

**SCIENTIFIC RESEARCH AND EXPERIMENTAL
DEVELOPMENT: TAX POLICY**

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TAX POLICY*

ISSUE DEFINITION

The role of Scientific Research and Experimental Development (SR&ED) in strengthening the competitive position of industry in the medium and long term is well established. SR&ED activities result in innovation through the creation of new processes and products, improve the quality of existing ones, enhance corporate productivity and reduce operating costs, thereby increasing profitability. Nor are the benefits of SR&ED limited to the industrial sector; the entire economy benefits from initiatives in this area. In fact, scientific research is crucial to sustained economic growth and an improved standard of living.

For these reasons, the federal government has long been a supporter of research activities in industry. In addition to providing subsidies and contracts to encourage research, it supports corporate SR&ED through tax incentives. These differ from direct financing mechanisms in that they are relatively neutral with respect to specific SR&ED activities or sectors of production. The industrial sector is in the best position to decide the type and amount of scientific research it should undertake and companies are free to decide where to make SR&ED investments.

Fiscal measures modify the after-tax cost of SR&ED investments in that businesses incurring SR&ED expenditures are entitled to tax deductions and credits. These measures represent a tax expense, or loss of revenue, for the government. Tax measures may either serve as a substitute for budget expenditures or complement direct financing methods. They are, however, much more difficult to evaluate and control.

This current issue review looks at the basis for government action in this area and at how federal tax measures in respect of SR&ED generally work. The history of tax incentives for industrial SR&ED

* This publication is a revised version of the earlier paper *Research Development: Tax Policy* first published in October 1989 and regularly updated since that time.

in Canada is then examined, and some observations are made on tax incentives for scientific research.

BACKGROUND AND ANALYSIS

A. Justification for Government Support of SR&ED

Government funding of industrial SR&ED is generally considered justifiable because the resulting benefits to society are greater than the benefits to individual firms. The company conducting SR&ED activities is not always in a position to take full advantage of related benefits, but some of the knowledge gained benefits the community in general. Furthermore, SR&ED results can be copied, at times even before the innovating company has had the opportunity to recover all of its costs. Moreover, the degree of financial risk associated with SR&ED activities may discourage companies from investing in research. It is argued that unless the government promotes industrial SR&ED, it is quite likely that companies will not invest sufficiently in SR&ED activities, since their actions will be guided solely by the returns they hope to generate.

Even without any kind of government incentive, some industrial SR&ED research would be carried out, but this would be only as much as would bring private benefits. Consequently, any kind of incentive will have a positive impact if it prompts businesses to make more than this minimum SR&ED effort. That is the goal of the federal government's industrial innovation policy, which is aimed at correcting the legendary under investment in SR&ED by Canadian corporations.

B. Delivery of SR&ED Tax Incentives

Federal government tax incentives for SR&ED target three types of research: basic research, work performed for the advancement of knowledge and science without any practical application in mind; applied research, carried out for the advancement of science, but with a specific application in mind; and experimental development, aimed at achieving technological progress. In experimental development the results of basic and applied research are used to create new products or processes, or to improve those that already exist.

To take advantage of tax incentives for SR&ED, a company must be able to show that it has invested in one of these types of research. Both current and capital expenditures qualify for federal SR&ED tax incentives. Current expenditures include the salaries of research personnel,

general SR&ED costs (telephone and electricity, office equipment and so forth), as well as costs, including maintenance costs, associated with facilities and equipment used for SR&ED purposes. Capital expenditures include assets -- facilities and equipment but not buildings -- used for SR&ED purposes.

For the purposes of SR&ED incentives, corporations are classified according to their size and controlling interest. In one category are Canadian-controlled private corporations (CCPCs) established in Canada and controlled neither by government-owned agencies nor by non-residents; a “small” CCPC is a corporation with a taxable income of less than \$200,000. All remaining corporations fall into the other category.

SR&ED tax incentives apply to internal SR&ED and external SR&ED carried out for other corporations. Most corporations carry out their own SR&ED internally and are thus themselves the beneficiaries of the tax incentives. Others contract out all or part of their SR&ED to entrepreneurs. Corporations that contract out SR&ED are also eligible for SR&ED tax incentives.

Canadian corporations that incur eligible research expenses may benefit from three federal SR&ED tax incentives: the deduction, the tax credit and, in some instances, the tax credit refund. The aim of SR&ED incentives is to compensate for the high degree of risk involved in investing in research activities by lowering their real costs; the ultimate goal is to enhance the overall SR&ED effort in Canada.

The deduction lowers taxable income and consequently, the tax payable. With the deduction, a business that spends \$1,000 on SR&ED activities and is taxed at the rate of 30% saves \$300 ($\$1,000 * 30\%$). Thus, its net cost for SR&ED is \$700.

The tax credit, which applies to a percentage of overall SR&ED, serves directly to lower the tax payable. Suppose that the business in the example above also qualifies for a tax credit of 20%. The value of the credit is \$200 ($\$1,000 * 20\%$). However, for corporate tax purposes, the tax credit amount is considered income and must be included in the firm’s taxable income. Thus, the firm’s real savings will total $\$200 * (1-30\%)$ or \$140. If the company owes little or no tax at all, it can even claim a total or partial refund of this tax credit.

Therefore, tax measures lower the after-tax cost of SR&ED investment. In the above example, the real cost of SR&ED is \$560, or ($\$1,000 - \440). In other words, tax measures allow a firm to recover more than 40% of its initial SR&ED investment.

Such tax measures, which lower a firm's initial SR&ED costs, represent a tax expenditure or loss of revenue for the federal government (in our example, a loss of \$440). The federal government believes that this loss of revenue leads to increased SR&ED activities in Canada and ultimately, to positive spinoffs which outweigh the drop in federal revenues. These spinoffs benefit not only the industrial sector, but the entire Canadian economy.

C. Historical Overview

The history of federal tax incentives for SR&ED can be divided into three periods. Between 1944 and 1986, traditional tax measures such as the deduction and the tax credit were introduced, together with some additional tax measures that were tested and found wanting. Between 1986 and 1993, the deduction and the tax credit were fine-tuned to facilitate their use and improve the administration process. Since 1994, which marked the start of the third period, the focus has been on broadening and facilitating access to the SR&ED tax system.

1. From 1944 to 1986

The federal government has for many years been stimulating SR&ED activities through the *Income Tax Act*. As early as 1944, companies could, pursuant to this legislation, deduct immediately from their taxable income an amount equivalent to 100% of current expenditures in respect of scientific research. Until 1960, companies could also deduct one-third of capital expenditures incurred for SR&ED in a taxation year. The legislation was amended in 1961 to make capital expenditures fully deductible in the taxation year in which they were incurred.

From 1962 to 1966, the federal government also allowed an incremental tax deduction equivalent to 50% of current and capital expenditures exceeding the 1961 level. As the name indicates, the incremental tax deduction allowed companies with higher SR&ED expenditures to lower their taxable income even further. Companies claiming the additional deduction reduced their taxes by approximately \$60 million during this period. The measure was replaced in 1967 by cash grants introduced under the *Industrial Research and Development Incentives Act* (IRDIA). These cash grants were equal to 25% of capital expenditures and 25% of current expenditures in excess of the average for the preceding five years. Their purpose was to offer the same benefits as the additional 50% deduction, while providing financial support to non-taxable companies involved in SR&ED, in particular small CCPCs previously unable to take advantage of federal tax policy.

Nearly \$290 million was awarded under the IRDIA, which was repealed in 1975.

The federal government further amended the *Income Tax Act* in 1977, introducing a tax credit ranging from 5% to 10% of current and capital expenditures, depending on the nature of the firm and the region in Canada where the activities were carried out. A new legislative provision, whereby the tax credit had to be taken into account in calculating taxable income was introduced; this provision, which has decreased the full effect of the tax credit through the company's rate of taxation, is still in effect today. In addition, in 1978 the basic tax credit rate was increased to 10%, the exceptions being the Atlantic provinces and the Gaspé region, where the rate rose to 20%, and small businesses, where it rose to 25%.

That same year, the federal government introduced another SR&ED tax incentive in the form of additional tax relief for scientific research. The deduction is similar to that in effect between 1962 and 1966. Companies were allowed to deduct from their taxable income 50% of all SR&ED expenditures exceeding their recorded average for the three preceding years. Since the goal was to attract venture capital, companies conducting SR&ED were allowed to waive the tax deduction and transfer it to outside investors. This measure spawned abuses, however.

At that time, certain non-taxable companies could not claim the general deduction or the tax credit, while others could not claim the full deduction and credit. This encouraged them to seek out new mechanisms to transfer these tax incentives to those who could use them. Some people set up limited partnerships to act as outside investors. A passive outside investor could arrange to have a research firm conduct SR&ED on his behalf. Investments of this nature increased the company's research expenditures, thereby qualifying the investor for the tax deduction and credit. Moreover, SR&ED expenditures that were not considered "additional" for the research company were viewed as such for the investor, who had previously incurred no such expenses at all. The passive investor was thus also able to benefit from the incremental 50% deduction. It is estimated that claims related to tax relief cost the federal government more than \$2.5 billion.

As a result of reported abuses, the federal government abolished the 50% incremental deduction in 1983 and introduced new tax provisions. To begin with, the tax credit rates were increased by 10 percentage points over their 1978 level. The basic rate was set at 20%, while the rate in effect in the Atlantic provinces and the Gaspé region was set at 30% and the rate for small CCPCs was set at 35%. The government then introduced excellent carry-forward provisions for the tax deduction and credit. Corporations were allowed to carry forward their

SR&ED deduction indefinitely to offset future taxable income. Unused tax credits could be combined and either carried back for three years or forward for seven. The federal government also made certain corporations eligible to receive tax credits in the form of a cash refund. In the case of large corporations, the refunds were equal to 20% of the value of the tax credits, while for small CCPCs, the rate was 100% on the first \$2 million of eligible SR&ED expenditures and 40% on capital expenditures linked to scientific research. The federal government introduced this refund to ensure that small CCPCs with no tax payable would also benefit from tax incentives.

The last measure introduced was the scientific research tax credit. Companies were able to enter into research contracts on behalf of an outside investor who had acquired shares or debt securities for SR&ED purposes. To offset this move, companies were required to waive their tax incentives, while outside investors qualified for a tax credit of 50% of their investment. This measure also proved to be an excellent tax loophole. It allowed outside investors to turn a quick profit by investing in research, without anything to show that the tax savings thus realized were being poured back into SR&ED activities. As a result of this mechanism, outside investors benefited from more than \$1.6 billion in tax relief between 1983 and 1985, the year in which the measure was abolished.

2. 1987 to 1993

In an effort to broaden its tax base and also probably to limit abuses of the tax system as it applied to SR&ED, in 1987 the federal government launched a major reform of tax incentives for scientific research. Its entire focus was on the traditional tax measures, that is the deduction and tax credit, and on redefining the meaning of “scientific research and experimental development” as set out in the *Income Tax Act*.

The legislation was amended to ensure that the beneficiary of the tax incentives in respect of SR&ED was directly associated with the research activities; the effect of this provision was to limit the number of passive investors. Furthermore, companies would no longer qualify for tax incentives unless the expenditures incurred were “all or substantially all attributable” (90% or more) to SR&ED activities. The government then moved to exclude expenses incurred for the purchase of buildings from the definition of SR&ED expenditures. The amount of tax credit that could be claimed for SR&ED was limited to 75% of federal tax payable (although this limit was eliminated in the 1993 budget). However, carry-forward provisions were enriched so that unused credits could be carried back for three years or forward for ten. Finally, the federal government

eliminated the refundable tax credit at the basic rate of 20% for large corporations, but maintained the partial (40%) or full (100%) refund for small CCPCs.

3. Since 1994

The current tax system as it applies to SR&ED incorporates part of the components of the 1987 reform and other improvements made to the *Income Tax Act* since 1994.

As in the past, deductibility of SR&ED expenditures depends on the type of expenditures and where they were incurred. Both current and capital expenditures incurred in Canada are deductible; however, of expenditures incurred outside Canada, only current expenditures are deductible. SR&ED expenditures incurred in Canada may either be deducted in the taxation year in which they are incurred, or carried forward and deducted later. Current expenditures incurred outside Canada must be deducted immediately.

Provisions respecting eligibility are much broader than before. Under the new system, the deductions of corporations are no longer limited to expenditures that are all, or substantially all, attributable to SR&ED activities. Since 1994, the “portion of expenditures directly attributable” to SR&ED activities has also been deductible. For example, if 30% of a building is used for SR&ED and the remaining areas for production or manufacturing purposes, corporations can claim a deduction for that portion of the costs associated with the use of the building for SR&ED purposes.

Of course, some companies may have a hard time pinpointing exact costs and assessing the specific portion of expenditures directly attributable to SR&ED. Two options are available under the legislation. Corporations can choose either to claim a deduction based on a portion of the expenditures that has been accurately assessed (with supporting evidence), or they can use the “alternative method,” which was introduced in 1994. This involves waiving the deduction for overhead costs (one of the categories of current expenditures) and claiming a tax credit for these costs, which is calculated on the basis of a “proxy amount.” This provision will be explained in greater detail below.

The SR&ED tax credit currently granted by the federal government is substantially similar to that offered to Canadian companies since 1987. The general tax credit rate is set at 20%, 35% for small CCPCs. The 35% rate for small CCPCs applies only to the first \$2 million in eligible SR&ED expenditures. Unused tax credits can still be carried back three years or forward

ten years. The special 30% tax credit rate for companies involved in SR&ED activities in the Atlantic and Gaspé regions was eliminated in 1994. The rates now depend on company size, as elsewhere in Canada. It appears that the preferential rate did not succeed in attracting new investment to these regions or alleviating regional disparities. In announcing the change, however, the Minister of Finance did not say whether more effective and appropriate measures would be put in place to promote industrial and technological growth in these regions.

However, four significant improvements made to the legislation in 1994 distinguish the current tax credit system from the last. First, a corporation that waives the inclusion of overhead costs in the calculation of SR&ED expenditures qualifying for the deduction can now claim a tax credit in respect of these costs. The latter are estimated according to a proxy amount set by the legislation at 65% of the salary base directly attributable to SR&ED.

Second, since 1994, a partial tax credit can be claimed that consists of half the normal credit applicable to the cost of equipment used for SR&ED between 50% and 90% of the time (this is multi-purpose equipment or equipment used mainly but not entirely or nearly entirely for SR&ED). Unlike the full tax credit (for equipment used for SR&ED purposes 90% to 100% of the time), which can be claimed for the year of use, the new tax credit must be claimed in two equal instalments in the two years following the year of acquisition. Thus the partial credit cannot be carried forward to a future tax year. Table 1 illustrates how the tax credits on shared equipment use are now delivered to a company in a 20% tax credit region.

TABLE 1
TAX CREDIT ON \$100 EXPENDITURE FOR SHARED USE EQUIPMENT
(20% TAX CREDIT)

	Percentage of Asset Used for SR&ED		
	0% - 49%	50% - 89%	90% and More
Year 1	0	0	\$20
Year 2	0	\$ 5	0
Year 3	0	\$ 5	0
Total Tax Credit	0	\$10	\$20

Source: Government of Canada, "Modifications to the Scientific Research and Experimental Development Tax Incentives," *News Release*, 2 December 1992.

Thirdly, as a result of the 1994 amendments, CCPCs with taxable earnings of between \$200,000 and \$400,000 qualify for the tax credit for small corporations. The one restriction, however, is that the tax credit decreases as the corporation's taxable income rises. Specifically, the business limit on SR&ED expenditures (currently set at \$2 million) is reduced by \$10 for each dollar by which the taxable income of the corporation exceeds \$200,000.

Fourthly, CCPCs with taxable incomes of between \$200,000 and \$400,000 also qualify for a tax credit refund similar to that granted to small businesses. Here again, a business limit based on taxable income applies.

The federal government also announced further changes to SR&ED tax incentives in its 22 February 1994 budget. Starting on 31 December 1994, it eliminated the special tax credit rate of 30% granted to corporations involved in SR&ED in the Atlantic provinces and the Gaspé region. Rates are now determined on the basis of the corporation's size, as is the case elsewhere in the country. Evidently the preferential rate failed to attract new investment to these regions and to alleviate economic disparities. The Minister of Finance did not specify in his budget speech if other, more effective and suitable, measures would be introduced to stimulate industrial and technological growth in these regions.

With respect to the tax credit for SR&ED available to CCPCs with taxable incomes of between \$200,000 and \$400,000, the budget established a ceiling to be calculated not on taxable income, but on the corporation's taxable capital. According to the Finance Minister, the reason for the proposed change was to ensure consistency with the changes to the business ceiling with respect to the general application of the corporate income tax system. From now on, the ceiling on SR&ED expenditures declines as the corporation's taxable capital in Canada increases from \$10 to \$15 million. The proposed measure could reduce the amount of a corporation's tax credit or the refundable portion of the tax credit. Table 2 illustrates the impact of these changes.

The 1994 budget also changed the rules governing the tax credit applicable to corporations most or all of whose income is derived from SR&ED-related activities. These corporations were exempted from the rules excluding some expenditures (such as legal fees and interest payments) from expenditures eligible for SR&ED credits. The result is more standard treatment for all corporations carrying out research.

The 1994 budget also limited claims for tax credit adjustments for previous years. There had previously been no time limit for identifying previous years' eligible SR&ED

expenditures. The changes limited eligible expenditures to those declared by corporations on a form to be returned to Revenue Canada no later than the tax filing deadline for the year following the year in which the expenditures were made. These changes were the result of concerns expressed by the Auditor General of Canada in the 1994 Annual Report. He had noted that some corporations, realizing that they were eligible for the SR&ED tax credit, were using the carry-forward provision to claim tax credits for several years, thereby considerably increasing the federal government's tax expenditures. The 1994 changes should put an end to the unexpected influx of claims for this tax credit.

TABLE 2
SR&ED TAX CREDIT EARNED BY CORPORATIONS
WITH TAXABLE INCOMES OF BETWEEN \$200,000 AND \$400,000⁽¹⁾

Type of Corporation		Total Credit Earned			Refundable Credit		
Taxable Income	Taxable Capital	1987	1994	1994 Budget	1987	1994	1994 Budget
\$	Million \$	\$	\$	\$	\$	\$	\$
200,000	10.5	700,000	700,000	700,000	700,000	700,000	700,000
200,000	12.5	700,000	700,000	550,000	700,000	700,000	350,000
200,000	15.0	700,000	700,000	400,000	700,000	700,000	nil
300,000	10.0	400,000	550,000	550,000	nil	350,000	350,000
300,000	12.5	400,000	550,000	475,000	nil	350,000	175,000
300,000	15.0	400,000	550,000	400,000	nil	350,000	nil
400,000	10.0	400,000	400,000	400,000	nil	nil	nil
400,000	12.5	400,000	400,000	400,000	nil	nil	nil
400,000	15.0	400,000	400,000	400,000	nil	nil	nil

(1) Assuming current SR&ED expenditures of \$2 million and a tax credit rate of 20%.

Source: Minister of Finance, the Honourable Paul Martin, *Tax Measures: Supplementary Information*, 22 February 1994; Minister of Finance, the Honourable Don Mazankowski, *The 1993 Budget*, 26 April 1993; Research Branch, Library of Parliament.

Moreover, Bill C-27, which received Royal Assent on 15 June 1994, requires companies to identify expenditures that qualify for the SR&ED tax credits. Formerly, Revenue Canada had to make adjustments to SR&ED tax credits when they were not claimed in the taxation

year in which the expenditures were incurred. Under Bill C-27, companies themselves must now calculate the portion of the expenditures qualifying for a tax credit that they wish to carry forward. In addition, under the legislation, companies must declare their qualifying expenditures not later than two years after they are incurred. Since it is companies that benefit from these tax measures, it seems appropriate that they should be responsible for calculating the adjustments. These amendments will greatly simplify the administration of the SR&ED tax credit program and reduce costs. The amendments should also limit the number of claims arising from previous fiscal years.

The federal budget brought down on 27 February 1995 announced additional changes to tax credit provisions. The budget proposes changes in four specific areas: information technology R&D, contract R&D and non-arm's length transactions; third-party payments; and unpaid amounts.

The changes concerning information technology resulted from observations that Canadian chartered banks were claiming tax advantages for information technology development expenditures (on software and hardware for gathering, processing and distributing information). The federal government decided to review this situation and, in the meantime, temporarily made financial institutions ineligible for SR&ED tax advantages with respect to information technology. The results of the review were announced in the 6 March 1996 budget. The government concluded that the rules governing SR&ED tax incentives must apply to all businesses investing in information technology, including financial institutions. The government believes that potential problems can be solved by changing the administrative directives or broadening audits.

The 1995 budget subsequently changed some rules governing SR&ED contracts, particularly transactions between related parties. Companies contracting out SR&ED are eligible for tax incentives applicable to the amount of the contracts. This amount usually includes sums that would not be eligible for the tax incentives if the SR&ED were carried out internally (for example, profits, the costs of renting buildings, and interest payments). When there is a relationship of dependence between the payer and the SR&ED contractor (for example, a parent corporation and a subsidiary), there is clearly greater latitude for setting (or overestimating) the value of contracts. The 1995 budget ensured that expenditures eligible for the tax incentives under contracts with related parties would in future be limited to the costs incurred by the contractors in carrying out the SR&ED. Formerly, corporations awarding SR&ED contracts had to provide information on the contractors, including names and GST registration numbers.

The 1995 budget also made changes to payments to third parties for SR&ED. SR&ED carried out under an agreement with a third party is different from other SR&ED contracts in two ways. Firstly, when SR&ED is contracted out, it is carried out directly for the payer, which obtains ownership of the SR&ED. In the case of payment to a third party, the payer obtains the right to use the results of the SR&ED, but does not have control over the SR&ED itself. Secondly, and unlike the case for other SR&ED contracts, payments to third parties become eligible for the tax incentives when payments are made, not when the SR&ED is carried out. Since the 1995 budget, third parties must provide information about the nature of the SR&ED they have carried out and indicate the related expenditures. As well, payments to third parties are treated like SR&ED contracts: they are eligible for the tax incentives in the year in which the SR&ED is carried out.

Lastly, the federal government limited the tax credits that may be claimed for SR&ED expenditures not yet incurred. SR&ED activities, and thus the related expenditures, often cover a period of several years. Before 1995, corporations claimed tax credits for amounts not yet paid out. The 1995 budget set out rules making the tax credit applicable to the year in which payment of the outstanding amount is made (that is, when the full amount of the SR&ED expenditure is paid).

In June 1998, the Minister of National Revenue announced measures to improve the administration of tax incentives for SR&ED. An independent national body will be created to administer the SR&ED program and the application form for the SR&ED tax credit will be simplified. Furthermore, a review committee, consisting of industry representatives and officials, has been established to ensure that the new method of administration is properly implemented. None of these measures will change anything with respect to the SR&ED tax incentives.

D. Comments on Tax Measures Related to SR&ED

The main advantage of these tax measures is clearly that they are generally applicable, while leaving companies free to make decisions on their scientific research activities. The private sector determines for itself the level and type of SR&ED activities to carry out, basing decisions on cost-effectiveness and marketing potential.

When they form a simple tax structure, tax incentives can be relatively inexpensive to administer and apply. However, the frequent changes to federal SR&ED tax incentives have

instead increased the complexity of the taxation system and created an environment of fiscal uncertainty for businesses planning to invest in SR&ED.

The complexity of the SR&ED tax incentive system has come about partly because of the growing number of criteria governing the system's application. It is also tied in partly with the way scientific research is defined for tax purposes. Corporations are required to explain in detail the nature of the SR&ED activities and demonstrate the scientific and technological content of their work. As such, it is difficult at times for them to determine whether a particular activity can be considered as scientific research or not.

Like all tax expenditures, SR&ED tax incentives also raise the problem of cost control. Improperly or inadequately assessed tax incentives can turn out to be attractive tax loopholes and result in a significant loss of government revenue. Fortunately, in the 1980s, the federal government took steps to eliminate potential abuses of the taxation system. This is not to say, however, that it is completely effective in its control and evaluation of the SR&ED tax incentives for Canadian companies. In this regard, in his 1994 Report, the Auditor General was critical of the lack of evaluation, and suggests that regular and comprehensive control of SR&ED tax measures be exercised in order to alleviate costs resulting from the federal government shortfall. It would appear that the federal government has decided to follow up on the Auditor General's recommendations. In the 1995 budget speech, it was announced that the government intended to evaluate SR&ED tax measures on an ongoing basis and to amend them as required to ensure the continued efficiency and fairness of the tax system. In the 6 March 1996 budget, the Finance Minister announced that the government had undertaken an evaluation of the relevance, impact and efficiency of SR&ED tax incentives.

Available data on the cost of SR&ED tax incentives give a general idea of the relative size of the federal government's indirect funding of private sector research. According to an Industry Canada resource book (1994), SR&ED tax expenditures account for nearly 15% of overall direct and indirect federal funding of science and technology, while the government, which funds nearly 8% of overall industrial SR&ED, also indirectly funds a further 18% through tax incentives. **In 1997 the federal government awarded \$1.3 billion in tax credits, to more than 11,000 businesses operating in Canada.** In 1986, 4,413 companies claimed a total of \$759 million in tax credits. Thus, tax credits are proving to be attractive to a growing number of businesses and represent a major cost to the federal government.

Warda found (1990) that of all industrialized countries, Canada offers the most attractive SR&ED tax incentives. According to his analysis, the overall federal and provincial tax incentives available allow Canadian companies to recover, depending on the province, from 50% to 60% of their initial SR&ED investment. In other words, because of the tax incentives, companies could double their SR&ED activities for a given investment. However, it is impossible to be sure from this study whether the tax incentives are prompting Canadian companies to incur additional SR&ED expenditures.

In its evaluation report, Finance Canada tried to assess whether Canadian companies were reacting to the tax incentives by spending more on SR&ED. The audit showed that every tax revenue dollar forgone by the federal government generated \$1.38 in additional expenditures. Tax incentives for SR&ED are thus cost-effective. Even so, the level of SR&ED expenditures by industry remains relatively low in Canada compared with that of other industrialized countries.

PARLIAMENTARY ACTION

The federal government has for several years been offering a variety of tax incentives to stimulate industrial SR&ED. Changes over time have made it possible to increase the number of beneficiaries eligible for these tax concessions. The most notable change has certainly been to allow non-taxable corporations to receive a tax credit refund. The greatest abuses of the system have resulted from measures allowing the transfer of corporate tax breaks to outside investors. Although the development of scientific research may be fundamental to the country's growth, that development must be promoted within the framework of an equitable tax system. Amendments to the *Income Tax Act* in 1987 appear to give rise to few abuses. **The new measures passed in 1994 have likely increased the number of firms that qualify for SR&ED tax incentives.**

To assess the impact of SR&ED tax incentives, we have to determine the attendant costs and benefits. The evaluation of tax expenditures related to scientific research gives a truer picture of government involvement and facilitates changes in the orientation of science and technology policy.

CHRONOLOGY

- 15 August 1944 - The *Act to Amend the Income War Tax Act* was proclaimed. Under these amendments, all current expenditures and one-third of capital expenditures on scientific research could be deducted to a maximum of 5% of taxable corporate income.
- 13 July 1961 - Amendments to the *Income Tax Act* received Royal Assent. Capital expenditures incurred in Canada for research became fully deductible.
- 29 November 1962 - Parliament passed amendments to the *Income Tax Act* allowing corporations to claim an additional tax deduction of 50% for scientific research.
- 10 March 1967 - Coming into force of the *Industrial Research and Development Incentives Act* under which the federal government awarded grants covering 25% of current and capital expenditures in respect of SR&ED.
- 30 June 1978 - Amendments to the *Income Tax Act* enabled corporations to claim an SR&ED tax credit of between 5% and 10%, depending on the size of the firm and the location of SR&ED activities.
- 17 February 1983 - Amendments to the *Income Tax Act* increased tax credit rates by 10 percentage points and provided for credit refunds to non-taxable corporations.
- 19 April 1983 - The Honourable Marc Lalonde, Minister of Finance, presented a paper entitled "Research and Development Policies: A Paper for Consultation," in which he proposed changes to SR&ED tax incentives.
- 18 June 1987 - The Honourable Michael Wilson, Minister of Finance, tabled the *White Paper: Tax Reform 1987* which called for several changes to SR&ED tax incentives.
- 22 February 1994 - In his budget speech, the Honourable Paul Martin, Minister of Finance, announced a variety of changes to SR&ED tax incentives.
- 12 May 1994 - Amendments made to the *Income Tax Act* (Bill C-9) in 1994 received Royal Assent.

- 15 June 1994 - Bill C-27, which required companies themselves to calculate and identify expenditures qualifying for the SR&ED tax credit, received Royal Assent.
- 28 June 1994 - John Manley, Minister of Industry, announced a federal science and technology policy review.
- 27 February 1995 - In the budget speech, the Honourable Paul Martin, Minister of Finance, announced additional amendments to SR&ED tax provisions.
- 6 March 1996 - The Minister of Finance announced in his budget that financial institutions investing in information technologies would also be eligible for a SR&ED tax credit and that the government would complete its evaluation of the impact and efficiency of SR&ED tax incentives in 1996.

SELECTED REFERENCES

- Blais, R. "Bilan et perspectives des crédits d'impôt à la R-D dans les entreprises québécoises." *Compte rendu du séminaire sur les mesures fiscales d'incitation à la R-D*. Conseil de la science et de la technologie, Montreal, May 1989, p. 59-97.
- Conseil de la science et de la technologie. *Compte rendu du séminaire sur les mesures fiscales d'incitation à la R-D*. Montreal, May 1989.
- Conseil de la science et de la technologie. *Les avantages fiscaux associés aux activités de recherche et de développement*. Government of Quebec, March 1988.
- Department of Finance. *Background on Federal Income Tax Assistance for Research and Development*. Background document prepared for the Standing Committee on Public Accounts, 14 March 1995.
- Department of Finance. Federal Tax Initiatives to SR & ED. Evaluation report, 1998 (available at <http://www.f.n.gc.ca>).**
- Freeman A. and B. McKenna. "Banks Ask Millions in R&D Credits." *Globe and Mail* (Toronto), 15 December 1994.
- Government of Canada. "Modifications to the Scientific Research and Experimental Development Tax Incentives." *News Release*, 22 December 1992.
- Government of Canada. "Federal Government Launches Science and Technology Review." *News Release*, 28 June 1994.

- Hamilton, R. "Tax Incentives and Innovation: The Canadian Treatment of R&D." *Canada-United States Law Journal*, Vol. 19, 1993, p. 233-257.
- Industry, Science and Technology Canada. *Support for Technology Development*. 1989.
- McFetridge, D.G. and J.P. Warda. *Canadian R&D Incentives: Their Adequacy and Impact*. Canadian Tax Foundation. Document No. 70, 1983.
- Minister of Finance, the Honourable Marc Lalonde. *Research and Development Tax Policies*. A Paper for Consultation. Government of Canada, April 1983.
- Minister of Finance, the Honourable Paul Martin. *Tax Measures: Supplementary Information*. Government of Canada, 22 February 1994.
- Minister of Finance, the Honourable Paul Martin. *Amendments to the Income Tax Act - Explanatory Notes*. Government of Canada, February 1994.
- Rogers, Bereskin and Parr. *Research and Development in Canada: A Practical Guide to Financing, Protecting and Exploiting New Technology*. 1987.
- Sapona, I. "The Proposed New Scientific Research and Experimental Development Rules - An Update on Research Incentives." *Bulletin for International Fiscal Documentation*, Vol. 47, No. 5, May 1993, p. 255-262.
- Secretariat for Science and Technology Review. *Resource Book for Science and Technology Consultations*. Government of Canada, Vol. I, June 1994.
- Sweeny, T. and C. Robertson. "Income Tax Incentives for Canadian Research and Development." *Canadian Taxation Review*, 37:2, March/April 1989, p. 310-340.
- Switzer, L. *Étude des répercussions des mesures fiscales et des dépenses publiques sur les investissements du secteur privé en recherche et développement*. Government of Quebec, MESS, 1986.
- Warda, J. *International Competitiveness of Canadian R&D Tax Incentives: An Update*. Conference Board of Canada, May 1995.