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# INSTITUTIONAL ASPECTS OF R&D TAX INCENTIVES: THE SR&ED TAX CREDIT

*Occasional Paper Number 6*
*April 1995*

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# INSTITUTIONAL ASPECTS OF R&D TAX INCENTIVES: THE SR&ED TAX CREDIT

*by G. Bruce Doern, School of Public Administration,*
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*Occasional Paper Number 6*
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# INTRODUCTION

This paper assesses the institutional evolution of the federal Scientific Research and Experimental Development (SR&ED) tax credit.[1] It also develops an institutional frame for examining alternative governmental portfolios for the location and operation of research and development tax incentives.

Established in 1986, the SR&ED scheme currently delivers about $1 billion annually in tax credits. The SR&ED arose in part out of difficulties experienced with the earlier Scientific Research Tax Credit (SRTC) which had been based on a flow-through mechanism for research and development expenditures (Lalonde, 1992; Doern, 1987). As Appendix I shows, the SR&ED is also the product of a long history of investment tax incentives and direct research and development grant programs (McQuillan and Goldsmith, 1976; Bernstein, 1986).

In the May 1985 Budget, the federal government extended the refundable system of investment tax credits begun in 1983. The SR&ED program also clarified in the definition of eligible scientific research and experimental development expenditures. Under the SR&ED scheme, full refundability was provided to Canadian-controlled private corporations with taxable income of less than $200,000 on the credits earned on the first $2 million of qualifying current expenses. Credits earned by other categories of firms were only partially refundable. Further changes were made to the program and to its administration as examined below, including the loss of the partial refundability component.

This paper seeks to provide a clear understanding of how institutional variables affect the design of the original policy, its overall implementation and the level of compliance. An explicitly academic or theoretical focus has been de-emphasized in the sense that the study does not review the extensive literature that exists in political science and public administration on the nature of political-institutional analysis.[2] Instead, it

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[1] The analysis is based on published reports and literature as well as on several interviews conducted by the author with officials and experts involved in government and business in the forging and implementation of the SR&ED. The interviews were carried out with the understanding that the persons interviewed would not be quoted. The co-operation of these individuals is greatly appreciated as are the constructive comments of several officials and an anonymous reviewer.

[2] See J.G. March and J.P. Olsen, *Rediscovering Institutions* (New York: Free Press, 1989) and G. Bruce Doern, "The Evolution of Policy Studies as Art, Craft and Science" in L. Dobuzinskis, M. Howlett and D. Laycock, eds. *Policy Studies in Canada: The State of the Art* (Toronto: University of Toronto Press, forthcoming).

focuses (for an audience of research and development, and industrial policy specialists) on issues of potential organizational and institutional restructuring within which more cost-effective delivery and compliance might occur, including alternative dispute resolution (ADR) measures.

Institutional restructuring refers to an examination of the advantages and disadvantages of having the primary organizational location of the program changed from a tax collecting portfolio where it is now located, to other portfolios. These other portfolios could include fiscal or micro-economic, and research and development ministries or, as in Australia, an independent board. ADR measures refer to other ombudsman-like, mediation or related measures which might be added to the administrative process either in addition to, or in lieu of, existing appeal and redress rights.

The institutional focus of the paper is intended to complement existing literature on the economic and legal aspects of tax policy and implementation. It is only through such a focus that a more complete picture of the political economy and institutional aspects of tax incentives can be obtained. Thus, the paper examines the policy mandates of, organizational cultures in and relationships among: Revenue Canada, the Department of Finance, Industry Canada and other relevant institutions and players such as the courts, research and development interest groups, key companies and the accounting and legal professions.

The interplay among these institutions is examined through:

- the policy process that created the SR&ED incentive in 1986 and amended it in 1992;
- the ongoing or normal decision process for handling applications for the incentive; and
- the processes and dynamics for handling redress, appeals and actual or potential non-compliance (Law Reform Commission, 1986).

The first section presents a basic institutional framework for analyzing research and development tax incentives. The second section profiles the key federal institutional players focusing on the policies inherent in their mandate areas, and on the general values and incentive systems each brings to the policy and decision process. The third section examines the policy processes that resulted in the development of the SR&ED incentive in 1986, its amendment in 1992 and its ongoing quasi-policy- making processes established through the development of guidelines and circulars. The key substantive issues in the incentive program emerge from these political dynamics.

The fourth part of the paper zeroes in on the normal administrative process, focusing on processes for reviewing applications by both the scientific staff and financial auditors at Revenue Canada. It also deals with the role of other departments in influencing the design of these processes. This is followed, in the fifth section, by an examination of the appeals and redress process, both formal and informal.

Comparative issues and criteria for possible institutional change and the use of the Alternative Dispute Resolution mechanisms are then examined in the final section. Comparative analysis is related to:

- the Australian model of an independent board and the related potential for different organizational locales in Canada such as having the program based in a fiscal ministerial portfolio or a micro-economic research and development ministerial portfolio;
- other realms of Canadian micro-economic or business policy implementation; and
- other taxpayers in Canada.

The actual or potential types of ADR mechanisms are also profiled briefly. The final conclusions of the paper focus on how the overall interplay of institutions affects the SR&ED program and sets limits on future reform options.

## AN INSTITUTIONAL FRAMEWORK FOR RESEARCH AND DEVELOPMENT TAX INCENTIVES

Institutions are established systems or patterns of values, organizations, interests and decision processes. Thus, for the purposes of this article, the core institutions of research and development tax incentives can be conceptualized as an interplay among three realms:

- policy mandates and goals;
- administrative and compliance stages and requirements; and
- ministerial portfolio settings. (See Chart 1.)

The realm of policy mandates and goals can be expressed in statutory or non-statutory terms: any country's research and development tax regime, and tax incentives must meet the trio of policy criteria inherent in fiscal policy, revenue collection policies (including taxpayer rights), and micro-economic and research and development policies. Research and development tax incentive cannot avoid dealing with the realities of how these policy goals are accommodated and how they, at times, impinge on each other.

**CHART 1**

**ELEMENTS OF AN INSTITUTIONAL FRAMEWORK FOR ASSESSING R & D TAX INCENTIVES**

| **Policy Mandates and Goals**<br>(Statutory or non-statutory) | **Administrative and Compliance Stages and Requirements** |
|---|---|
| - Fiscal and tax | - Promotion, explanation/education |
| - Revenue collection and taxpayer rights | - Delivery/compliance |
| | - Appeals |
| - Micro-economic/R & D | - Monitoring/evaluation |

**Ministerial Portfolio Settings**

- Departments
- Boards/commissions
- Other special operating agencies

The realm of administrative and compliance stages refers to the fact that any research and development tax incentive must navigate its way through a set of program

and service delivery stages (Doern, 1994). These include efforts to promote and explain the program to eligible candidates and to ensure that compliance, monitoring and the handling of appeals is effectively carried out. Invariably, there are accommodations to be made between the instinct to sell or promote the program and the necessity to ensure compliance. It is also within this realm that issues of formal appeal and alternative dispute resolution mechanisms occur.

The third realm, that of ministerial portfolio settings, deals with the fact that the particular organizational settings for handling the full policy and implementation aspects of research and development tax incentives could vary considerably. For example, the tax incentive program could involve an organizational mode which is within a department headed directly by a Cabinet minister. Or, it could be lodged in a portfolio setting in which it is structured as a quasi-independent multi-member board or commission which reports to the minister or to Parliament. In terms of recent Canadian organizational terminology, it could be structured as a special operating agency (SOA) that functions on an arms-length quasi-contractual basis with the parent department. Under such agreed contractual arrangements, there could be areas of relative independence in operational and service delivery functions.

In assessing the following analysis, it is helpful to keep these institutional realms fully in mind and to recognize that no country's research and development tax incentive institutional matrix can avoid dealing with, or accommodating, these realms.

## KEY SR&ED INSTITUTIONS: AN INITIAL PROFILE

In keeping with the conceptual map set out above, the overall SR&ED policy and decision process can involve relations among several institutions each of whose roles and dynamics must be profiled and kept fully in mind (See Chart 2).

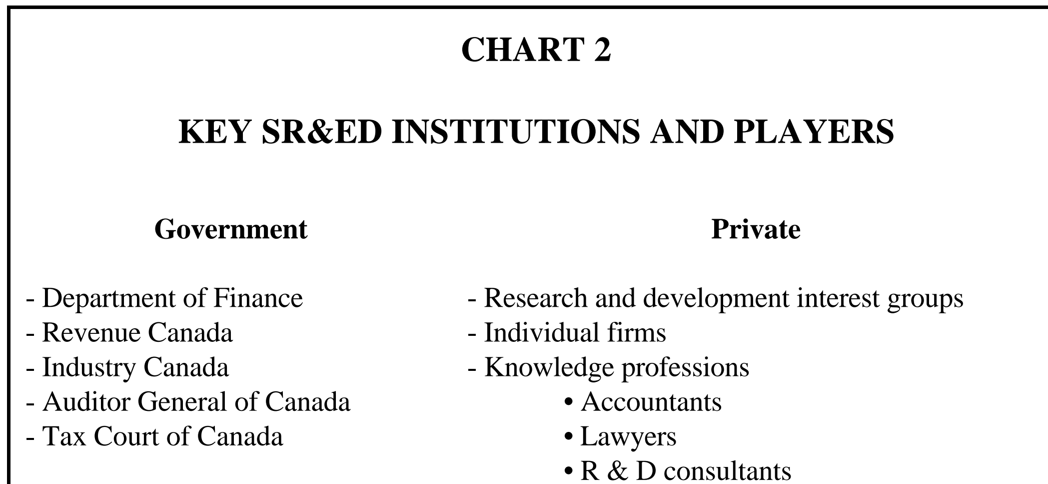

**CHART 2**

**KEY SR&ED INSTITUTIONS AND PLAYERS**

| **Government** | **Private** |
|---|---|
| - Department of Finance | - Research and development interest groups |
| - Revenue Canada | - Individual firms |
| - Industry Canada | - Knowledge professions |
| - Auditor General of Canada | • Accountants |
| - Tax Court of Canada | • Lawyers |
| | • R & D consultants |

Because of its legal and political jurisdiction over tax policy and macro-economic framework policy (Doern and Phidd, 1992), the Department of Finance has the lead policy responsibility. Thus, there is an immediate need to consider the dynamics between such macro goals and the micro-economic and research and development purposes of the SR&ED. The Tax Policy Branch of the Department handles overall research and development tax matters and legislative policy and legal matters. The legal element is also influential because there are always some differences between the legal meaning of tax incentives, as distinct from their policy meaning. It also develops legal language that facilitates tax administration by Revenue Canada and legal interpretation in the courts.

Two other policies of the Department of Finance are also important. First, as the fiscal policy guardian, it is always concerned with how much any given tax incentive (tax expenditure) is costing in forgone revenue or direct credits (Doern, 1989). The pressure to maintain the annual and medium-term fiscal framework is constantly in the background. Second, the Department of Finance has an overall preference for sector-neutral or framework-oriented policies, including research and development incentive policies (Canada, Department of Finance, 1983). But it does not want to see sector preferences built into policy or, within reason, into implementation. Nevertheless, Finance is not immune to political pressure from different industrial sectors or from making macro choices whose effects may well favour some sectors over others.

A secondary policy influence is exerted by Industry Canada (and its predecessor agencies, including science ministers and components of the Department). In recent years, industry departments have also exhibited a strong preference for framework-oriented research and development incentive policies (Doern, 1990). In an age of globalization, they have championed the need to have Canadian industry increase its research and development capacities both in product development and in the adoption of the best production technologies. Among the key players in the SR&ED policy and decision process, it gives the highest priority to the inherent micro-economic and SR&ED goals of the SR&ED program. However, Industry Canada's sector branches are also conduits for specific sectoral pressures and for generalized pressures from the research and development industrial lobby for generous incentives. Industry Canada knows that Finance has the primary tax policy responsibility since the SR&ED program flows from a tax policy statute, but it seeks to exert pressure, based on industry sector and micro-economic expertise, to ensure that effective incentives are in place and are supported and used by industry.

Revenue Canada is also a crucial player, in a micro quasi-policy sense through its interpretation of the tax laws and regulations, through its development of guidelines and circulars, and as the administrator of the tax and revenue collecting laws of Canada. Revenue Canada prides itself as an efficient "can do" organization. While the Department is careful to stress that it does not make overall tax policy, it is also highly conscious and protective of its own legal responsibility to ensure fiscally responsible administration and interpretation of the tax laws including the sensitivity of its quasi-independent tax administration role vis-à-vis both individual and corporate taxpayers. Hence, Revenue Canada is front and centre as the revenue collection policy maker.

The administration of tax policy is centred on a system of self-assessment based on the protection of privacy of the individual's or company's tax return, coupled with normal selective limited auditing and the availability of appeal procedures. Revenue Canada has also been conscious of taxpayer rights and has been subject to periodic bouts of criticism, especially by the small business lobby, for alleged heavy-handed approaches. In times of deficits and economic recessions, the Department is also under pressure from fiscal authorities, and occasionally the Auditor General of Canada to ensure that it gives sustained primacy to its revenue collecting task.

Revenue Canada must also view the courts as a key part of its organizational environment because of the ongoing importance of case law (Wensley, 1993). It has a strong incentive to devise its activities, procedures and decisions in such a way that it avoids becoming entangled in the courts, in its own appeal procedures or in expensive litigation in any unnecessary fashion. Revenue Canada is prepared to go to court over key

issues of principle but not over minor issues of clarification. It is the predictable, lawful and fair collection of revenue that is central to its mandate.

The SR&ED program presents a dilemma within Revenue Canada. First, its introduction in 1986 involved the need to build up, within the Department, a cadre of scientists and engineers to assess the technical aspects of the SR&ED. These new personnel would complement Revenue Canada's otherwise dominant accounting-auditing professionals (Shultis, 1993; Doern, 1987). Second, the nature of the SR&ED incentive is that it is a refundable tax credit and hence involves Revenue Canada in a program delivery role. This also occurs in social policy areas such as the child tax credit and GST tax credits. These roles can and do create tensions as to how hard to push the tax collection versus program delivery levers.

It must also be stressed that Revenue Canada's assessment and audit role for the SR&ED programs involves a decidedly different level than for the normal self-assessment-based larger tax payment process. Initially, assessments in the refundable portion of the SR&ED program occurred at the 100 percent level even though this was not required by law. This is far higher than other areas of the tax administration process.

Revenue Canada's role also extends to appeals. The Appeals Branch functions in a quasi-independent fashion within the Department to handle taxpayer involving from the rulings and decisions of its own officials. This vital role is examined in more detail below.

Outside the Government of Canada, the key institutional players are the research and development lobby and research and development taxpayers, incentive users and beneficiaries. A three-fold breakdown of these interest groups and entities is warranted for analytical purposes: business associations, knowledge professions and firms.

The key business associations that have lobbied hardest for research and development tax incentives include organizations such as the Canadian Advanced Technology Association (CATA), the Electrical and Electronic Manufacturers' Association of Canada (EEMAC) and the Information Technologies Association of Canada (ITAC). But there are many other sectoral interest groups involved as well. There are different balances to be struck among small versus large firms, Canadian versus foreign-owned firms, and firms and sectors facing widely varying practical issues of how the SR&ED actually affects their sectors and production processes.

Initially, the basic political instinct of the research and development industrial lobby was to seek the most generous tax incentive possible with the minimum interference by governmental rules, officials, auditors and demands for paper and information. While this instinct has been leavened recently by the realities of the huge

federal deficit, it nonetheless remains a powerful tactical impulse on the part of business research and development interests.

Also central to the SR&ED implementation process is the role of knowledge professions. Legal and accounting professionals and firms play a dual role. On the one hand, they watch Revenue Canada like the proverbial hawk on behalf of their corporate clients and articulate important values related to procedural fairness and economic efficiency. On the other hand, they are vested interests who earn key parts of their living off the overall tax regulatory system and thus do not necessarily want a system that is so clear and so predictable that no one needs their services. Tax complexity arises for substantive reasons related to applying general rules to diverse factual situations. But it also arises because such knowledge professions have a vested interest in the continued existence of well crafted ambiguity in tax laws and rules.

External or private scientists and technicians engaged as consultants by Revenue Canada to conduct the scientific aspects of assessments and audits are recent additions to these knowledge professions. On the one hand, they are essential (along with Revenue Canada's in-house scientific personnel) to making the SR&ED incentive work. But the private consultants can also find themselves auditing firms while they simultaneously seek to expand their own personal consulting business with such firms, if not immediately then certainly in the medium-term future.

A third element of the research and development lobby and taxpayer network is business itself. Not only do large research and development firms, such as Northern Telecom, have special influence in the counsels of their own associations, but they also tend to have a larger and better entrenched set of relationships with Revenue Canada. On the other hand, because of their size they may well be audited more extensively. Small firms, which most new research and development firms generally are, are likely to go through a learning curve with Revenue Canada. It is important to note that, within firms of all sizes, there are often differences of instinct between the scientists and technologists, and the financial officers. The former may agree with auditors on eligible scientific and experimental development expenditures, whereas the "finance types" may push for definitions and rulings that maximize corporate revenues achieved through the refundable scheme.

Other institutional players are also involved. One of these is the Auditor General of Canada, Parliament's independent financial watchdog. While the Auditor General continuously audits aspects of the tax system, it also scrutinizes both tax expenditures as a whole and Revenue Canada itself. For example, in the Auditor General's view, Revenue Canada veered too far away from its primary revenue-raising role into a service-delivery role such as the SR&ED program requires it to perform. (Doern, 1989).

## SR&ED POLICY PROCESSES

With a profile of key institutional players in mind, we can now proceed to a brief account of the SR&ED policy process. The full history of federal research and development incentives has been told elsewhere and is not the central concern of this analysis (Clark, Goodchild et. al., 1993; Canada, Department of Finance, 1983). For our purposes, the political and policy context of the SR&ED is best seen against the background of the demise of the short-lived Scientific Research Tax Credit (SRTC) of the early 1980s (See Appendix I). It provided a mechanism for research and development firms, currently in a non-taxable position, to transfer their unused tax incentives to outside investors. The SRTC, however, unexpectedly produced a revenue drain from the federal treasury that exceeded $2 billion in a 10-month period.

When the Mulroney government was elected in the fall of 1984, it quickly acted, in concert with its deficit-reduction priorities, to end the SRTC. However, The Conservative government had also made much of its promise to be a better supporter of research and development policy for business than the previous Liberal government had been. This included a commitment from Prime Minister Mulroney that his government would seek to expand research and development support toward a target of 2.5 percent of GNP, about double the level of the early 1980s (Doern, 1987). The Conservative government had also made much of a strong and vocal small business crusade against Revenue Canada's alleged heavy-handedness and in favour of taxpayer rights. The research and development business lobby was also extremely aggressive and was determined to take advantage of the presence of a pro-market government to achieve real gains in research and development incentives. They had taken special notice of a Conservative election platform which had promised to "broaden the definition of development" (Doern, 1987).

The May 23, 1985 Budget announced the government's decision to end the SRTC and to replace it with what, in 1986,

became the Scientific Research and Experimental Development (SR&ED) Investment Tax Program. The Budget provided for:

- tax credits earned by small Canadian-controlled private corporations for current expenditures on research and development to be made 100 percent refundable;
- a change to the definition of research and development expenditures from "wholly attributable to research and development" to "all or substantially all"; and
- Revenue Canada to hire, or contract for, technical experts to aid auditors in the determination of qualified research and development.

The Minister of Finance stressed that the intent was to clarify current provisions. However, the research and development interest groups did not necessarily agree that only clarification was at stake. They were seeking an expansion of the incentives as conveyed by recent election promises.

## The 1986 Policy Process

As a result of the Budget, the central task was for Revenue Canada to develop a new agreed statement of guidelines both to make the SR&ED incentive work and to restore confidence in the purposes and integrity of federal research and development incentives as a whole. The process of developing new guidelines was led by the newly appointed Senior Science Advisor at Revenue Canada who simultaneously faced the challenge of recruiting and training the new cadre of technical advisors and securing their legitimacy in the eyes of the dominant auditing and accounting professionals in Revenue Canada (Lalonde, 1992).

The resulting consultation process with business centred on clarifying existing definitions of research and development activity as found in Regulation 2900. The guidelines in Regulation 2900, in turn, were essentially the same as those that had evolved out of the old 1966 to 1976 IRDIA grant program incentives (McQuillan and Goldsmith, 1976). The regulations were designed to differentiate between routine development, or engineering, and experimental (technologically innovative) development.

In the year-long consultation process that ensued, there was considerable tension because of the different political expectations about what the exercise was all about (clarification versus making the system more fiscally generous). The consultation process itself had initially involved arms-length panels of experts to whom research and development businesses and interest groups had to present their briefs. The panel experts eventually agreed on working definitions, and these guidelines were then announced. Key

research and development lobby groups strongly criticized both the outcomes and the process. Some especially vocal firms called for the whole process to be done again. Only after a crisis summit meeting was agreement reached and publically endorsed by those present.

Because all players knew that the SR&ED scheme had to be up and running for the new tax year, initial, albeit reluctant, agreement from the research and development lobby was reached. Nonetheless, there was clearly a continuing sense of anger that Revenue Canada and the Department of Finance were contradicting and constraining what the lobby group saw as a clear political and prime ministerial commitment. Equally, the Department of Finance and Revenue Canada stuck to their view that government policy was only to clarify the incentive scheme.

**The 1992 Policy Amendment Process**

While administrative changes to the SR&ED occurred in the late 1980s (see more below), it was not until 1992 that further policy consultations occurred. The Minister of Finance and the Minister of National Revenue jointly announced legislative changes that would provide an additional $230 million over the next five years (Canada, 1992). The changes involved the treatment of overhead and capital expenses as well as further definitional clarification of SR&ED.

At the option of the taxpayer, the treatment of overhead expenses could now be based on a simple formula using wages and salaries, or on the existing basis which would require more extensive and onerous documentation and auditing. The treatment of capital expenses involved the availability of partial tax credits for equipment used primarily (i.e., more than 50 percent) for SR&ED in Canada. These additional amounts were derived from the new eligibility rule changes which could be earned over a three-year period.

The changes to the definition of SR&ED were intended to ensure that incremental technological advancements to existing materials, devices, products or processes be recognized as part of experimental development. An important impetus for all of the above changes was a greater recognition that research and development was occurring, and should be encouraged to occur, not just in designated components of the firm or business but through so-called "shop floor" development (Nelson, 1993; Best, 1990).

The policy process that resulted in the 1992 changes was guided by the Department of Finance which took the lead role in an extensive round of consultations with research and development interest groups (general and sectoral) and firms. Industry Canada, then named Industry, Science and Technology Canada (ISTC), and Revenue Canada also took a full part in the consultations in keeping with their mandate

responsibilities. The climate of these consultations was far different from the 1985-86 process.

The research and development lobby was still extremely frustrated with the administration of the SR&ED (Murray, 1988) and sought the changes that were ultimately agreed to. But this time, it engaged in a consultation process knowing that the SR&ED program had matured and was supplying benefits, and had been simplified administratively. Moreover, it could scarcely ignore the Minister of Finance and the country's serious deficit situation. In contrast to the 1986 situation when Finance took the position that changes were only to clarify the rules, the stance this time was that some fiscal increment would be offered ($230 million) through the new eligibility rules.

Industry views are generally complementary about the 1991-92 process. Criticisms centred on the greater secretiveness that surrounded the program when the detailed writing of the Budget and its legislation occurred. This, of course, is governed by the practices of parliamentary budget secrecy (Doern, 1989).

**The Guidelines and Circulars Quasi-Policy Process**

In addition to the 1986 and 1992 events and processes, there is a third quasi-policy process centred in Revenue Canada. Its main outputs are periodic circulars containing further guidelines and guidance in interpretation. The development of circulars is an important feature of the ongoing adjustment and interpretation of the program and hence its legitimacy in the eyes of business. The general SR&ED circular is now in its fourth update. In addition, sectoral circulars have been developed and published, in consultation with the sectors concerned, for the aerospace, automotive, plastics, and machinery and equipment manufacturing industries (Revenue Canada, 1992). These circulars supply both scientific and regular auditors at Revenue Canada with an awareness of the particular manifestations of SR&ED in the production processes and circumstances of these industries.

One can, of course, think of these circulars as just a detailed feature of any implementation process and hence deem it not to be policy. But invariably, it is in fact a mixed quasi-policy and quasi-administrative realm. The demand for special sensitivity to the needs of the aerospace sector or plastics sector arises because interests in these sectors think that something is not quite right with the larger guidelines or the statute. Hence, in this sense, Revenue Canada is also an SR&ED policy maker in the same way that dozens of federal agencies "make" micro policy as they fill in the large ambiguities built into the original political-legal compromises of the law, regulations under the law, guidelines within the regulations and so on down the snake-like means–ends chain of the policy implementation process (Doern, 1994).

While this quasi-policy process does involve Revenue Canada in extensive consultation with business sectors, involvement with other federal departments is mainly with Finance. Departments, such as Industry Canada, are not directly involved but may communicate concerns presented to them by industrial interest groups. In essence, these micro quasi-policy realms are seen overwhelmingly by Revenue Canada as revenue collection policy rather than fiscal or tax policy (Finance's domain) or micro-economic research and development policy (Industry Canada's domain).

## REVENUE CANADA AND THE NORMAL ADMINISTRATIVE DECISION PROCESS

While policy development processes and the clash and complementarity of policy goals and mandates are central to an institutional analysis of the SR&ED, it is crucial to understand the normal administrative decision process. (While this institutional realm includes the promotion and explanation of the program to those eligible for it, we begin our account with the application process.)

The process for reviewing claims for the SR&ED incentive begins with the firm or business submitting T661 and T2038 forms (Shultis, 1993; Murray, 1993). In its early years, these forms and the supporting documents were then examined, in the case of refundable aspects, by a Revenue Canada scientist or outside consultant. After this initial review, the Department either accepted it on technical grounds, indicated that it would need further review or rejected it. An audit by Revenue Canada's financial auditors would then follow. But early on in the program, the process changed so both the technical and financial aspects of the audit occurred simultaneously.

Two factors prompted the change. First, there were major delays in the payment of the incentive which aroused anger, especially from the small research and development firms whose cash flow depended on the refundable tax credit. In 1988, Revenue Canada committed itself to a 180-day turnaround. Delays also occurred because of the newness of the program, its lack of an interpretative base of experience and, initially, a shortage of technical staff in the regional offices.

A second reason for concurrent scientific and financial audits arose from early experience with appeals and thus from positions taken by Revenue Canada's Appeals Branch. If a taxpayer disagrees with a Revenue Canada ruling, the firm can file a Notice of Objection which is then dealt with by the quasi-independent Appeals Branch (Revenue Canada, 1993). The Appeals Branch carries out its own review including the use of technical consultants to review the SR&ED nature of the claims. As early appeal cases emerged, three things became evident. First, masses of new technical information were submitted by the taxpayer. Second, Department of Justice lawyers advised the Appeals Branch forcefully that a properly structured "trail" of information had to be in evidence. Third, if there were any doubts on this latter point, an early court case confirmed the need (Wensley, 1993). One of the problems with the paper trail was that there clearly were different degrees of difficulty in obtaining each kind of data. Financial data would normally be captured in regular business accounting practices. Scientific and research data, however, were often in researchers' notebooks and reports, and not easily aggregated or reported. Moreover, the volume of information could be overwhelming, and consensus about what information was useful could vary.

It is worth noting that the auditing process must meet the potentially different needs of two institutions that are part of the overall larger accountability process: the Auditor General of Canada and the courts. If an audit is positive to the taxpayer, it must nonetheless satisfy the Auditor General, in its value for money audit for Parliament, that it was a good audit process. If a case is negative to the taxpayer, then the courts will also have standards of evidence and factual data which will be different than for the larger audit process.

At present, claims are assessed immediately by both technical and financial auditors mainly in field offices. A joint process was also needed in order to comply with the existing 120-day-turnaround commitment and the recent fast-track provisions (see below). There has also been a vast improvement in the quality of information submitted. But the full operation of the normal SR&ED decision process cannot be fully understood without reference to the total volume of business that Revenue Canada field offices deal with and to the revenue collection versus service delivery tensions inherent in the program.

With respect to volume, SR&ED cases (an average of 6,250 annually in the 1989 to 1992 period) constitute less than one percent of the case load of Revenue Canada (though it can be more significant in some offices). The 60 Revenue Canada scientists are mostly based in the co-ordinating district offices. Only seven scientists are at headquarters where they focus on overall program co-ordination and education and on liaison involving appeals and other matters. Contract technical consultants are frequently needed because the typical field office, given the above volume and the range of sciences involved, cannot possibly supply expertise across the full range of science that might occur in applications. Consultants may also be needed to handle particularly lengthy cases since Revenue Canada does not want to tie up full-time personnel on only one case.

In the early years of the program, there was a natural tendency for the technical assessors to be more oriented in favour of SR&ED rather than revenue collection. On the other hand, the regular financial auditors of Revenue Canada were embued with the normal revenue collection ethos. They did not like to see public moneys leaving the treasury. They were used to taking money back from non-complying taxpayers rather than handing out moneys to taxpayers who were in compliance. The tenacity of this view was also aided by strong views among the financial auditors that Revenue Canada had been unfairly blamed for the controversy (i.e., higher than expected revenue losses) over the earlier SRTC program.

In 1990, the Auditor General of Canada criticized Revenue Canada for placing too much emphasis on its service roles at the expense of its revenue collection responsibilities (Auditor General of Canada, 1990). Thus, tensions over SR&ED service delivery versus

the collection and compliance roles existed both within and outside the Department. In the early 1990s, there was arguably a better sense of equilibrium about the two roles because of continuing, but somewhat different, external pressures. For example, Revenue Canada's early 1990s department-wide "modernization initiative" focused on a greater customer orientation for its operations. This involved a considerable culture shock for some parts of the Department. Federal cutbacks also mean that the Department is not anxious to lose any of its programs and, as a result, programs, such as the SR&ED, are now seen as an asset rather than a cultural intrusion into the revenue collector's world.

As a result, Revenue Canada's public description of its role regarding the SR&ED is three-fold in nature:

- increasing awareness and understanding of the program;
- providing clients with information they need in order to make complete and accurate claims; and
- delivery of the incentives in a timely manner (Shultis, 1993).

Its spokespersons point to several successes and improvements including:

- a 30 percent increase in claims received since 1985;
- a 120-day average for completing refunds to Canadian-controlled private corporations (i.e. , below the earlier 180-day target);
- a 35-day average for refunds for Canadian firms who are "fast-tracked" because they have a good track record with the Department;
- the development of several specialized circulars for different sectors; and
- an extensive education and awareness program.

## REDRESS, APPEALS AND COMPLIANCE

While the above section covers the normal administration process with some reference to appeal rights, it does not deal adequately with the more subtle dynamics of the redress process and its relationship to the overall goal of providing cost effective tax compliance and SR&ED program delivery.

Revenue Canada officials suggest that about 20 percent of SR&ED applications involve some process of redress, questioning or appeal by taxpayers (see more below). Hence, a key question is, can this residual be further reduced by institutional or policy measures? Or, is this percentage (which itself is not a known figure) an inevitable irreducible residual where differences of opinion over fact and law inevitably exist? Or, would the grievance factor be considerably different if the SR&ED program delivery was housed in an organization other than a tax collecting authority.

The overall redress process is bound up in subtle links among:

- the informal redress within the bureaucratic hierarchy of Revenue Canada with implications for the taxpayer of filing a complaint at each level (such as a widening of the audit scope);
- the formal appeal process;
- resort to the courts; and
- the actual or further potential role of other residual or supplementary mediation processes and institutions.

In all of the above, a crucial link and comparison must be made between the rights of SR&ED taxpayers and other taxpayers.

With respect to informal redress within Revenue Canada, two processes must be noted. First, in the context of normal financial auditing, a taxpayer already has, and often uses, a three-step redress process. The taxpayer can seek informal redress from:

- the auditor handling the case;
- the auditor's supervisor; and
- the section manager or chief of audit.

Many contentious cases are solved in this manner. Second, in the context of the science or technical part of the SR&ED audit, the redress process is usually a step up the hierarchy process (or a two-step process if a scientific consultant is handling the case for Revenue Canada). The taxpayer can seek informal redress on science aspects from:

- the Revenue Canada scientist handling the case; and
- senior science advisors at headquarters in Ottawa.

Where a consultant is used, redress proceeds first to the science officer at Revenue Canada who contracted for the consultant.

Many SR&ED technical grievances are resolved through this process. Indeed, more and more are resolved this way because the process and how it works have matured. But where dispute remains, the resort to the Appeals Branch (as earlier described) can and does occur. As indicated earlier, the Appeals Branch may itself engage scientific consultants but its processes are always geared to ensuring overall compliance with the law and with a desire to avoid the courts unless absolutely necessary on matters of key principle.

The court phase of the redress process must consider two processes available in the Tax Court of Canada. The court has a full procedure (called the general procedure) for large cases. Most SR&ED cases would fall into this category. The court also has a second process (called the informal procedure) which is less formal and is meant to handle small cases (Revenue Canada, 1993). It handles over 70 percent of the taxpayer cases that reach this stage. This second informal process is mentioned, even though is has limited direct application to SR&ED cases, simply because it contains some of the aspects of alternative dispute resolution (ADRs), such as representation by self or non-lawyers and strict time limits for speedy decision, which some might wish to see added to the informal pre-appeal, pre-court, phases of the overall SR&ED redress process.

Revenue Canada's data for the key SR&ED stages (applications, audits, objections, actions after objections and formal court cases) is by no means complete or even public. The first key figures revolve around total applications or claims. Revenue Canada data (See Table 1) suggest that, after the program reached some kind of steady state, this averaged around 6,250 claims per year in the 1989-92 period. The next "figure" which Revenue Canada does not make public is the percentage of the claims that are assessed and audited. In theory, 100 percent of refundable claims are assessed, but the actual audit percentage is not available. This assessment percentage is far higher than in any other aspect of tax auditing for businesses or individual taxpayers. The third set of figures concerns SR&ED "objections received." For example, in 1992-93, 610 formal objections were filed (compared to 60,000 objections from taxpayers in total). By 1993-94, SR&ED objections were down to 451 on a similar total volume of cases. The fourth set of data concern "actions" arising from objections. An action is not well defined and apparently several actions could occur for any single objection. The figures supplied by Revenue Canada Appeals Branch indicate that there were 150 actions in 1988-89, 100 in each of 1989-90 and 1990-91, 90 actions in 1991-92 and 34 and 23 in 1992-93 and 1993-94 respectively. The number of cases that reach the courts is, accordingly, extremely small.

**TABLE 1**

**SR&ED CLAIMS AND INVESTMENT TAX CREDIT (ITC) CLAIMED***

| Taxation Year | Claims | ITC ($000) |
|---|---|---|
| 1989 | 5,442 | $ 812,296 |
| 1990 | 6,348 | $ 951,262 |
| 1991 | 6,417 | $ 1,022,344 |
| 1992 | 6,800 | $ 1,143,457 |

*Source:* Revenue Canada
* These data must be interpreted with caution: this information is obtained from claims prior to an audit. Moreover, the data does not reflect the entire population of possible claimants.

The downward movement in "objections" and "actions" may indicate a maturing process in understanding the program as well as the partial impact of the 1992 amendments. But practitioners indicate that this may also reflect a desire by firms not to proceed too far along the redress stages because the further they go, the broader the ambit of the Revenue Canada audit may be. Moreover, these partial data are being interpreted within the framework of a revenue collection policy primacy and do not say anything about whether SR&ED goals are being achieved in a micro-economic or research and development policy sense.

## ALTERNATIVE MANDATES, PORTFOLIO SETTINGS AND DISPUTE RESOLUTION MEASURES: APPLYING THE INSTITUTIONAL FRAMEWORK

Can other mandate criteria, ministerial portfolio settings and alternative dispute resolution approaches within each combination, make a difference in research and development tax incentive delivery in general and in the SR&ED case in particular? If they do make a difference, how will they do so? This paper cannot assess this issue in any substantive sense, i.e., does more research and development performance actually occur under alternative institutional configurations? It can, however, examine and discuss institutional aspects per se.

To deal with this, we need to recall the institutional framework sketched in the first section of the paper. After all, new institutional configurations and ADR processes might reduce the number of redress events but also result in a lower use by business of the SR&ED incentive or raise other undesirable results. Thus, in this situation, tax collection policy mandates win, but research and development policy mandates lose. Alternatively, new institutional configurations could result in such generous tax credits that they bleed the treasury dry with either some or perhaps no necessary increase in underlying research and development activity. In this residual world of micro-mandate and portfolio-based institutional change, the phrase "it all depends" is the operative cautionary tale and flows directly from the institutional framework that is central to this paper.

The compelling problem inherent in the framework becomes a question of defining the kinds of comparative institutional criteria that can be used to discuss the possibility of further institutional reform. In addition, there are at least three other comparative reference points inherently involved:

- other countries and their choices of institutional matrix;
- other realms of administrative discretion in business-related public policy implementation stages and processes; and
- other classes of taxpayers.

**The Australian Portfolio Setting And Other Mandate Mixes for the SR&ED**

A closer look at the structure of the Australian political and institutional systems for delivering research and development tax incentives is instructive (Australia, 1993). The Australian research and development tax concession is administered by three agencies: the Australian Tax Office (ATO), the Department of Industry, Technology and Regional Development (DITARD) and the Industry, Research and Development Board (IR&D). The IR&D Board's task, as an independent entity, is to promote and raise awareness of the tax concession. It also has a statutory duty to make eligibility determinations for the Commissioner of Taxation (who heads the ATO). These include an assessment of the level of innovation or technical risk, adequate Australian content, exploitation of the results and non-compliance.

The DITARD role includes assessments which its staff undertake through company visits in order to prepare reports for the IR&D Board's consideration. The ATO is the general tax collector and otherwise plays a role similar to Revenue Canada. The Australian system also allows for advance rulings by the IR&D Board especially under syndicated research and development provisions in order to satisfy investors that the project is eligible.

The Australian system supplies an alternative portfolio location mandate mix in the a priori division of tasks at the front end of the application and determination of eligibility process. Scientific assessment is made by technically trained persons who do not work for the tax collector directly. This applies the concept that technical objectivity must not only be just but also be seen to be just and objective. An independent board rather than a department headed by a Cabinet minister is a central part of the system.

The Australian example points to the obvious fact that Canada's portfolio setting and mandate mix could be different and, indeed, in the past, has been different (McQuillan and Goldsmith, 1976). We have already seen what the status quo model — one centred in a tax collecting mandate and line department setting — is like. A second model would be to locate the SR&ED program in a department with a primary fiscal policy mandate. The advantage here might be that an institution with the overall tax policy and fiscal policy role, and with strong ties to the business community and to good investment policies, would manage the program with more of a pro-business balance of incentives. The disadvantage might be that a fiscal portfolio would not necessarily be the best promotional vehicle for the program, or source of advocacy for its expansion, simply because such mandated departments are quintessentially policy rather than operational departments. In short, the mandated department would have its eyes on many policy issues at the same time and could not give service delivery the proper attention it deserved.

A third portfolio choice would be to locate the SR&ED in a department with a micro-economic and research and development mandate. Presumably, this would maximize the primacy of the micro-economic research and development goal since it would give it to an institutional entity whose purpose is geared to enhancing research and development and business competitiveness. The current Canadian research and development tax incentive system, however, is already judged by independent analysts to be the most attractive among the Organization for Economic Co-operation and Development (OECD) countries (Warda, 1994). Moreover, the other requisites of a successful research and development program may not be optimized in a micro-economic portfolio. Thus, concerns about fiscal limits and auditing and tax collection norms may be underemphasized in such a departmental mandate.[3]

Within each departmental mandate choice, there are further sub-choices regarding portfolios. This could include an independent board (e.g. , the Australian case) or a special operating agency, i.e., an agency that is legally or contractually independent of its parent department or of all three mandate areas in the performance of some functional aspect or service delivery element of the program. Even under these portfolio choices, the institutional mix must have ways of balancing or ensuring that all the inherent mandate goals (research and development, fiscal and tax policy, and auditing and revenue collection) are recognized and accommodated.

## Alternative Dispute Resolution Mechanisms

It is important to look at the above institutional framework issues before examining the related issue of alternative dispute resolution measures. This is because, the way such ADRs might work or be viewed could be quite different in the various portfolio settings. But what exactly are these potential ADRs? When would they be triggered in the overall redress process? And how much time and resources would they involve?

Some of the interviewed Canadian industrial research and development interest spokespersons vaguely referred to the need for some form of ombudsman-like process. Revenue Canada has periodically discussed ADRs internally but always in the necessary legal context of whether, if such mechanisms are used, all other appeal rights would be forfeited by the taxpayer. Industry interests typically would want the ADR **and** appeal

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[3] One example with some of the above features was the Cape Breton Investment Tax Credit. During its lifetime it was the only tax incentive program where decisions on the eligibility of projects or activities for support were decided outside of Revenue Canada, in this case in the Department of Industry, Science and Technology, the predecessor to the current Industry Canada (Doern, 1989).

rights **and** the courts, whereas Revenue Canada's position is, in effect, "make your choice."

Revenue Canada has internally considered issues such as using independent experts in asset and other valuation-dispute situations. These internal discussions have involved possible processes and mechanisms whereby the intermediary expert's fees would be paid half by Revenue Canada and half by the taxpayer firm. But again, such ideas come to nought when the issue of legal forfeiture of other appeal rights is raised. It is doubtful, moreover, that such provisions could be given for SR&ED cases and not other taxpayers. Equality of taxpayer rights is a powerful political and legal issue.

An ombudsman-like intermediary is normally not a process that involves binding decisions on the two parties (the government department and the citizen). An ombudsman issues a report, and the moral suasion effect of the report is all that can be hoped for by the citizen. This process is also very time consuming. It is certainly not a quick-justice remedy.

Finally, from the world of collective bargaining and "regulatory negotiation," one could perhaps envisage a "final-offer" or arbitration process in which Revenue Canada and the taxpayer would stake out their best offer of a solution, and an intermediary "judge" would decide on one of the offers (Canadian Bar Association, 1989; International Chamber of Commerce, 1993). This kind of ADR would also raise the issue of speed and timeliness as well as the equal treatment of all taxpayers.

Each of the above examples of ADRs has been related to a Revenue Canada location for the SR&ED where room for more ADRs seems limited because of the need to preserve the rights of all taxpayers. Some ADRs may be more feasible if the SR&ED program was located in a micro-economic and research and development portfolio or a fiscal portfolio where the sensitivities regarding taxpayer rights would not necessarily be as central. However, changing portfolio locations does not guarantee automatically a more conducive role for ADRs. This is because, in the new location, with its replacement legislation, there would also be rules about protecting commercially sensitive information.

It must be stressed that as long as the SR&ED program remains within Revenue Canada, there is limited room for further ADRs. Comparative tax politics literature certainly alerts us to the crucial necessity of the revenue collection role (the extractive capacity of the state) and to the political sensitivity of taxpayer rights and tax burdens (Peters, 1991). The general tax politics literature also indicates the inherent tension between desires to simplify the tax system for the average taxpayer and small business, and desires to ensure that taxpayer rights are solidly protected through more procedural measures.

The Canadian experience reinforces these imperatives. General tax administration involves powerful norms of equality regarding the need to treat taxpayers equally in terms of their basic rights to the privacy of their tax return and rights of redress and appeal. But taxpayer equity is also a powerful norm in that it involves an administrative and legal need to treat taxpayers, who are in genuinely different situations, "unequally," that is, differently.

## Other Realms of Micro-Business Governance

A final basis for assessing institutional and ADR issues (and compliance efficacy in general) is to look at other realms of business governance in the field of public administration where micro-business cases and decisions are made and where discretion within the law occurs. Competition or antitrust policy, bankruptcy, patent and copyright law, environmental and health and safety regulation are all areas of business framework law where the world of cases, compliance, program delivery and formal and informal redress issues also exist (Law Reform Commission, 1986; International Chamber of Commerce, 1993; Hood, 1986).

The literature does suggest three important realities. First, these realms of micro-business governance involve crucial forms of political and administrative discretion in part because political interests want it that way and in part because it is impossible to express rules with sufficient precision to meet the circumstances of all cases. In short, the relevant comparison centres on analogous areas where policy implementation involves choices between enforcement versus compliance and where some minimum irreducible areas of dispute exist and will and should always exist (Law Reform Commission, 1986).

Second, a normal kind of micro-political tension is found in the core discussion about the role of rules versus discretion in any complex institution (Hood, 1986). Rules can be useful and democratic if they are clear, simple and their application leads to predictable consequences. Discretion leads to uncertainty, and persons and interests who are subject to the uncertain actions of others feel themselves to be, and often are, powerless. Discretion inevitably involves political power, and power is usually difficult to define precisely. But discretionary decisions can also lead to justice and fairness in particular cases or to a form of agreed political stability and understanding achieved through political accommodation.

Third, when looking at either the status quo or at institutional reforms for redress in the SR&ED it is vital to stress that all such micro-business governance regimes are constructed on the basic political-economic premise that market systems are more or less working well. Almost by definition, such policy-implementation regimes seek to work the outer edges of commercial activity to ensure that the norms of behaviour remain

reasonable. Moreover, there is a practical political–administrative realization in the construction of such investigative–regulatory regimes that there are absolute physical and judgmental limits as to how much governmental authorities can and should substitute their judgment for the judgment of others closer to market realities. Thus, the relevant point of comparison for the adequacy of research and development tax schemes is not just how other countries do it but also how other areas of public administration inherently function under roughly similar circumstances facing analogous policy and implementation puzzles.

## CONCLUSIONS

This paper has examined the institutional evolution of the Canadian SR&ED program. It has also developed an institutional framework which sees such research and development tax incentive regimes as involving an interplay among:

- policy mandates and goals;
- administrative and compliance stages and requirements; and
- ministerial portfolio settings.

When such a framework is applied to the SR&ED program, several conclusions emerge.

1. There is a crucial empirical need to recognize and understand not only the large number of institutional players involved but also the subtleties involved in their respective policy mandates, organizational cultures, incentive and value systems. Whether the current Revenue Canada institutional mix is retained or a fiscal or micro-economic department-centred institutional system replaces it, the SR&ED regime must inevitably adhere to some mix of research and development goals, tax and fiscal goals, and revenue collection and auditing goals.

2. The analysis of the policy development process and the normal Revenue Canada administrative process suggests that the SR&ED program has matured to the point where it is accepted by both business and government as working far better, particularly given the 1992 changes. There is an often vaguely expressed sense in some business quarters that further institutional change can help but no obvious alternative institutional locations or dispute resolution (ADR) mechanisms have been actively or thoroughly proposed.

3. The Australian experience with a different mandate and portfolio mix suggests that an organizational separation of the science versus normal auditing function, through an independent board or SOA, could be considered. Such as step could add potential legitimacy in the minds of business interests and could potentially enhance program service, delivery and promotion goals because the program would be removed somewhat from the revenue collector's domain. However, other classes of taxpayers may object to such special portfolio treatment from the point of view of tax policy and tax fairness. For example, to cite a polar opposite, the arts community might want its tax incentives administered by such an arms-length mechanism to get more money out of the tax system for its policy goals.

Hence, a case can be made for an Australian style portfolio model or for a fiscal or micro-economic research and development-centred departmental location if it is deemed that the research and development goals of the SR&ED are not receiving enough priority attention within a tax collection mandate departmental setting. A revenue collection-centred department for the program is bound to underemphasize the primacy of the SR&ED goals relative to its other priorities.

However, an SR&ED program located in such alternative institutional mixes would also be governed under their statutes by their own strictures and concerns about fiscal limits, tax policy and tax collection and auditing norms, not to mention the need to protect commercial secrets.

4. The above discussion suggests that the efficacy of reform depends on the departmental mandate location within which it might be based. Thus, the addition of any new "add-on" ADRs in a revenue collection setting must confront the practical choice of whether other formal appeal rights would or should be forfeited. In addition, the incorporation of new processes for research and development taxpayers must confront the potential for such measures to slow down the overall turnaround time for delivering a refundable benefit. It can also not avoid the issue of how this new bundle of redress approaches compares with those available to other Canadian taxpayers.

5. A final conclusion centres on the issue of the standards of comparison for determining when areas of cost-effective compliance are "adequate," "good enough" or "legitimate" in the eyes of key players including governments which must uphold some notion of a larger but ill-defined public interest. Whether the comparative reference point is other countries, other organizational locations, other realms of micro- business governance in Canadian public policy or other classes of taxpayers, the framework applied in this paper suggests that there is some, but usually only limited, room for institutional manoeuvring.

   In short, any institutional analysis of the SR&ED program must ultimately be premised on a recognition that institutional and overall redress design and reform issues are part and parcel of the interplay among policy mandates and goals, administrative and compliance stages, and ministerial portfolio settings.

## APPENDIX I
## A CHRONOLOGY OF FEDERAL TAX ASSISTANCE TO SR&ED

| Year | Description of Tax Change |
|---|---|
| Pre-1961 | 100% deduction for current expenditures and 33% deduction for capital expenditures |
| 1961 | 100% for capital expenditures |
| 1962 | additional 50% deduction for incremental expenditures (base - 1961 levels) |
| 1966 | additional 50% deduction replaced by IRDIA grants equal to 25% of capital expenditures and 25% of incremental current expenditures (base - average of preceding five years) |
| 1975 | IRDIA program cancelled |
| 1977 | R&D tax credits of 5% in general, 7.5% in RDIA-designated regions and 10% in Atlantic and Gaspé regions; five-year carry forward; and annual claimability limitation |
| 1978 | R&D tax credits of 10% in general, 20% in Atlantic and Gaspé regions and 25% for small businesses; and additional 50% deduction for incremental expenditures (base - average of preceding three years) |
| 1983 | additional 50% deduction replaced by 10% increases in R&D tax credit rates, i.e., R&D tax credits of 20% in general, 30% in Atlantic and Gaspé regions, and 35% for small businesses; partial refundability of unused credits of 20% generally and 40% for small businesses and individuals; seven-year carry forward and three-year carry back; annual claimability limitation removed; and 50% SRTC for purchase of shares, debt or an interest in the products or revenues of R&D performing companies |
| 1984 | 35% credit limited to $2 million of expenditures per year; and SRTC constrained by equity shares |
| 1985 | SRTC eliminated; SR&ED terminology introduced; 100% refundability of the 35% credit for current expenditures; and "wholly attributable" rule for SR&ED tax credits eliminated |

| | |
|---|---|
| 1987 | 10-year carry forward; annual claimability limitations reintroduced; R&D expenditure base reduced by R&D tax credits in the subsequent taxation year; refundability for large corporations eliminated; buildings made ineligible for R&D tax credits and accelerated deductions |
| 1992 | optional "proxy amount" for allocating overhead expenses; partial tax credit for shared-use equipment |
| 1993 | 35% credit extended to small businesses with taxable income between $200,000 and $400,000; and annual claimability limitations removed |
| 1994 | 30 % credit eliminated; 35% credit phased out for small businesses with taxable capital between $10 million and $15 million; special rules for sole-purpose R&D performers eliminated; and R&D tax credits limited to expenditures identified by the date a tax return is due for the taxation year following the year in which the expenditures are incurred |

*Source*: Department of Finance

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