposition treated as capital or income in accordance with the circumstances of the taxpayer. Cost base for shares acquired after 1971 reduced by the amount of CEDE renounced.
1974	CEDE split into Canadian exploration expense (CEE) and Canadian development expense (CDE). CEE fully deductible by PBCs. CEE for other taxpayers and CDE for all taxpayers deductible at 30 per cent on a declining balance basis against any income.
1976	CEE fully deductible by all taxpayers. Shares acquired after July 31, 1976, deemed to be taxpayer inventory acquired at a cost of nil; proceeds of disposition fully taxable as ordinary income.
1979	Canadian oil and gas property expense (COGPE) separated from CDE. COGPE deductible at 10 per cent on a declining balance basis against any income.
1981	1972 treatment restored for proceeds of disposition relating to shares acquired after November 12, 1981, but cost base deemed to be nil.
1983	Shares subject to prescribed share regulations designed to preserve the concept of equity investments free from ancillary entitlements to benefit. Deductibility of mining exploration depletion allowance extended to 25 per cent of any income.
1985	Cumulative tax exemption for capital gains introduced.
1986	Expenses renounced by PBCs deemed to be incurred by shareholders. The term "flow-through share" first appears in income tax legislation.
1987	Tax reform measures adversely affect the attractiveness of flow-through shares, i.e. personal tax rates are lowered, the cumulative capital gains exemption is reduced and the inclusion rate increased, the mining exploration depletion allowance is phased out, cumulative net investment loss and at-risk rules are introduced, and the prescribed shares rules are expanded.

Exploration and Development Spending

Pre-1942

By definition, the flow-through share mechanism requires the transfer of tax-deductible expenses. Prior to 1942 there were no specific legislative enactments governing the deductibility of exploration and development expenditures. The deductibility of these expenditures was instead determined under Section 6 of the *Income War Tax Act, R.S.C. 1927*. Section 6 was of general application in computing the profit or loss from a business:

6. In computing the amount of the profits or gains to be assessed, a deduction shall not be allowed in respect of
 - a) disbursements or expenses not wholly, exclusively and necessarily laid out or expended for the purpose of earning the income;
 - b) any outlay, loss or replacement of capital or any payment on account of capital or any depreciation, depletion or obsolescence, except as otherwise provided in this Act.

The leading case on the classification of exploration and development expenditures under this section is *Siscoe Gold Mines versus Minister of National Revenue*, (1945) 2 DTC 749, where the Court held that the cost of an option and the expenses of exploration and diamond drilling on certain mining claims were in connection with a capital venture and were therefore not chargeable against income as an expense. In rendering its decision and considering the workings of Section 6, the Court noted that the test as to whether a disbursement or expense is deductible does not necessarily depend solely upon whether it is attributable to capital or income:

If the expense under scrutiny is held to be an outlay or payment on account of capital its deduction is prohibited by Section 6(b), but it is not sufficient in order to make the expense deductible merely to show that it is not excluded by Section 6(b); ...Section 6(a) clearly implies that there may be disbursements or expenses that are not of a capital nature and therefore not covered by Section 6(b), that are nevertheless not deductible, for otherwise there would be no need for Section 6(a). Section 6(a) prohibits the deductions of all disbursements or expenses, even if they are of a revenue nature, that are not wholly, exclusively and necessarily laid out or expended for the purpose of earning income...

Considering the facts of the case, the court stated that the expenditures "were incurred for the purpose of determining whether the claims should be acquired as capital assets." As such, the expenditures "were losses incurred in connection with a capital venture" and were not deductible as operating expenses.

The court further stated that even if the expenditures were considered to be of a revenue nature, the expenditures "were certainly not directly related to the production of the appellant's income from its gold mining business...". This *obiter dicta* plainly established the closely circumscribed nature of exploration and development expenditures. Not even a prior mining interest was sufficient to render the expenditures tax-deductible within the meaning of Section 6. Unless the expenditures were incurred on-site for the extension of a known ore body or oil structure, any claim for a deduction in computing taxable income would not succeed.¹

1942-46

Strict adherence to the fundamental distinction between capital and income was first reconsidered in the 1942 taxation year, at which time the *Income War Tax Act* was amended to provide all taxpayers with a special incentive in respect of contributions to mining concerns prospecting for base metals or strategic minerals. Further amendments followed in 1943 and 1944, providing special incentives for petroleum and mining concerns in respect of certain exploration and development expenditures.

These enactments represented a significant development in mining and petroleum taxation, marking the first time that special tax incentives were utilized to promote exploration and development activity. Moreover, these special tax incentives were also notable for providing some degree of flexibility in allocating expenditures among interested parties and reducing taxable income from other sources. Subsections 8(10) and 8(11) in respect of deep test oil wells permitted the allocation of certain resource expenditures among partners or shareholders, but retained the requirement as to principal business, effectively requiring the participants to have taxable income from other resource undertakings in order to utilize the tax credit. Subsection 8(5) in respect of prospecting contributions provided the greatest range of application, allowing any taxpayer to contribute and utilize the associated tax credit to reduce tax payable on non-resource sources of income.

¹ See J. Harvey Perry, *Taxation in Canada*, University of Toronto Press, 1951, p. 72.

The following paragraphs provide a brief summary of the special incentive provisions as they were enacted and the time-frame for which they were operative:

Contributions in Respect of Prospecting

Subsection 8(5) allowed taxpayers to reduce their income tax otherwise payable by an amount equal to 40 per cent of their contributions to associations, syndicates or mining partnerships organized for the purpose of prospecting in Canada for base metals or strategic minerals (not exceeding \$500 per association, syndicate or mining partnership and not exceeding \$5,000 in total).

Subsection 8(5) was effective for the 1942 and subsequent taxation years, until it was repealed on August 31, 1946.

Expenditures on Dry Oil Wells (abandoned within six months of drilling)

Subsection 8(6) provided a tax credit for those corporations whose principal business was production, refining or marketing of petroleum or petroleum based products equal to $26 \frac{2}{3}$ per cent of drilling and exploration costs where the corporation was entitled to a depletion allowance, or 40 per cent of exploration and drilling costs in the case of any other corporation. If total tax payable was not sufficient to permit full utilization, any unused drilling and exploration costs could be carried forward indefinitely for use in subsequent taxation years.

Subsection 8(6) was effective from January 1, 1943, to December 31, 1946, and was effective in slightly altered form as subsection 8(6a) from January 1, 1947, to December 31, 1947 with reduced rates of 20 per cent and 30 per cent, respectively.

Exploration and Drilling Expenses for Oil

Subsection 8(7) provided a tax credit for a corporation, association, syndicate, or partnership formed for the purpose of exploring and drilling for oil, equal to $26 \frac{2}{3}$ per cent of exploration and drilling expenses so incurred. If total tax payable was not sufficient to permit full utilization, any unused drilling and exploration expenses could be carried forward indefinitely for use in subsequent years, regardless of whether the taxable income in any subsequent year arose from the original well or any well subsequently discovered by the corporation, association, syndicate, or partnership.

Subsection 8(7) was effective from January 1, 1943, to December 31, 1946, and was effective in slightly altered form as subsection 8(7a) from January 1, 1947, to December 31, 1947 with a reduced rate of 20 per cent.

Exploration and Drilling Expenses for Natural Gas

Subsection 8(8) provided a tax credit for a corporation, association, syndicate, or partnership formed for the purpose of exploring and drilling for natural gas equal to 30 per cent of exploration and drilling expenses so incurred.

Subsection 8(8) was effective from January 1, 1943, to December 31, 1946, and was effective from January 1, 1947, to December 31, 1947 with a reduced rate of 22 1/2 per cent.

Exploring for Minerals

Subsection 8(9) provided a tax credit for those corporations whose principal business was mining or exploring for minerals equal to 26 2/3 per cent of all prospecting, exploration and development expenses incurred in searching for base metals and strategic minerals. The tax credit had to be taken against taxes payable in respect of the year or fiscal period in which the expenses were actually incurred, it was not subject to carry forward for use in subsequent taxation years.

Subsection 8(9) was effective from January 1, 1943, to December 31, 1946, and was effective from January 1, 1947, to December 31, 1947 with a reduced rate of 20 per cent.

Expenditures on Unproductive Deep Test Oil Wells

Subsection 8(10) provided a tax credit for a corporation, association, syndicate, or partnership whose principal business was production, refining or marketing of petroleum or exploration or drilling for petroleum, equal to 50 per cent of the expenditures made in connection with a deep test oil well (but not including geological or geophysical expenditures) that proved to be unproductive. The tax credit could only be utilized to the extent of tax payable in the year the expenditures were actually incurred.

The application of subsection 8(10) required the consent of the Governor in Council upon the recommendation of the Minister of Energy, Mines and Resources that the drilling of the well was desirable in order to extend the petroleum resources of Canada and the taxpayer could not reasonably be expected to drill the well unless permitted to deduct at least 50 per cent of the expenditures in connection therewith from tax.

Corporation etc. contributing to another corporation etc. in respect of Expenditures on Unproductive Deep Test Oil Wells

Subsection 8(11) was enacted at the same time as subsection 8(10) to allow some degree of flexibility in "stacking" partnerships or corporations and allocating expenses incurred under subsection 8(10), while retaining the requirement as to principal business. This provision allowed a group of petroleum corporations to form a partnership, or take shares in a corporation, drill a deep test well, and then with the consent of the Minister of National Revenue transfer the expense from the partnership or corporation to the partners or shareholders. The partners or shareholders could then utilize the expenses and associated tax credit.

Subsections 8(10) and 8(11) were effective from the June 26, 1944, to December 31, 1947.

Post-1946

For the 1947 and subsequent taxation years, the income tax treatment of exploration and development expenditures underwent fundamental revision. Legislative enactment effectively deemed exploration and development expenditure to be on account of income. As such, eligible exploration and development expenditures became fully deductible in computing taxable income.

The 1947 taxation year was governed by the *Income War Tax Amendment Act, 1947, Chapter 63, Section 16*, while the 1948 taxation year was governed by the *Act to amend the Income War Tax Act, 1948, Chapter 53, Section 16*. Each of these Acts set out six subsections of eligible exploration and development expenses based on the previous enactments applicable from 1942 through 1946 (except for subsection 8(5) pertaining to contributions for prospecting which was previously repealed). These were:

- expenditures on dry wells (abandoned within six months of drilling);
- exploration and drilling expenses for oil;
- exploration and drilling expenses for natural gas;
- exploring for minerals; and
- expenditures on unproductive deep test oil wells.

Each section contained the same general stipulations as to purpose of the undertaking and principal-business requirements. All eligible expenses were to be deducted in the year they were incurred, except for those expenses pertaining to exploration and drilling for oil, where the indefinite carry-forward of unused expenses to subsequent taxation years was expressly allowed.

For the 1949 and subsequent taxation years, a revised *Income Tax Act, Statutes of 1948, Chapter 52*, was in effect but contained no specific reference to the deductibility of exploration and development expenses. Instead, special legislation contained in the *Statutes of 1949, Chapter 25, Section 53*, allowed mining and oil concerns to deduct in computing income, certain of their prospecting, exploration and development expenses connected with the search for minerals, oil and gas in Canada. The provisions enacted by the special legislation were somewhat tighter and more explicit than the previous legislation but retained the same general structure, except for the subsection pertaining to expenditures on dry wells which was not applicable after the 1948 taxation year. To summarize the revised provisions:

Deductions from income for oil or natural gas exploration and development expenses incurred by a Corporation

Subsection 53(1) allowed a corporation whose principal business was production, refining or marketing of petroleum or petroleum products or the exploring and drilling for oil and natural gas, to deduct in computing its income the aggregate of drilling and exploration costs (including geological and geophysical expenses) incurred during the taxation year or during previous taxation years to the extent that the expenses were not deductible in that previous taxation year. The deduction for exploration and drilling expenses could not be used to create a non-capital loss.

Deductions from income for oil or natural gas exploration and development expenses incurred by Association, Syndicate or Partnership

Subsection 53(2) allowed an association, syndicate or partnership formed for the purpose of exploring or drilling for oil or natural gas to deduct in computing its income the aggregate of drilling and exploration costs (including geological and geophysical expenses) incurred during the taxation year or during previous taxation years to the extent that the expenses were not deductible in that previous taxation year. The deduction for exploration and drilling expenses could not be used to create a non-capital loss.

Deductions from income for mineral prospecting, exploration and development expenses incurred by Corporation

Subsection 53(4) allowed a corporation whose chief business was that of mining or exploring for minerals to deduct in computing its income an amount equal to all prospecting, exploration and development costs incurred during the taxation year. There was no provision for the carry forward of unused expenditures.

Deductions from income for unproductive deep test oil wells incurred by Corporation, Association, Syndicate or Partnership

Subsection 53(5) allowed a corporation, association syndicate or partnership whose principal business was production, refining or marketing of petroleum or drilling for petroleum to deduct in computing its income all expenditures, and was further allowed to deduct from tax otherwise payable, 30 per cent of all expenditures, in connection with a deep test oil well (but not including geological or geophysical expenditures) that proved to be unproductive. The deduction could only be utilized to the extent of tax payable in the year the expenditures were actually incurred.

The application of subsection 53(5) required the consent of the Governor in Council that the drilling of the well was desirable in order to extend the petroleum resources of Canada and the taxpayer could not reasonably be expected to drill the well unless permitted those deductions.

Corporation etc. contributing to another corporation etc. in respect of Expenditures on Unproductive Deep Test Oil Wells

Subsection 53(6) was enacted to allow some degree of flexibility in "stacking" partnerships or corporations and allocating expenses incurred under subsection 53(5), while retaining the requirement as to principal business. This provision allowed a group of petroleum corporations to form a partnership or take shares in a corporation, drill a deep test well, and then with the consent of the Minister of National Revenue transfer the expense from the partnership or corporation to the partners or shareholders. The partners could then utilize the expenses against their income from other sources.

The Expenses-for-Shares Transaction

1954-72

The provisions of Section 53 were subsequently re-enacted to govern the deductibility of mining and petroleum expenditures through the 1954 taxation year. It was not until the 1955 taxation year that new Section 83A was enacted

in the text of the *Income Tax Act, R.S.C. 1952, Chapter 148* to provide a general regime governing the deductibility of resource expenditures. Of particular interest, subsections 83A(7) and 83A(8) contained the federal government's first legislative enactment expressly recognizing, and delineating, exploration and development expenses incurred in consideration for shares (note that these particular subsections were applicable retroactively to the 1954 taxation year).

Subsection 83A(7) declared that expenses incurred in respect of exploring or drilling for petroleum or natural gas in Canada or in searching for minerals in Canada did not and never did include expenses so incurred pursuant to an agreement to incur those expenses in consideration for shares, an option to purchase shares, or a right to purchase shares in a corporation yet to be formed.

Subsection 83A(8) went on to declare that, notwithstanding subsection 83A(7), a principal-business corporation was allowed to deduct, in computing its taxable income, the aggregate of its Canadian exploration and development expenses as were incurred after the calendar year 1953 and before the end of the taxation year, pursuant to an agreement under which it undertook to incur those expenses in consideration for shares, an option to purchase shares, or a right to purchase shares, to the extent of its income for the taxation year before depletion allowance but after adjusting for dividends received.

Section 83(A) formed a neat demarcation line, effectively negating all Canadian exploration and development expenses incurred under flow-through share agreements prior to 1954, while providing an explicit enactment governing all Canadian exploration and development expenses incurred pursuant to flow-through share agreements after 1953. The validity of any expense so incurred after 1953 could now be considered in light of the three key criteria implied in Section 83A; qualifying expense, qualifying taxpayer, and qualifying income.

Qualifying expenses incurred after 1953 included drilling and exploration expenses (including geological and geophysical expenses) incurred on or in respect of exploring or drilling for petroleum or natural gas in Canada, and the prospecting, exploration and development expenses incurred searching for minerals in Canada.

Qualifying expenses were only deductible by a qualifying taxpayer, generally defined as a corporation whose principal business was production, refining or marketing of petroleum, petroleum products or natural gas, or exploring or drilling for petroleum or natural gas, or mining or exploring for minerals.

An expanded definition of principal-business corporation was enacted in subsection 83A(8b) for the 1957 and subsequent taxation years to include a corporation whose principal business was processing mineral ores for the purpose of recovering metals therefrom or a combination of processing mineral ores for the purposes of recovering metals therefrom and processing metals recovered from the ores so processed.

For the 1960 and subsequent taxation years subsection 83A(3a) was added to include the halite or sylvite drilling and exploration expenses of a corporation whose principal business was production or marketing of sodium chloride or potash, or whose business involved manufacturing products which manufacturing involved processing sodium chloride or potash.

For the 1961 and subsequent taxation years paragraph 83A(8b)(ba) was added to include a corporation whose principal business was fabricating metals.

It was a question of fact as to whether or not the taxpayer qualified as a principal-business corporation. The matter was determined through an examination and comparison of all the facts concerning each of the various types of business in which the corporation engaged. Factual criteria included consideration of the income from the business, number of employees, and amount of capital employed. The test was whether the resource activities were the main purpose and concern of the corporation, or merely a secondary activity.²

Restricting the transaction to principal-business corporation placed an effective limit on qualifying income. Once the corporation had cleared the hurdle as to principal-business status, qualifying income was simply equal to the principal-business corporation's income for the year before depletion allowance and less the amount of any corporate dividends received.

It is important to note that subsection 83A(8) preserved the concept of an incurred expense whereby the principal-business corporation was required to incur qualifying expenses pursuant to an agreement in order to be allowed the deduction. The act of incurring the resource expense necessarily required the principal-business corporation to assume legal liability for the exploration and development work undertaken in respect of the agreement. This assumption of liability was generally not a major concern given that the transaction was restricted to principal-business corporations. These corporations could

² See J. Cameron, *American Metal Company of Canada Ltd. versus M.N.R.*, 1952 CTC 302.

generally be expected to carry some type of liability insurance or at least be well aware of the inherent risks involved and capable of reaching an informed decision.

Beyond the three key criteria and the concept of an incurred expense, there were no other legislative enactments concerning the flow-through share mechanism. There were no restrictions on the ancillary conditions that could be attached to the share consideration and there were no specific rules governing proceeds of disposition. The share consideration that passed under the agreement could very well contain a number of ancillary provisions relating to matters such as purchase price assistance, entitlement to a fixed dividend, or the right to mandatory cancellation. The determination as to capital or income upon disposition of a flow-through share was made in accordance with the five principles of common law governing any other disposition of property:

- the relation of the transaction to the taxpayer's business;
- the nature of the transaction;
- the nature of the assets involved;
- the number and frequency of transactions; and
- the corporate objects.

Evaluating these five principles in light of the requirement that the taxpayer qualify as a principal-business corporation, the disposition of a flow-through share would almost certainly qualify as a capital receipt and thereby avoid taxation. Moreover, there was no requirement to recognize the tax deduction already received by the principal-business corporation in respect of the original purchase price of the share.

1972-76

Tax Reform effective January 1, 1972

The federal budget of June 18, 1971, effective from January 1, 1972, brought about fundamental change in the Canadian income tax system, replacing the whole of the former *Income Tax Act, R.S.C. 1952, Chapter 148* except for Parts IV and VIII pertaining to Gift Tax and Transitional Provisions. The taxation regime governing the deductibility of Canadian exploration and development expenses incurred after 1971 was now recorded in Section 66 of the *Income Tax Act, S.C. 1970-71-72, Chapter 63*. There were significant changes involving the definition of qualifying taxpayer, the definition of qualifying expenses, and the imposition of tax on capital gains, complete with special rules governing the disposition of flow-through shares.

Subsection 66(3) allowed individual or corporate taxpayers other than principal-business corporations to deduct Canadian exploration and development expenses in calculating their taxable income. Other taxpayers were, however, subject to certain restrictions with respect to qualifying income. They were allowed to deduct the aggregate of their Canadian exploration and development expense incurred before the end of the year to the extent that it was not deductible in computing income for a previous taxation year to the greater of two amounts:

- an amount generally defined as the taxpayer's resource-related income for the year (income from an interest in an oil or gas well in Canada or from operating a mine in Canada); or
- with respect to income from any source, an amount equal to 20 per cent of the taxpayer's Canadian exploration and development expenses.

Any unused Canadian exploration and development expense could be carried forward indefinitely for use in subsequent taxation years. The definition of principal-business corporation contained in paragraph 66(15)(h) was also expanded to include a corporation whose principal business was operating a pipeline for the transmission of oil or natural gas.

The definition of Canadian exploration and development expenses contained in paragraph 66(15)(b) was expanded to include the acquisition of a Canadian resource property, which item was defined in paragraph 66(15)(c) to include resource-related rights, licences or privileges; resource-related real property; and resource-related rentals or royalties where any of these interests was acquired after 1971. Prior to 1972, the acquisition and disposition of resource-related interests was generally considered to be on account of capital, and was neither deductible nor taxable. The only exception to this general rule related to oil or natural gas rights, licences or privileges which were deductible as exploration and development expenses where acquired after April 10, 1962, as per subsection 83A(5a) of the former *Income Tax Act, R.S.C. 1952, Chapter 148*.

With the introduction of income tax on capital gains, share consideration acquired under a flow-through share agreement after 1971 was subject to special rules with respect to calculating the gain or loss on disposition. The classification of the disposition as capital or income continued in accordance with the principles of common law, however, paragraph 53(2)(e) now stipulated that the cost base of the shares was to be decreased by the amount of any previous flow-through of eligible expenses, to reflect the previous deduction from income and prevent the taxpayer from effectively utilizing the same tax deduction twice.

May 6, 1974

Further changes to the income tax regime governing petroleum and mining expenditures went into effect on May 6, 1974. Exploration and development expenses incurred after May 6, 1974 were split into two distinct categories with differential rates of deductibility to reflect the risk component at each stage of the resource exploitation chain; Canadian exploration expense (CEE) was defined in paragraph 66.1(6)(a) and Canadian development expense (CDE) was defined in paragraph 66.2(5)(a). Subsection 66.1(2) stated that CEE incurred by principal-business corporations would continue to be fully deductible to the extent of any income in the year or any subsequent year while subsection 66.1(3) stated that CEE incurred by other taxpayers would be deductible to the greater of two amounts:

- the taxpayer's resource-related income for the year (income from an interest in an oil or gas well in Canada or from operating a mine in Canada); or
- with respect to income from any source, an amount equal to 30 per cent of the taxpayer's CEE.

Subsection 66.2(2) stated that all taxpayers could deduct 30 per cent of the cumulative total of their CDE not previously deducted, against income from any source.

The distinction between exploration and development involved not only differential rates of deductibility, but also a change in the nature of the deduction as between permissive and mandatory. Prior to budget date, Canadian exploration and development expense deductions had been permissive in nature for all taxpayers. There was no obligation to utilize the resource deduction. Where the taxpayer did choose to utilize the resource deduction, the taxpayer could utilize any amount up to a specified maximum (generally the lesser of resource expenses or qualifying income, thereby prohibiting a non-capital loss). While subsections 66.1(3) and 66.2(2) retained the permissive orientation for taxpayers other than principal-business corporations, subsection 66.1(2) required principal-business corporations to utilize a certain minimum deduction in respect of CEE, equal to the lesser of its cumulative CEE pool and its income for the year (computed without reference to depletion allowance or recapture but with an allowance for tax-free inter-corporate dividend income). The principal-business corporation then had the option of deducting a further amount in respect of CEE, generally equal to the amount of depletion recapture for the year.

The income tax treatment of depletion, as provided for in Section 65 and delineated in regulation 1200 and following, was also significantly altered

effective May 6, 1974. Prior to May 6, 1974, the amount of depletion that could be claimed in respect of oil and gas production and mining was not related to the actual cost of the resource undertaking. Instead, depletion was an automatic deduction based on a defined percentage of qualifying income. Broadly defined, operators could deduct depletion equal to 33 1/3 per cent of production profits, non-operators could deduct depletion equal to 25 per cent of their total gross royalty income and shareholders could claim depletion of up to 20 per cent of dividends received from a mining or petroleum corporation depending on the proportion of the corporation income attributed to production.

After May 6, 1974, automatic or percentage depletion was replaced by earned depletion. The new system was based on actual investment in mining and petroleum exploration and development, and capital assets relating to new mines and processing facilities. Depletion was earned at the rate of \$1 for each \$3 of eligible expenditures and could be claimed by all taxpayers up to 25 per cent of qualifying income, generally defined as resource profits. The newly-imposed connection between actual expenditures and the depletion allowance did not immediately impact the flow-through share mechanism. However, the focus on actual expenditures enhanced the potential for using flow-through shares to renounce exploration and development expenditures.

1976-81

May 25, 1976

The federal budget of May 25, 1976, eliminated the distinction between principal-business corporations and other taxpayers with respect to the deductibility of CEE. All taxpayers were now entitled to an immediate 100 per cent deduction against income from any source. As stated in the Budget Speech, this measure was expressly designed to "attract funds from Canadians for resource exploration which is so crucial to our national development".

July 31, 1976

New section 66.3 deemed flow-through shares acquired after July 31, 1976, to be taxpayer inventory acquired at nil cost. As a result of this provision, the full proceeds received on disposition were subject to taxation as ordinary income. To achieve consistent treatment among flow-through shares in respect of CEE and flow-through shares in respect of CDE, paragraph 66.2(2)(a) was enacted at the same time and provided that where shares which were deemed to be taxpayer inventory by Section 66.3 were sold, the taxpayer's entire pool of cumulative CDE (which would otherwise be realized over time at the appropriate rate) could be used to offset the income inclusion.

March 31, 1977

The federal budget of March 31, 1977, provided the first evidence of specific changes to the mechanics of earned depletion that would encourage a particular activity within the resource sector and provide a more generous deduction for the flow-through share mechanism (although not necessarily unique to this financing structure).

Regulation 1207 provided a frontier exploration allowance for those drilling costs in excess of \$5 million incurred in connection with an exploratory oil and gas well in Canada after March 1977, and before April 1980. Qualifying expenses were eligible for additional earned depletion equal to $66 \frac{2}{3}$ per cent of the qualifying expense. While regular earned depletion remained deductible only with respect to 25 per cent of the taxpayer's resource-related income, the additional earned depletion was fully deductible against income from any source. This new incentive meant that up to 200 per cent of the portion of expenses qualifying for the extra earned depletion might be deducted for tax purposes.

The initial \$5 million would qualify for the 100 per cent deduction as CEE against any type of income and the $33 \frac{1}{3}$ per cent deduction as regular earned depletion up to 25 per cent of taxable production profits.

Any amount in excess of \$5 million would also qualify for the 100 per cent deduction as CEE against any type of income, the $33 \frac{1}{3}$ per cent deduction with respect to regular earned depletion up to 25 per cent of taxable production profits, and the additional $66 \frac{2}{3}$ per cent deduction in respect of additional earned depletion against any type of income.

Allocating additional earned depletion to a specific activity and broadening the definition of qualifying income represented a significant development in resource taxation. This allowed investors with ordinary income to access both the CEE deduction and the additional earned depletion deduction, yielding a much greater tax benefit and further reducing the after-tax cost of the investment.

December 11, 1979

The federal budget of December 11, 1979, set forth a further delineation of qualifying expenses to include Canadian oil and gas property expense (COGPE). Section 66.4 provided that the cost of acquiring Canadian oil and gas resource properties after budget date, including land bonus payments to the Crown, would be deductible at an annual rate of 10 per cent

on a declining balance basis rather than the 30 per cent rate previously allowed these expenditures as Canadian development expenses. Supplementary Information accompanying the budget stated that this measure was intended to reduce upward pressure on prices of oil and gas properties, and help smaller independent companies, many of which did not have taxable income against which to apply the faster write-off.

Paragraph 66.4(2)(a) was also enacted at this time to provide that where shares deemed by Section 66.3 to be inventory were sold, the taxpayer's full pool of cumulative COGPE could be used to offset the income inclusion.

October 28, 1980

As part of the National Energy Program, earned depletion allowances for oil and gas exploration and development activities were modified after 1980 coincident with the introduction of the Petroleum Incentives Program. As indicated in the federal budget of October 28, 1980, this new system of direct incentive payments for petroleum exploration and development "will significantly reduce the need for the tax-based incentives."

Individuals were no longer eligible to earn depletion after 1980. Depletion earned on petroleum development expenditures incurred by corporations was generally eliminated after 1980. The allowance for petroleum exploration expenditures incurred by corporations on provincial lands was phased out by reducing the rate of earning to 20 per cent for 1982, to 10 per cent for 1983 and to zero thereafter.

1981-87

November 12, 1981

The federal budget of November 12, 1981, substantially revised Section 66.3, striking out the provision deeming flow-through shares to be taxpayer inventory, while retaining the nil cost base. The disposition of flow-through shares acquired after budget date would once again be considered capital or income in accordance with the principles of common law and the particular circumstances of the taxpayer, allowing the flow-through share investor to access the lower rate of taxation associated with capital transactions.

In addition, earned depletion for petroleum exploration expenditures incurred by corporations on frontier lands was phased out by reducing the rate of earning to 20 per cent in 1983, to 10 per cent in 1984 and to zero thereafter.

December 29, 1982

On December 29, 1982, the Minister of Finance announced an amendment to the Income Tax Regulations that would exclude certain prescribed shares from any expenses-for-shares transaction, effective for any outlay or expense incurred after 1982. Regulation 6202 stated that shares of a corporation were generally considered to be prescribed shares for the purposes of the flow-through share provisions where:

- the corporation might be required to redeem, acquire, or cancel the shares, or reduce their paid-up capital within five years of the date of issue;
- a guarantee, security, or indemnity was provided with respect to the share;
- the shares were convertible into debt within five years of the date of issue;
- the owner of the share controlled or had a right to control the issuing corporation;
- the existence of the issuing corporation could be limited to a period that ended within five years from the date of issue of the share; or
- the shares were convertible within five years into shares that would be considered prescribed shares.

The press release accompanying the regulatory amendment stated that "the purpose of flow-through shares is to encourage Canadians to make equity investments in corporations engaged in the exploration and development of Canada's oil, gas, and mineral reserves." The Minister of Finance went on to state an intention "to continue to allow flow-through treatment for shares that give the taxpayer an equity interest in a corporation, but to deny flow-through treatment where the shares are used as a means of obtaining a predetermined after-tax return over a relatively short time period."

April 20, 1983

The federal budget of April 20, 1983, amended Regulation 1201 to enhance the earned depletion allowance in respect of grass-roots mining expenses. Known as the mining exploration depletion allowance (MEDA), the rate of earning remained at \$1 for each \$3 of eligible CEE incurred after budget date, but these grass-roots mining expenses became deductible to a maximum of 25 per cent of a taxpayer's income from any source, not just resource-related income. Thus, the flow-through share mechanism was able to provide an immediate 133 1/3 per cent deduction in respect of grass-roots mining expenses against income from any source (100 per cent via CEE and 33 1/3 per cent via MEDA).

May 23, 1985

The federal budget of May 23, 1985, proposed a major initiative "to promote risk taking and investment among individual taxpayers." Section 110.6 was enacted to provide individual taxpayers with a cumulative tax exemption for capital gains up to a lifetime limit of \$500,000. This provision was of general application to include flow-through shares which now carried not only an immediate deduction against income but also tax-free proceeds of disposition.

The budget also introduced a detailed provision governing the computation of paid-up capital in respect of flow-through shares acquired any time after May 23, 1985. Paid-up capital is generally computed with respect to the stated capital of a particular class of shares and is an integral component of certain specific transactions that allow the tax-free return of paid-up capital, generally up to a maximum of the shareholder's initial purchase price or the adjusted cost base, whichever is less. Subsection 66.3(2) stipulated a reduction in paid-up capital in respect of flow-through shares equal to 50 per cent of the resource expenditures incurred by way of the flow-through shares. Only the reduced amount of paid-up capital would be available for tax-free distribution upon winding-up, discontinuance, or reorganization of the corporation; redemption, acquisition, or cancellation of shares; or reduction of paid-up capital. The remainder of the distribution amount would be realized as a deemed dividend to be included in income and subject to the usual regime governing taxation of dividends.

The example in Table A3.2 highlights the effect of the legislated reduction in paid-up capital. Assumptions include an initial purchase price of \$100, a renunciation of \$100 of eligible expenses, and a subsequent redemption by the issuing corporation for \$100 (not otherwise in violation of the prescribed share rules). Section 66.3 deems the adjusted cost base of the shares to be nil for both time periods. The only difference lies in the calculation of paid-up capital.

In particular, prior to May 24, 1985, the entire amount of tax payable on the transaction would be attributed to the \$100 capital gain. With an inclusion of rate of 50 per cent, the taxpayer would have a taxable capital gain of \$50 to be included in ordinary income. After May 23, 1985, the legislated reduction in paid-up capital operated to attribute the taxation component between the deemed dividend and the capital gain. The lifetime capital gains exemption nullified the capital gain component, but the taxpayer remained liable for taxation in respect of the \$50 deemed dividend calculated in accordance with subsection 66.3(2).

Table A3.2
Paid-up capital comparison

	Pre May 24, 1985	Post May 23, 1985
	\$	\$
Redemption price	100	100
Less: Paid-up capital	100	50
Equals: Deemed dividend	0	50
Redemption price	100	100
Less: Deemed dividend	0	50
Equals: Proceeds of disposition	100	50
Proceeds of disposition	100	50
Less: Adjusted cost base	nil	nil
Equals: Capital gain (Loss)	100	50

If the lifetime capital gains exemption had been implemented without the legislated reduction in paid-up capital, tax payable on the transaction would have continued to be calculated in accordance with the rules existing prior to May 24, 1985, resulting in the same \$100 capital gain. The lifetime capital gains exemption would then exempt the entire amount from taxation, allowing the taxpayer to realize the transaction without any taxation consequences.

The net effect of the legislated reduction in paid-up capital was to place the taxpayer in an equivalent taxation situation before and after May 23, 1985, whenever the share was disposed of in any manner that required a computation of paid-up capital (i.e. by some means other than an open market transaction). This provision served to reinforce the concept of flow-through shares as a bona fide equity investment stimulating new exploration and development activity.

October 30, 1985

The exploration tax credit was announced in the Frontier Energy Policy Statement of October 30, 1985, to "help bridge the gap between the expiration of [the Petroleum Incentives Program] and the commencement of frontier developments" (parentheses added) and "to ensure that Canada's exploration fiscal regime remains internationally competitive." The credit was administered through the investment tax credit provisions in subsection 127(11.1). As set out in Regulation 4608, qualifying CEE incurred between December 1, 1985, and December 31, 1990, could earn the credit. The rate of earning was 25 per cent. The credit was available for expenses incurred under flow-through share agreements.

Qualifying CEE incurred in respect of well costs in excess of \$5 million per well was eligible for the exploration tax credit. Qualifying CEE included expenses described in subparagraph 66.1(6)(a)(ii) other than CEE that were overhead expenses, financing charges, expenses that attracted an incentive under the Petroleum Incentives Program or the Alberta Petroleum Incentives Program, or expenses that were not well specific. Where more than one taxpayer incurred expenses pertaining to a particular well, participants were allowed to allocate the expenses in a reasonable manner.

Prior to 1988, taxpayers were allowed to apply for a refund of up to 40 per cent of that portion of the exploration tax credit not otherwise utilized in the year the credit was earned. Any unclaimed balance that was not refunded was available to be used in subsequent years in accordance with the investment tax credit rules. The exploration tax credit claimed or refunded reduced the amount of CEE otherwise claimable, in a manner similar to the reduction by the investment tax credit of the capital cost of an asset for capital cost allowance purposes.

December 2, 1985

Announced in a Department of Finance Press Release dated December 2, 1985, CEE in respect of a mineral deposit (other than an oil sands deposit), incurred after December 31, 1985, and within 60 days after the end of a calendar year could now be deemed to have been incurred by the taxpayer before the end of that calendar year. This deeming provision would only apply where the expenses so incurred related to a flow-through share agreement, the agreement was entered into on or before the last day of the calendar year, the taxpayer and the corporation dealt with each other at arm's-length throughout the 60-day period, and the funds were advanced to the agent acting on behalf of the taxpayer for the purpose of paying the expenses on or before the last day of the year.

Subsection 66.1(8) was designed to provide greater flexibility in the timing and utilization of the expenses-for-shares transaction. This measure facilitated the tax planning requirements of individual taxpayers and allowed resource firms to access a greater pool of capital.

February 26, 1986

The federal budget of February 26, 1986, set forth fundamental change with respect to the flow-through share mechanism. Recognizing that the concept of a resource expense incurred by the taxpayer presented significant liability

concerns for the individual, the budget introduced a new taxation regime that allowed the mining or petroleum corporation to incur and then renounce the eligible expense to the flow-through shareholder.

The framework outlined in the budget more accurately reflected the evolving nature of the expenses-for-shares transaction. The transaction was no longer confined to the realm of mining and petroleum companies. Instead, increasingly attractive tax incentives for exploration and development were attracting the passive individual investor. Limited partnership structures were being utilized to lower the threshold for investor participation, achieve a pooling of investor capital, diversify risk across several projects and companies, and overcome liability concerns by imposing a legally accountable entity between the investor and the actual exploration work. Prior to the budget of February 26, 1986, however, there remained some residual concern that partnership structures ran afoul of the specific wording relating to the concept of an expense incurred solely in consideration for shares. New subsection 66(16) was enacted to eliminate these concerns and provide express recognition for the acquisition of flow-through shares by way of the partnership structure.

The new framework defined a flow-through share in paragraph 66(15)(d.1), was applicable to all flow-through share agreements entered into after 1986, and was optional at the discretion of the issuing corporation, upon filing the prescribed forms, for flow-through share agreements entered into after February 1986 and before 1987.

Subsection 66(12.66) was enacted to provide a "60-Day Rule" for exploration expenses incurred under the new regime after February 1986, carrying the same restrictions as its predecessor subsection 66.1(8) in terms of its application, date of agreement, arms-length stipulation and advancement of funds.

Subsection 66(12.67) was enacted to restrict "stacking" arrangements to related corporations in respect of resource expenses incurred after February 1986, stipulating that a corporation could not renounce any resource expenses where the corporation was deemed to have incurred the resource expenses by virtue of a renunciation from an unrelated corporation. The effect of this provision was to require the corporation issuing the flow-through shares, or a related corporation, to actually incur the resource expenses that it renounced to investors. For example, a publicly-held corporation would still be able to issue flow-through shares to finance the exploration of property held by a wholly-owned subsidiary. Investors would subscribe for flow-through shares in the parent company, which would in turn subscribe for flow-through shares in

the subsidiary. The subsidiary would renounce resource expenses to the parent, whereupon they would be deemed to be incurred by the parent, allowing the parent to renounce the resource expenditures to the investors.

Subsection 66(12.71) restricted renunciations to those amounts that the renouncing corporation would otherwise have been able to claim on its own behalf. This provision implied a test as to reasonableness for any resource expense renounced by way of flow-through share agreement.

The conceptual realignment embraced by the new taxation regime governing flow-through share agreements was complemented with a new administrative framework. For the first time, the expenses-for-shares transaction was to be documented at each stage, from share subscription to renunciation of expenses and allocation among investors. Subsections 66(12.68), (12.69) and (12.7) stipulated certain filing requirements with respect to selling instruments, the allocation of resource expenses among members of a partnership, and the renunciation of resource expenses by a principal-business corporation. Subsections 66(12.71) to (12.75) provided for various modifications, adjustments, late allowances, and penalties in respect of the various filings.

Further provisions relating to the capital nature of any share issued under the new taxation regime could be found in Section 66.3. Subsection 66.3(3) stated that any flow-through share issued after February 1986 was deemed to be acquired at a cost of nil. Subsection 66.3(4) was enacted with respect to the computation of paid-up capital for shares issued after February 1986, replicating the provisions found in subsection 66.3(2).

Post 1987

1987 Tax Reform

Federal tax reform proposals announced in June and December of 1987 set forth a different view of the income tax system than that which had actively promoted the expenses-for-shares transaction. Rather than utilize tax incentives to achieve social and economic goals, tax reform sought to broaden the tax base and reduce tax rates to restore competitive market forces and achieve a more equitable distribution of income.

A number of tax reform measures of general application reduced the relative attractiveness of flow-through share issues.

Personal tax rates were reduced from 34 per cent to 29 per cent effective for the 1988 and subsequent taxation years. Lower personal tax rates served to decrease the tax savings associated with flow-through shares.

The capital gains inclusion rate was increased from 50 per cent to 66 2/3 per cent effective for 1988 and 1989, and further increased to 75 per cent for 1990 and subsequent years. The lifetime capital gains exemption was capped at \$100,000. These measures effectively closed the gap between the tax treatment of capital and income, reducing the tax advantage associated with equity investments.

Expenses of issuing shares and partnership interests became deductible at the rate of 20 per cent on a straight line basis. Under the old rules, the immediate 100 per cent deduction for issue expenses had generally allowed limited partnerships to realize an operating loss in their first year which was attributable to limited partners based on their respective unit holdings. Under the new rules, limited partnerships can fully deduct issue expenses, but only over a longer five-year period.

Certain tax reform measures that applied generally to the mining industry also had a negative impact on the flow-through share regime.

The mining exploration depletion allowance for grass-roots mining expenses for corporations and the earned depletion allowance for pre-production development expenses for all taxpayers were phased out by reducing the rates of earning from 33 1/3 per cent to 16 2/3 per cent after June 30, 1988, and then to nil after December 31, 1989. For individual taxpayers, the rate of the mining exploration depletion allowance continued at 33 1/3 per cent until the end of 1988 after which time it was reduced to 16 2/3 per cent and then to nil after 1989.

Finally, a number of measures of direct consequence to flow-through shares exerted both positive and negative influences on this financing mechanism.

The application of the 60-Day Rule was broadened to include expenses incurred with respect to petroleum exploration.

Commencing in 1988, 50 per cent of any deductions claimed in respect of expenses renounced under a flow-through share agreement became subject to the Cumulative Net Investment Loss rules for purposes of calculating the amount of taxable capital gains eligible for the lifetime capital gains exemption.

The definition of prescribed shares was broadened under Regulation 6202.1, effective for shares issued after budget date, to include shares carrying any right or entitlement to payment, repayment, loan or dividend, or any retraction or conversion right, or any undertaking to limit loss or ensure earnings.

The enactment of Section 66.8 expanded the at-risk rules (as defined in Section 96 and adjusted in Section 53) to encompass the deductibility of expenses acquired by way of limited partnership arrangements, effective for shares issued after budget date. A partner's share of resource expenditures was now limited to the amount of the investment the partner actually had at-risk.

December 16, 1987

Additional restrictions on flow-through shares were announced on December 16, 1987. The definition of prescribed shares in Regulation 6202.1 was amended such that prescribed shares now included those shares issued pursuant to an agreement under which the share price was determined after a period of 60 days from the date of the agreement. Shares were also disqualified from the flow-through provisions where the issuing corporation provided any form of assistance or benefit for the purpose of assisting any person or partnership in acquiring the share or an interest in the partnership acquiring the share.

July 13, 1990

Subsection 66(19) was introduced to prevent the "warehousing" of resource expenditures originally incurred prior to the date of the flow-through share agreement. This provision applies to expenses incurred after July 13, 1990, except for those expenses incurred pursuant to an agreement entered into before July 14, 1990.

Subsections 66(12.6), (12.62) and (12.64) provide that only expenditures incurred after the relevant flow-through share agreement is entered into may be renounced by a corporation. However, where Corporation X is a member of a partnership, or where Corporation X is a corporation in favour of which a resource expenditure of another corporation is renounced, the rules in the *Income Tax Act* generally delay the time at which partnership or renounced expenditures are considered to be incurred by Corporation X. As a result, subsections 66(12.6), (12.62) and (12.64) may allow for the renunciation of expenditures originally incurred before the relevant flow-through share agreement was entered into.

The effect of subsection 66(19) is to limit flow-through share renunciations to those renunciations that would have been effective had the *Income Tax Act* provided for no delay in the time at which a partnership or flow-through share subscriber is considered to incur the resource expenses.

December 2, 1992

The *Economic and Fiscal Statement* of December 2, 1992, proposed changes to the flow-through share mechanism that would allow limited reclassification and deduction of petroleum-related CDE as CEE where the expenses are financed by flow-through shares. This measure is designed "to facilitate financing and to promote investment in the junior oil and gas sector".

Once enacted, the reclassification would be available on an annual basis to each principal-business corporation or associated group of corporations, for eligible expenses incurred after December 2, 1992, and would be limited to the first \$2 million of CDE as defined in subparagraphs 66.2(5)(a)(i), 66.2(5)(a)(i.1) and 66.2(5)(a)(iv). The reclassification would also permit eligible expenses incurred in the first 60 days of a calendar year to be treated as having been incurred at the end of the preceding year.

B. Former Federal Incentive Programs

Canadian Exploration and Development Incentive Program

On March 25, 1987, the Minister of Energy, Mines and Resources announced the Canadian Exploration and Development Incentive Program (CEDIP) as a transitional measure to provide temporary assistance to the petroleum industry. The objective of the program was to stimulate petroleum exploration and development activity in Canada and to increase employment in that sector following the sharp decline in world oil prices in 1986.

CEDIP commenced operation on April 1, 1987, reimbursing applicants for 33 1/3 per cent of their eligible expenses to a maximum of \$10 million of eligible expenses per applicant. CEDIP did not differentiate between exploration and development expenses in determining eligibility, but did exclude certain tangible asset costs relating to enhanced oil recovery and further denied eligibility in respect of expenses qualifying under any other incentive program. Participants were not required to issue flow-through shares as a pre-condition to eligibility, but where participants did choose to issue flow-through shares, any or all of the amount of the grant could be flowed-through to investors.

The CEDIP incentive rate was originally scheduled to decrease to 16 2/3 per cent effective October 1, 1988, followed by a scheduled termination date of December 31, 1989. Due to continuing financial difficulty in the petroleum industry, however, the incentive rate was reduced to 25 per cent as of October 1, 1988, with a further reduction to 16 2/3 per cent effective July 1, 1989. The federal budget of April 27, 1989, announced the immediate termination of CEDIP, subject to grandfathering provisions for eligible activities commenced before budget date.

Canadian Exploration Incentive Program

The Canadian Exploration Incentive Program (CEIP) was announced on May 3, 1988, to assist junior mining and petroleum companies that relied on flow-through share financing. The program was developed to enhance the attractiveness of flow-through shares at a time when their viability was impaired by changes introduced in the 1987 federal tax reform and international events such as the stock market shock of October 1987.

CEIP became effective for mining on January 1, 1989, to alleviate the phase-out of the earned depletion allowance in respect of mining exploration and, for petroleum, on October 1, 1988, to coincide with the scheduled phase-out of the CEDIP. The CEIP provided up to \$3 million in cash incentives per applicant for each calendar year, calculated at a 30 per cent rate for eligible expenditures up to a maximum of \$10 million of expenses. Eligible expenditures related to exploration activity only and excluded those expenses receiving assistance under any other incentive program. CEIP required that the expenditures be financed through flow-through shares. Applicants could elect either to keep the CEIP payment on their own behalf or flow the payment through to investors.

The federal budget of February 20, 1990, announced the immediate termination of CEIP, subject to grandfathering provisions for eligible expenditures incurred before February 28, 1991, provided such expenses were covered by an agreement in writing as of budget date or an agreement executed after budget date but before June 30, 1990, in accordance with a qualified selling instrument.

C. Current Provincial Incentives for Flow-Through Shares

Quebec, Manitoba and Ontario provide tax incentives that are specifically targeted to flow-through shares. While the general purpose of these provincial incentives is to encourage exploration and related activities within the applicable province, the form of incentives offered by these provinces reflect very different approaches to achieving this goal. Quebec's incentives can be applied only against provincial income tax and are available only to residents of Quebec. Manitoba's grant-based incentive, on the other hand, is available to all taxpayers regardless of their province of residence. Similarly, Ontario's proposed capital tax relief is to be available to all mining companies with permanent establishments in Ontario irrespective of their province of incorporation.

Quebec

To promote exploration and development activities within the province, the Quebec government provides additional incentives where the expenditures are financed by flow-through shares. These incentives are available only to residents of Quebec and apply only in respect of provincial income tax.

Bonus Deductions

The Quebec government provides bonus deductions equal to 25 per cent of mining or petroleum exploration expenditures, and 75 per cent of surface mining exploration expenditures. The bonus deductions can be claimed by Quebec taxpayers against income from any source in calculating provincial income tax. To be eligible under the current program, the expenditures must be incurred in Quebec by companies whose main activity is the exploration or development of mineral resources or oil or natural gas, and must be financed by flow-through shares issued between May 15, 1992, and December 31, 1995.

Provincial Capital Gains Exemption

The Quebec government also provides relief from provincial capital gains tax for flow-through share investors who have exhausted the federal lifetime capital gains exemption. The relief is applicable to shares issued between May 15, 1992, and December 31, 1993, where the expenditures incurred under the flow-through share agreement are eligible for the bonus deductions outlined above.

The mechanics of the provincial capital gains exemption are as follows. A special account is established, comprised of 75 per cent of expenditures incurred in Quebec that give rise to either of the bonus deductions. Expenses included in this account can then be used to reduce the amount of taxable capital gain subject to the provincial capital gains tax. For example, if a flow-through share is purchased for \$100 and an equal amount of exploration is incurred in Quebec that is eligible for either bonus deduction, \$75 is credited to the special account. Upon disposition of the share, the Quebec taxpayer calculates the capital gain in the usual manner for flow-through shares (i.e. selling price less deemed nil adjusted cost base) and includes 75 per cent of the capital gain as a taxable capital gain for federal and provincial income tax purposes. If the federal lifetime capital gains exemption is exhausted, however, the Quebec taxpayer can draw on up to \$75 (depending on the amount

received on disposition of the share) from the special account to reduce the taxable capital gain subject to provincial capital gains tax. The Quebec capital gains exemption does not impact on the amount of federal capital gains tax.

The net effect of the Quebec capital gains exemption is to provide those Quebec taxpayers, who have purchased flow-through shares and have exhausted their lifetime capital gains exemption, with an additional exemption from provincial capital gains tax equal to a maximum of the original purchase price of the share. The taxpayer remains liable for provincial capital gains tax in respect of that portion of a capital gain due to the selling price for the flow-through share exceeding its original purchase price.

Manitoba

To stimulate grass-roots mining and petroleum exploration activities by junior companies within Manitoba and to encourage residents of Manitoba and other provinces to invest in the Manitoba economy, the Manitoba government provides a 25 per cent incentive grant for eligible exploration expenditures incurred in Manitoba under the Mineral Exploration Incentive Program (MEIP). To be eligible for the incentive grant, exploration activities must be financed by a flow-through share agreement or a limited partnership. The incentive grant is payable to the investor.

Under the MEIP, a junior exploration corporation (i.e. a company having a value of capital not greater than \$100 million) files an exploration program proposal with the Manitoba government. A government evaluation committee reviews the application and, if approved, determines the maximum grant eligibility. The junior company then secures investment capital from a registered private-sector Manitoba Exploration Investment Corporation (MEIC). The MEIC, which may be a company or a general partner of a partnership, raises the required funding from either flow-through shareholders or limited partners and monitors the distribution of incentive grants to the investors. A junior exploration company may act as its own MEIC.

Introduced on January 1, 1992, the MEIP is scheduled to continue until March 31, 1995. Total funding available under the program is \$12.5 million, of which \$10 million is allocated to mining exploration and \$2.5 million to petroleum exploration. At the 25 per cent rate of earning, the program could support exploration expenditures of up to \$50 million. The MEIP is administered by the Manitoba Department of Energy and Mines.

Ontario

Capital tax relief announced in the May 19, 1993, Ontario budget is primarily intended to benefit junior mining companies that issue flow-through shares. Effective for taxation years commencing after 1985, the relief is to be delivered through a reduction in the capital tax base (i.e. paid-up capital) of mining companies equal to the amount of mining-related CEE and CDE that they incur and renounce to individual investors in flow-through shares. Ontario's 0.3 per cent capital tax is based on a company's paid-up capital which includes share capital. Prior to the May 1993 budget, mining exploration companies that financed their activities by means other than flow-through shares were allowed a deduction for deferred CEE and CDE.

Appendix IV

DATA ON EXPLORATION AND DEVELOPMENT SPENDING

Regional and aggregate data for 1983-91 on exploration, development and petroleum-property expenditures in Canada, in constant 1991 dollars, are provided in Tables A4.1 to A4.5. Construction of these data series and their relationship with income tax categories of expenses is discussed in this section.

A. Mining

Mining exploration and development expenditures used in this report consist only of costs associated with physical work and surveys, often termed "fieldwork". Overhead expenses that can qualify as Canadian exploration and development overhead expense (e.g., field general and administrative expenses, and head office expenses related to exploration and development) and land costs (e.g., costs of staking claims) have been excluded so as to more closely approximate amounts eligible for renunciation to flow-through share investors. Fieldwork expenditures include costs of geophysical, geological and geochemical surveys, sampling, diamond and other drilling, trenching and other surface rock work, exploration shafts, and other underground work.

Mining exploration expenditures in Table A4.1 for 1983 and 1984 were obtained from Statistics Canada (61-216). For 1985 to 1991, they were taken from the *General Exploration Plus Minesite Exploration Survey Results* published by the Department of Natural Resources. Mining exploration expenditures are an aggregate of "on-property (or mine-site) expenditures" and "general exploration expenditures". In essence, on-property exploration includes activities related to the search for, and delineation of, new mineral resources that would be associated with new mines on properties already in or committed to production. General exploration, which accounts for the majority of mining exploration expenditures, includes activities related to the search for, and delineation of, new mineral resources that would be associated with new mines other than activities in respect of on-property exploration. For income tax purposes, on-property and general exploration expenditures would be classified as Canadian exploration expense (CEE) in the form of grass-roots mining expenses. CEE that is pre-production development costs (i.e. development expenditures incurred prior to the commencement of commercial production from the mine) are not included in Table A4.1.

Table A4.1*Mining exploration expenditures, by region, 1983-91*

	Ontario	British Columbia	Quebec	Subtotal	Other	Canada
	(millions of dollars)					
1983	149.5	142.4	154.4	446.4	176.9	623.2
1984	191.7	158.1	187.3	537.1	253.3	790.4
1985	150.4	128.6	208.1	487.0	269.3	756.3
1986	202.7	106.6	334.6	643.9	238.3	882.1
1987	431.3	179.6	571.9	1,182.7	330.7	1,513.4
1988	446.2	230.9	444.9	1,122.0	381.3	1,503.3
1989	231.0	197.9	196.2	625.0	252.9	877.9
1990	156.8	232.8	201.8	591.5	204.7	796.2
1991	109.7	135.7	138.1	383.5	148.3	531.8
Averages:						
1983-91	229.9	168.1	270.8	668.8	250.6	919.4
1983-86	173.6	133.9	221.1	528.6	234.4	763.0
1987-91	275.0	195.4	310.6	780.9	263.6	1,044.5

- Notes:
1. On-property (or mine-site) expenses plus general exploration expenses.
 2. Includes assistance such as grants under the Canadian Exploration Incentive Program and the Ontario Mining Incentive Program.

Sources: Statistics Canada (61-216) *Exploration, Development and Capital Expenditures for Mining and Petroleum and Natural Gas Wells*
Department of Natural Resources.

Mining development expenditures in Table A4.2 are taken entirely from Statistics Canada (61-216). These "on-property (or mine-site) development expenditures" comprise costs of outlining, blocking-out, and gaining access to ore, and preparing it for production, on properties that are already in production or are committed to production, and include costs of drilling and excavations to extend proven ore in a producing mine. For income tax purposes, mining development expenditures could be classified as either CEE if incurred prior to commercial production (i.e. pre-production development costs), Canadian development expense (CDE) if incurred after commercial production, or an operating expense if treated as a period cost by mining companies.

B. Oil and Gas

Data on exploration, development and petroleum-property expenditures derive from *Net Cash Expenditures of the Petroleum Industry* published by the Canadian Association of Petroleum Producers (CAPP). However, expenditure

categories employed in this report differ in certain respects from the expenditure categories reported by the CAPP. In all cases, the differences reflect attempts to approximate income tax categories of expenses with the CAPP data. The differences are described below.

Land acquisition and rental costs are included as exploration expenditures by the CAPP along with geological, geophysical and drilling expenditures. However, land costs have been removed from the exploration expenditure category for the purposes of this report. This was done to achieve two objectives: to attempt to approximate a Canadian oil and gas property expense (COGPE) series; and to more closely approximate the income tax category of CEE.

The CAPP includes various categories of tangible capital expenditures with drilling expenses in its development expenditures category; the tangible asset categories are field equipment, secondary recovery and pressure maintenance, and natural gas plants. Since they are eligible for capital cost allowance, the costs of these tangible capital assets have been explicitly excluded from the definition of development expenditures employed here to more closely reflect the income tax definition of CDE.

Recognizing that all data exclude oil sands expenditures, the adjusted petroleum exploration and development expenditure categories in Tables A4.3 and A4.4, respectively, can serve as reasonable approximations to their associated income tax categories of CEE and CDE. However, approximating COGPE with the costs of land acquisition and rentals in Table A4.5 may be tenuous. While land costs include bonus bids, legal and filing fees, and rental payments, it is unfortunate that they also include rental payments relating to surface rights and exclude both the costs of purchasing petroleum reserves and freehold royalties negotiated in lieu of land bonus and rental payments. Consequently, these land costs may not be an entirely appropriate proxy for COGPE.

Petroleum exploration data can also be adjusted to account for assistance received from governments and other sources to identify exploration expenses *per se* that can be claimed by flow-through share investors. Assistance specifically includes PIP, CEDIP and CEIP grants, other federal and provincial incentives, and insurance receipts. Data on assistance was obtained from the Department of Natural Resources.

Table A4.2*Mining development expenditures, by region, 1983-91*

	Ontario	British Columbia	Quebec	Subtotal	Other	Canada
	(millions of dollars)					
1983	248.3	351.0	206.6	805.9	214.8	1,020.7
1984	300.0	544.3	209.9	1,054.2	236.1	1,290.3
1985	329.8	290.0	225.3	845.2	318.1	1,163.3
1986	377.2	279.1	209.8	866.1	385.2	1,251.3
1987	430.0	290.1	240.2	960.3	387.4	1,347.7
1988	402.2	368.5	231.4	1,002.1	367.4	1,369.4
1989	355.8	309.8	271.8	937.3	290.2	1,227.6
1990	430.8	270.3	251.1	952.2	334.4	1,286.6
1991	196.0	232.9	195.5	624.4	289.9	914.3
Averages:						
1983-91	341.1	326.2	226.8	894.2	313.7	1,207.9
1983-86	313.8	366.1	212.9	892.8	288.6	1,181.4
1987-91	363.0	294.3	238.0	895.3	333.9	1,229.1

Notes: Includes applicable assistance.

Sources: Statistics Canada (61-216) *Exploration, Development and Capital Expenditures for Mining and Petroleum and Natural Gas Wells*
Department of Natural Resources.

Table A4.3*Petroleum exploration expenditures, by region, 1983-91*

	Alberta	British Columbia	Saskat- chewan	Subtotal	Ontario	Other	Canada
	(millions of dollars)						
1983	1,836.3	119.9	142.5	2,098.8	21.0	2,999.2	5,119.0
1984	2,052.0	173.9	182.2	2,408.1	28.6	3,138.8	5,575.4
1985	2,308.1	217.1	252.8	2,778.0	29.3	2,675.3	5,482.6
1986	1,792.9	160.2	107.6	2,060.7	20.2	1,520.2	3,601.2
1987	1,665.7	104.3	101.6	1,871.6	12.5	494.4	2,378.5
1988	1,793.2	191.1	138.3	2,122.6	31.5	572.2	2,726.3
1989	1,343.1	251.7	77.1	1,671.9	27.5	442.8	2,142.2
1990	1,441.1	332.6	94.9	1,868.6	21.6	209.9	2,100.0
1991	1,247.4	389.1	67.1	1,703.6	28.8	178.9	1,911.3
Averages:							
1983-91	1,720.0	215.6	129.3	2,064.9	24.6	1,359.1	3,448.5
1983-86	1,997.3	167.8	171.3	2,336.4	24.8	2,583.4	4,944.6
1987-91	1,498.1	253.8	95.8	1,947.6	24.4	379.6	2,251.6

- Notes: 1. Geological & geophysical expenses plus drilling expenses; excludes oil sands expenses.
 2. Includes PIP grants, other federal and provincial incentives, and insurance receipts.

Source: Canadian Association of Petroleum Producers, *Net Cash Expenditures of the Petroleum Industry*.

Table A4.4

Petroleum development expenditures, by region, 1983-91

	Alberta	British Columbia	Saskat- chewan	Subtotal	Ontario	Other	Canada
	(millions of dollars)						
1983	1,197.2	33.8	190.1	1,421.1	29.3	97.1	1,547.6
1984	1,276.4	41.9	309.5	1,627.8	26.4	73.0	1,727.1
1985	1,618.1	76.4	403.9	2,098.4	25.1	63.7	2,187.1
1986	1,198.9	72.2	173.7	1,444.8	8.3	37.1	1,490.1
1987	1,028.1	94.9	132.2	1,245.2	10.2	45.6	1,301.0
1988	1,297.2	103.5	212.6	1,613.3	18.3	23.7	1,655.2
1989	728.0	103.7	146.2	977.9	12.6	9.4	1,000.0
1990	853.6	110.6	159.3	1,123.5	11.0	14.4	1,148.9
1991	877.1	86.5	145.7	1,109.3	11.1	40.9	1,161.3
Averages:							
1983-91	1,119.4	79.3	208.1	1,406.8	16.9	45.0	1,468.7
1983-86	1,322.7	56.1	269.3	1,648.0	22.3	67.7	1,738.0
1987-91	956.8	97.8	159.2	1,213.8	12.6	26.8	1,253.3

Notes: 1. Drilling Expenses; may include some tangible capital costs; excludes oil sands expenses.
 2. Includes PIP grants, other federal and provincial incentives, and insurance receipts.

Source: Canadian Association of Petroleum Producers, *Net Cash Expenditures of the Petroleum Industry*.

Table A4.5*Petroleum property expenditures, by region, 1983-91*

	Alberta	British Columbia	Saskat- chewan	Subtotal	Ontario	Other	Canada
	(millions of dollars)						
1983	746.5	87.7	154.8	989.0	6.6	8.1	1,003.7
1984	1,011.8	146.1	169.7	1,327.5	2.3	12.8	1,342.6
1985	1,274.8	176.9	194.6	1,646.3	3.2	10.2	1,659.8
1986	545.5	82.8	32.7	661.0	2.8	8.5	672.3
1987	979.2	100.1	79.0	1,158.3	2.9	6.9	1,168.1
1988	753.3	156.1	51.9	961.4	3.5	5.0	969.8
1989	585.0	134.9	58.3	778.3	3.1	2.1	783.5
1990	631.2	172.4	54.3	857.9	4.2	3.5	865.6
1991	467.1	99.4	34.5	601.0	3.0	10.1	614.1
Averages:							
1983-91	777.2	128.5	92.2	997.9	3.5	7.5	1,008.8
1983-86	894.6	123.4	137.9	1,156.0	3.7	9.9	1,169.6
1987-91	683.2	132.6	55.6	871.4	3.3	5.5	880.2

Notes: 1. Includes rental payments for surface rights, and excludes land purchase costs and freehold royalties negotiated in lieu of land bonus and rental payments relating to petroleum and natural gas reserves. Included as exploration by CAPP and by Statistics Canada. Excludes oil sands expenses.

Source: Canadian Association of Petroleum Producers, *Net Cash Expenditures of the Petroleum Industry*.

Appendix V

ALGEBRAIC REPRESENTATION OF FLOW-THROUGH SHARES

A flow-through share can be considered as a common share of a mining or petroleum company that entitles the purchaser to an amount of exploration or development expenditures, and their associated income tax deductions, equal to the selling price of the flow-through share. Thus, a flow-through share is a form of equity investment that is tax advantaged relative to a common share. In recognition of its tax features, the price of a flow-through share is typically higher than the price of the associated common share.¹ The difference between these two share prices is termed the flow-through share premium.

This appendix is concerned with representing the flow-through share premium algebraically and investigating the manner in which underlying factors influence it.² The latter include fiscal influences (i.e. income tax rates, the capital gains inclusion rate, rates of deductibility for exploration and development expenditures, and rates of any special incentives for exploration and development) and market and financial influences (i.e. expected rates of return on investments in common shares and flow-through shares, and incremental capital market distortions in the form of differences in liquidity risk, transactions costs and asymmetric information between common shares and flow-through shares).

A. Deriving the Flow-Through Share Premium

The Common Share Price

Since prices of flow-through shares and common shares are related, it is useful to develop first an algebraic expression for the latter. The price of a common share, P_c , reflects the combined impacts of the following factors:

- i) the rate of return expected to be earned on the common share over the period during which it is held by the investor³, K_c ;

¹ Otherwise the after-tax cost of financing to the resource company would be higher for flow-through shares than for common shares in which case flow-through shares should not be issued.

² The lifetime capital gains exemption and the cumulative net investment loss rules are ignored in this analysis.

³ This is determined by market valuation of all aspects of the expected performance of the mining or petroleum company for the period over which the investment is to be held.

- ii) the price the investor expects to obtain for the common share at its time of sale, $E(P_c)$; and
- iii) the expected income tax payable by the investor when the common share is sold.

Expected income tax payable is dependent on the amount of capital gain or loss generated at the time of sale, $E(P_c) - P_c$, the deductibility of capital losses for income tax purposes at that time⁴, the capital gains inclusion rate at that time, i_c , and the investor's marginal income tax rate⁵ at that time, t_p . Without any loss of generality, it is assumed here that there are no dividend payments in respect of the common share (or the flow-through share).⁶

The specific relationship among the various components of the price of a common share can be expressed algebraically as follows:

$$P_c = E(P_c)/(1+K_c) - [E(P_c)-P_c]i_ct_p/(1+K_c) \quad (A5.1)$$

where the first term on the right-hand side of equation (A5.1) is the present value of the expected selling price and the second term is the present value of any income tax payable at the time of sale. Alternatively, equation (A5.1) can be expressed as:

$$P_c = E(P_c) [1-i_ct_p] / (1+K_c-i_ct_p) \quad (A5.2)$$

⁴ Capital losses are deductible only against capital gains. This limits their value for income tax purposes.

⁵ It is implicitly assumed in this appendix that the investor is an individual in the highest income tax bracket.

⁶ This exclusion has no impact on the analytical derivations. Dividends can be effectively ignored since the primary purpose of this appendix is to compare the prices of flow-through shares and common shares.

The Flow-Through Share Price

In comparison to the price of a common share, the price of a flow-through share is dependent on:

- i) the rate of return expected to be earned on the flow-through share over the period during which it is held by the investor⁷, K_f ;
- ii) the same price the investor would expect to obtain for a common share at its time of sale, $E(P_0)$;
- iii) capital market distortions that are unique to flow-through shares such as incremental liquidity risk⁸, incremental transaction costs⁹ and incremental costs associated with asymmetric information, R ;
- iv) the reimbursement of expenses through grant-based incentive programs;
- v) the income tax savings available to the flow-through shareholder for the taxation year in which the share is purchased; and
- vi) the expected income tax payable by the flow-through share investor once the holding-period requirements have been satisfied and the associated common share is sold.

Income tax savings are dependent on the composition of the exploration and development expenditures incurred pursuant to the flow-through share agreement, income tax deductions relating to those expenditures (both rates and income deductibility), and any fiscal incentives available at the time the expenditures are incurred such as earned depletion (both rates and income deductibility) or grant-related incentive programs. Other things equal, exploration expenditures give rise to a larger tax savings than development expenditures and, for oil and gas investments, development expenditures would be more beneficial than petroleum-property acquisitions.

⁷ As for common shares, this rate or return is determined by market valuation of all aspects of the expected performance of the mining or petroleum company for the period over which the investment is to be held.

⁸ Where the issuance of common shares or flow-through shares is exempted from the general prospectus requirements of securities legislation, the shares must satisfy a holding-period requirement before they can be sold. Flow-through share agreements may also prohibit investors from disposing of their flow-through shares for a specified period following their acquisition. These restrictions on resale give rise to liquidity risk.

⁹ For example, incremental legal expenses, broker commissions and advertising costs.

Since the adjusted cost base of a flow-through share is deemed to be nil for income tax purposes¹⁰, a capital loss cannot be realized on disposition of the common share. Expected income tax payable by the investor is, therefore, dependent on the amount of capital gain generated at the time of sale, $E(P_c)$, the capital gains inclusion rate at that time, $i_t = i_c$, and the investor's marginal income tax rate at that time, t_p .

The specific relationship among the various components of a flow-through share can be expressed algebraically as follows:

$$P_t = E(P_c)(1-R)/(1+K_t) + P_t g + P_t(1-g)t_p(z+f) - E(P_c)(1-R)i_c t_p/(1+K_t) \quad (A5.3)$$

where

$$z = W_e(1+r)/(r+W_e)e_i + W_d(1+r)/(r+W_d)d_i + W_l(1+r)/(r+W_l)l_i \quad (A5.4)$$

and z is the present value of the tax deductions for the resource expenditures incurred; W_e , W_d and W_l are the write-off rates for Canadian exploration expense, Canadian development expense, and Canadian oil and gas property expense, respectively; e_i , d_i and l_i are the proportions of Canadian exploration expense, Canadian development expense, and Canadian oil and gas property expense, respectively, to total expenditures undertaken pursuant to the flow-through share agreement; r is the (risk-free) rate of discount; g is the rate of incentive grant; and f is the rate of earned depletion.

The first term on the right-hand side of equation (A5.3) is the present value of the expected selling price of the associated common share. The second term is the amount of any grant received by the investor in respect of the resource expenditure. The third term is the present value of the tax savings available to the investor. The fourth term is the present value of the expected income tax payable when the associated common share is sold. Equation (A5.3) can also be expressed as:

$$P_t = E(P_c) (1-R) [1-i_c t_p] / \{(1+K_t) (1-g) [1-t_p(z+f)]\} \quad (A5.5)$$

¹⁰ A zero cost-base rule has been in effect since August 1, 1976.

The Theoretical Flow-Through Share Premium

Eliminating the common terms in equations (A5.2) and (A5.5) yields the flow-through share premium expressed as the ratio of the price of flow-through shares to the price of common shares:

$$P_f/P_c = (1-R) (1+K_c-i_c t_p) / \{(1+K_f) (1-g) [1-t_p(z+f)]\} \quad (\text{A5.6})$$

Expected rates of return for common shares and flow-through shares can differ if investments financed in these alternative ways are viewed as fundamentally different. It may be the case, for example, that market valuation of flow-through share investments is relatively less favourable. There is, however, no empirical evidence that this is the case. Neither does the rationale for the existence of the flow-through share mechanism support such a distinction. Consequently, the analytics continue under the assumption that $K_f = K_c$.

It is indicated in Chapter V that the average holding period for flow-through shares is 10 months. For simplicity, therefore, it is further assumed here that $K_c = 0$. This simplifying assumption is consistent with the treatment afforded both grants for exploration and development expenditures and income tax savings associated with flow-through shares, neither of which is forthcoming immediately at the time of purchase, but is typically realized within the same taxation year.

Under these assumptions, equation (A5.6) reduces to:

$$P_f/P_c = (1-R) (1-i_c t_p) / [(1-g) (1-t_p(z+f))] \quad (\text{A5.7})$$

Equation (A5.7) can also be interpreted as the price of flow-through shares when the price of common shares has been normalized to unity. It is important to note in both equations (A5.6) and (A5.7) that the flow-through share premium is a function only of the price of common shares at the time the flow-through shares are purchased – the expected selling price of common shares does not enter into these equations.

B. Comparative Statics

From equation (A5.7), it is evident that the theoretical premium varies with the nature of the resource expenditure, income tax parameter values and incremental capital market distortions (either positive or negative). The exact relationship between the theoretical premium and these various factors is depicted in the comparative static equations below.

$$\delta(P_f/P_c)/\delta g = (1-R) (1-i_c t_p) / \{(1-g)^2 [1-t_p(z+f)]\} > 0 \quad (\text{A5.8})$$

$$\delta(P_f/P_c)/\delta z = \delta(P_f/P_c)/\delta f = t_p(1-R) (1-i_c t_p) / \{(1-g) [1-t_p(z+f)]\}^2 > 0 \quad (\text{A5.9})$$

$$\delta(P_f/P_c)/\delta t_p = (1-R) (z+f-i_c) / \{(1-g) [1-t_p(z+f)]\}^2 > 0 \text{ if } (z+f) > i_c \quad (\text{A5.10})$$

$$\delta(P_f/P_c)/\delta i_c = -t_p (1-R) / \{(1-g) [1-t_p(z+f)]\} < 0 \quad (\text{A5.11})$$

$$\delta(P_f/P_c)/\delta R = -(1-i_c t_p) / \{(1-g) [1-t_p(z+f)]\} < 0 \text{ if } R > 0 \quad (\text{A5.12})$$

Thus, the size of the theoretical premium varies:

- i) directly with changes in the rate of incentive grant, g , the present value of resource deductions, z , and the rate of earned depletion, f ;
- ii) directly with the marginal tax rate, t_p , if $(z+f) > i_c$, but inversely with the marginal tax rate if $(z+f) < i_c$ ¹¹;
- iii) inversely with changes in the capital gains inclusion rate, i_c ;
- iv) inversely with incremental capital market distortions, R , if $R > 0$, but directly with incremental capital market distortions if $R < 0$.

C. Size of the Theoretical Premium

It has already been established that the price of flow-through shares cannot be less than the price of common shares in a well-functioning capital market. Over the period 1983-91, write-off rates for resource expenditures did not vary: CEE remained deductible at a rate of 100 per cent; CDE at a rate of 30 per cent on a declining balance basis; and COGPE at a rate of 10 per cent on a declining balance basis. Neither did top personal marginal income tax rates change

¹¹ The more restrictive condition that $z > i_c$ has always held for exploration and development; it also held for petroleum-property acquisitions prior to 1988 at which time the capital gains inclusion rate increased to 66 2/3 per cent from 50 per cent. Earned depletion has never been available for resource-property acquisitions.

substantially, averaging about 50 per cent over this period.¹² The capital gains inclusion rate, however, increased from 50 per cent prior to 1988 to 66 2/3 per cent in 1988-89 and 75 per cent after 1989. The applicability and deductibility of earned depletion also changed considerably over the period.¹³ A variety of federal and provincial incentive programs provided cash grants at various times and rates.¹⁴ The combined effect of incremental capital market distortions and, consequently, the value of R is unknown.

¹² For example, the combined federal-Ontario rate for individuals in the top tax bracket, adjusted for all applicable surtaxes, ranged from a low of 46.1 per cent in 1988 to a high of 55.4 per cent in 1986.

¹³ The federal earned depletion allowance for petroleum exploration expenditures was generally phased out by 1985 for expenditures incurred on frontier lands and by 1984 for expenditures incurred elsewhere. (Earned depletion for petroleum development had previously been eliminated for expenditures incurred after 1980.) Prior to April 20, 1983, earned depletion for grass-roots mining expenses and pre-production development expenses (as well as for petroleum exploration expenses) was earned at a rate of 33 1/3 per cent and deductible to a maximum of 25 per cent of a taxpayer's resource profits. After April 19, 1983, however, deductibility for grass-roots mining expenses was increased to 25 per cent of any income under the mining exploration depletion allowance (MEDA). The MEDA for grass-roots mining expenses and earned depletion for pre-production development expenses was phased out by 1990. On July 1, 1988, Quebec implemented what is, in essence, a provincial earned depletion allowance for exploration expenditures incurred in Quebec that is tied directly to flow-through shares issued by junior exploration companies. The bonus deduction currently distinguishes surface mining exploration, eligible for a 75 per cent rate of allowance, and other mining and petroleum exploration, eligible for a 25 per cent rate of allowance. The incentive is claimable by Quebec residents against income from any source for provincial income tax purposes.

¹⁴ Federally, for example, the Petroleum Incentives Program (PIP) provided grants at rates dependent on the Canadian ownership rate and control status of the investor, the type of investment made and the geographic location of the investment – the maximum rate, applicable to exploration by Canadians in the Canada Lands, was 80 per cent. PIP was terminated generally effective April 1, 1986. The Canadian Exploration and Development Incentive Program (CEDIP), in effect from April 1, 1987, to December 31, 1989, provided grants equal to 33 1/3 per cent of eligible exploration and development expenditures to a maximum of \$10 million per resource company. The Canadian Exploration Incentive Program (CEIP) provided grants equal to 30 per cent of eligible exploration expenses incurred under a flow-through share agreement. CEIP commenced on October 1, 1988, for oil and gas and on January 1, 1989, for mining and was terminated generally effective February 19, 1990. Currently, Manitoba's Mineral Exploration Incentive Program (MEIP), which commenced in March 1992, provides a 25 per cent grant for eligible exploration expenses financed by junior mining companies through a flow-through shares agreement or a limited partnership.

However, the relationship between incremental capital market distortions, R , and the theoretical premium can be established from equation (A5.7). In particular, it follows from equation (A5.7) that $P_i \geq P_c$ if and only if:

$$R \leq \{t_p [(1-g)(z+f)-i_c] + g\} / (1-i_c t_p) \quad (\text{A5.13})$$

Equation (A5.13) indicates the maximum incremental capital market distortion that would cause flow-through shares to become disadvantaged relative to common shares. That maximum distortion, R , depends on the nature of the resource expenditures and the values of the various fiscal parameters. The distortion can be greatest for a flow-through share issue under which only exploration expenditures are incurred. Equation (A5.13) simplifies considerably when grant and depletion rates are zero¹⁵, i.e.

$$R \leq t_p (z-i_c) / (1-i_c t_p) \quad (\text{A5.14})$$

Table A5.1 gives the maximum values of R that satisfy equation (A5.14). It reveals in the case of CEE, for example, that flow-through shares would not be disadvantaged relative to common shares so long as (positive) incremental capital market distortions attributable to flow-through shares were not greater than between 20 and 33 per cent from 1983 to 1991. In addition, as is evident in the case of petroleum-property acquisitions, only if incremental capital market distortions favoured flow-through shares over common shares (i.e. were negative) by at least 16 per cent in 1991 should they be issued.

Table A5.1
Maximum R values¹

Expenditure entirely	Pre-1988 ($i_c = 0.5$)	1988-89 ($i_c = 0.67$)	Post-1988 ($i_c = 0.75$)
CEE ($z = 1$)	0.33	0.25	0.20
CDE ($z = 0.825$)	0.22	0.12	0.06
COGPE ($z = 0.55$)	0.03	-0.09	-0.16

¹ Calculations assume that $t_p = 0.5$, $r = 0.1$ and $g = f = 0$.

¹⁵ This assumption is generally consistent with the fiscal treatment currently afforded flow-through shares.

In the special case where capital market distortions just offset each other, i.e. $R = 0$, the size of the theoretical premium depends only on income tax parameters and the nature of the resource expenditure. It is useful to examine this special case to establish benchmark theoretical premia rates that would rise or fall as incremental capital market distortions either favour (i.e. are negative) or disadvantage (i.e. are positive) flow-through shares relative to common shares. From equation (A5.7) it follows that $P_f \geq P_c$ if and only if:

$$t_p [(1-g)(z+f)-i_c] + g \geq 0 \quad (\text{A5.15})$$

When grant and depletion rates are also zero (i.e. $g = f = 0$), equation (A5.15) reduces to:

$$z \geq i_c. \quad (\text{A5.16})$$

The relationship in equation (A5.16) has always held for CEE and CDE, and was the case for COGPE prior to 1988.

The benchmark theoretical premium rate can also be determined from equation (A5.7) when $R = 0$:

$$P_f/P_c - 1 = \{t_p [(1-g)(z+f)-i_c] + g\} / \{(1-g) [1-t_p(z+f)]\} \quad (\text{A5.17})$$

When grant and depletion rates are zero (i.e. $g = f = 0$), equation (A5.17) reduces to:

$$P_f/P_c - 1 = t_p (z-i_c) / (1-t_p z) \quad (\text{A5.18})$$

Table A5.2 provides values for the benchmark theoretical premium rate associated with equation (A5.18). This table shows in the case of CEE, for example, that benchmark premia rates ranged from 25 per cent to 50 per cent of the underlying common share price. To the extent that capital market distortions attributable to flow-through shares were greater than those attributable to common shares, the maximum premia would be less than these benchmark theoretical premia. Table A5.2 also reinforces the findings from Table A5.1 in respect of COGPE – namely, that incremental capital market distortions would have to be negative after 1987 in order that the financing of COGPE entirely via flow-through shares would be an attractive option.

Table A5.2
Benchmark theoretical premium rates¹

Expenditure entirely	Pre-1988 ($i_e = 0.5$)	1988-89 ($i_e = 0.67$)	Post-1988 ($i_e = 0.75$)
CEE ($z = 1$)	0.50	0.33	0.25
CDE ($z = 0.825$)	0.28	0.13	0.06
COGPE ($z = 0.55$)	0.03	n/a	n/a

¹ Calculations assume that $t_p = 0.5$, $r = 0.1$ and $R = g = f = 0$.

n/a Not applicable implies that flow-through shares are disadvantaged relative to common shares (i.e. $P_f < P_e$) and should not be issued.