Assessing the Scientific Research and Experimental Development Tax Credit

This discussion paper was written by the Secretariat to the Review of Federal Support to Research and Development Expert Panel as an input to the Panels deliberations.

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Introduction

The mandate of the Review of Federal Support to Research and Development Expert Panel is to help identify which federal initiatives are most effective in increasing business research and development (R&D) and in facilitating commercially relevant R&D partnerships as well as to identify what might be done to fill any gaps in the current suite of programs. Any recommendations to improve effectiveness would be revenue-neutral overall, reducing certain elements of current programming while increasing others, or suggesting new initiatives to be put in place.

This paper describes the scientific research and experimental development (SR&ED) tax credit and assesses a number of initiatives that have been identified, either in the consultations or by Panel members, as possible improvements to the credit. These changes fall into the following six general categories:

- simplifying the tax credit
- improving the effectiveness of the tax credit
- improving access to the SR&ED credit for certain groups
- broadening tax assistance beyond SR&ED activities
- making administrative improvements to the SR&ED tax credit
- improving the transparency of the SR&ED tax credit.

Description of the SR&ED Investment Tax Credit

The SR&ED tax incentive structure that is in place today was introduced in 1985. The focus of the current regime is to provide SR&ED tax credits, but the tax incentive program also includes accelerated deduction of R&D expenditures when calculating taxable income.[1] The government has encouraged R&D through the tax system since 1944, offering a variety of different incentives. Delivery mechanisms have included accelerated deductions, incremental bonus deductions and investment tax credits, and have been designed to address both regional and small business considerations. Throughout, the objective has been to encourage Canadian businesses of all sizes and in all sectors to conduct R&D in Canada that will lead to new, improved or technologically advanced products or processes.

[1] R&D spending is generally considered to be an investment (i.e., the spending is undertaken in one period with the expectation of generating revenues in future periods) but both current and most capital SR&ED expenditures are deductible in the year they are incurred. There is a significant benefit to firms to be able to immediately expense their capital expenditures.

Expenditure Base for the Tax Credit

Canada has a broad definition of expenditures eligible for the credit, which increases the generosity of the system as well as its complexity. The base for the current federal SR&ED tax credit includes direct labour costs, capital expenditures (excluding buildings), leases of capital equipment, materials consumed or transformed in the R&D process and overhead expenditures. Other components include contracts with other parties to undertake R&D and third-party payments made primarily to universities (Table 1). In addition, wages paid to Canadian resident employees for SR&ED activities undertaken outside Canada are included in the base, up to a maximum of 10 percent of the total wage costs claimed.

Table 1 Distribution of SR&ED Spending

Category	Small CCPCs[a]	Other Firms	All Firms
Labour	46.7%	37.2%	40.0%
Capital equipment (including leases)	2.6%	4.9%	4.2%
Materials	7.3%	9.6%	8.9%
Overhead	29.5%	28.6%	28.9%
Contracts	13.5%	18.4%	17.0%
Third-party payments	0.4%	1.3%	1.0%
Total	100.0%	100.0%	100.0%
Labour share excluding contracts	54.0%	45.6%	48.2%

[a] CCPC = Canadian controlled, private corporations, and includes those in the phasout range.

Source: Secretariat's calculations using SR&ED claims data.

Overhead expenses include salaries and wages of support staff; office supplies; general-purpose office equipment and furniture; heat, water, electricity and telephone; travel and training; property taxes; and maintenance and upkeep of SR&ED premises, facilities and equipment. Since the linkage between overheads and the actual research can be difficult to establish, companies also have the option of including 65 percent of salaries and wages of employees who are directly engaged in SR&ED activities in Canada as a proxy for the listed overhead amounts. In 2007, almost all firms used the proxy method. The high percentage of small firms making use of the proxy method is perhaps not surprising, given the advantages of simplicity, but the widespread use of the proxy method by other firms suggests that the proxy rate could be more generous than it needs to be. Overhead expenses calculated by the traditional method are still significant in certain sectors; claims under the traditional method in 2007 represented more than half of the total SR&ED overhead-related expenditures in a number of sectors, including oil and gas, mining and agriculture. Traditional overhead expenses amounted to about a third of total overhead claims in 2007.

Rates and Thresholds

A federal 20-percent tax credit is generally applicable to Canadian businesses, with a higher 35-percent federal tax credit available to qualified small businesses that are Canadian-controlled and privately held

corporations (CCPCs). The enhanced credit is fully refundable for non-capital spending[2] by most small CCPCs. Full refundability means that the enhanced credit is payable regardless of the tax position of the company.

In order to target the enhanced 35-percent refundable credit on small firms only, three criteria are used: an expenditure limit, a taxable income limit and a capital invested limit. All of these limits must be met in order to benefit from both the higher credit rate and 100-percent refundability. The current expenditure limit to access the 35-percent credit with full refundability is $3 million. Eligible expenditures above this limit receive a 20-percent credit that is refundable at 40 percent. For example, a company with $4 million of R&D expenditures would earn a $1,050,000 (35 percent times $3 million) credit that would be fully refundable, and then earn another $200,000 tax credit (20 percent of the $1 million excess of expenditures above $3 million), of which 40 percent would be refundable. Note that access to refundability is restricted to CCPCs with prior-year taxable income up to a maximum of $500,000, which is gradually reduced to zero as taxable capital increases from $10 million to $50 million.

The taxable income limit and capital invested limit act as a proxy for size. An R&D company loses its ability to earn credits at the 35-percent rate when it generates taxable income in excess of $800,000 or when it has "taxable" capital employed in Canada (essentially an asset test) greater than $50 million. These tests apply for the following year, that is, there is always a one-year lag in order to provide certainty to the firm. Once either of these thresholds is exceeded, small CCPCs receive the standard non-refundable 20-percent SR&ED tax credit available to public companies and foreign-controlled companies.

In order to avoid a significant drop in the credit rate where there is only a marginal change to taxable income or capital, the expenditure limit for the 35-percent credit is phased down from the $3-million level for firms as prior-year taxable income rises from $500,000 to $800,000 and as prior-year taxable capital employed in Canada rises from $10 million to $50 million. Table 7 provides more details of the credit rates and refundability percentages that apply to different types of firms.

Most provinces and territories also offer additional investment tax credits to firms that perform scientific R&D within their borders, as shown in Table 2. Provinces generally follow the federal definitions for allowable SR&ED activities and expenditures. Most of these credits are refundable, subject to certain restrictions related either to the location of their facility or the size of the R&D company. Québec has a refundable credit, but the base for the credit is restricted to labour costs and 50 percent of contract spending. Their credit rates for labour of 17.5 percent and 37.5 percent are roughly equivalent to provincial credit rates applicable for total R&D spending of 8 and 20 percent, respectively. The combined federal–provincial tax credits for small businesses range from 35 percent in Prince Edward Island and the Northwest Territories (which do not provide R&D credits) to 48 percent in Manitoba and Québec. The range for large businesses is 20 percent (the federal-only rate) to 36 percent in Manitoba. Note that combined federal and provincial tax credit rates are not additive, since the federal credit is paid out only on R&D spending net of the provincial credits.

[2] Credits related to capital spending are refundable at a maximum rate of 40 percent.

Table 2 Federal and Provincial Tax Credit Rates

Provinces	Provincial Tax Credit	Federal Plus Provincial Effective Rates[a]	
		CCPCs	Other Firms
Alberta and British Columbia	10%	42%	28%
Manitoba	20%	48%	36%
New Brunswick, Newfoundland and Labrador, Nova Scotia, Saskatchewan and Yukon	15%	45%	32%
Northwest Territories and Prince Edward Island	0%	35%	20%
Ontario (small/large firms)	10%/4.5%	42%	24%
Quebec (small/large firms)[b]	37.5%/17.5%	48%	27%

[a] The federal credit is 35 percent for small CCPCs and 20 percent for other firms. The base for the federal credit excludes provincial credits.
[b] The Québec credit rates shown are paid on wages and salaries plus 50 percent of contracts. The federal–provincial rate is adjusted for the narrower provincial base as the combined rate is expressed as a percentage of R&D costs eligible for the SR&ED credit.

Source: Secretariat's calculations and PricewaterhouseCoopers (2011).

Program Use

Table 3 shows total credits claimed from 2004 to 2007, presented by credits earned and claimed in a year, credits earned in previous years but claimed in the current year, and claims carried forward to future years. In 2007, $2.1 billion in credits was earned and claimed, $64 million was carried back to offset taxes paid in prior years, while about $1 billion in credits earned in previous years was claimed, resulting in total credits claimed of $3.3 billion.

Table 3 SR&ED Tax Expenditures ($million)

Category	2004	2005	2006	2007
Credits earned and claimed in current year	1,992	2,055	2,112	2,170
Credits claimed in current year but earned in prior years	1,023	592	608	1,022
Credits earned in current year but carried back to prior years	109	90	87	64
Total credits claimed	3,124	2,737	2,807	3,256

Source: Department of Finance.

Table 4 breaks down the tax expenditures by type of corporation. In 2007, about 20,000 small CCPCs received about $1.3 billion in SR&ED tax credits, whereas about 3,900 additional firms, almost all of them larger firms, earned about $2.0 billion in SR&ED tax credits. The average credit value for small businesses was about $65,000 in 2007, compared with an average claim of about $700,000 for larger corporations (see the annex for additional detail). The number of qualified small businesses increased by more than 25 percent from 2004 to 2007, compared with very modest growth for large businesses. The

particularly large increase in the number of small CCPCs in 2007 in part reflects a 2006 increase in the taxable income threshold that allows a company to qualify for the enhanced credit. The value of credits claimed by small businesses grew by about the same amount (24 percent) in the same period. Due to their higher credit rate and refundability, small CCPCs claimed about 40 percent of total credits, even though they carried out only about 30 percent of R&D in 2007.

Table 4 Tax Expenditures, by Type of Corporation

Type	Value of Credit ($million)				Number of Corporations (units)			
	2004	2005	2006	2007	2004	2005	2006	2007
Small firms	1,043	1,119	1,128	1,298	15,482	16,917	17,712	19,806
Large firms	1,944	1,448	1,471	1,822	2,452	2,448	2,728	2,599
Other firms[a]	137	170	208	136	1,259	1,510	1,920	1,310
Total	3,124	2,737	2,807	3,256	19,193	20,875	22,360	23,715

[a] Includes CCPCs in expenditure limit phaseout range and small non-CCPCs.

Source: Department of Finance.

Distinguishing Characteristics

The SR&ED tax credit is an open-ended program with no set budget. Program beneficiaries receive a tax credit on the basis of whether they have incurred eligible expenses related to R&D, after review of their claims and, in some instances, audit. In many cases, claims are approved as filed. Investment decisions are driven by firms, who determine which projects will proceed based on their private assessment of their after-tax return, including the likelihood that the project will qualify for the SR&ED tax credit. In contrast, grant and contribution programs have finite available budgets and involve requiring program recipients to submit a proposed project for review and approval before commencing the project. This allows some discretion on the part of the program administrators, subject to the fixed allocation of funds for the program.

Large businesses face some “tax risk” in that they must have sufficient tax otherwise payable in order to fully benefit from the tax credit. Businesses that cannot use the tax credit in the year that it is earned can carry it forward to future years, but this reduces the value of the credit. Non-refundability could be viewed as an advantage in that it helps the program “target success” while making the credit less open ended than it initially appears. This linkage to success may also encourage some multinational businesses to locate non-R&D facilities in Canada to ensure that they generate enough profits and associated taxes to fully utilize the SR&ED tax credit.

The criteria for “targeting success” does not apply to qualified small businesses, given the capital market challenges that they face in arranging financing for intangibles such as research and development. For this reason, the credits applicable to qualified small businesses are refundable — they are paid out to the company regardless of its tax position.

Administration

Businesses must be able to demonstrate to the Canada Revenue Agency (CRA) that their projects meet the criteria for eligible SR&ED. The *Income Tax Act* sets out the definition of SR&ED, while the CRA's technical interpretations and positions regarding certain provisions with respect to SR&ED are contained in information bulletin IT-151R5 (CRA n.d.). The definition of SR&ED is generally consistent with the standard established by the Organisation for Economic Co-operation and Development in the "Frascati Manual" (OECD 2002).[3] Businesses must also identify the particular costs associated with the eligible project. Businesses face "eligibility risk" once the project is completed and the R&D claim has been made if the project then does not qualify as SR&ED in the view of CRA, or if the costs allocated to the completed SR&ED project are determined by CRA to be less than originally expected. Significant effort has been made on the part of CRA to provide consistent eligibility criteria to the various industrial sectors and to provide these determinations in a timely manner. This was one of the major recommendations coming out of the 2007 review of the SR&ED program. However, as the consultations have demonstrated, concerns about administration in terms of consistency of interpretation and timeliness remain.

The CRA can administer the program at much lower cost than grant programs in part because much of the infrastructure is already in place to interact with clients in order to assess taxes. Costs are also reduced given that there is no pre-approval required, technical and business advice is not provided, and the claim is made as part of the broader self-assessment system for tax filing. Furthermore, not all claims need to be audited, so audit effort can be focussed on those claims that exhibit higher risk characteristics. Overall, CRA administration costs for the SR&ED program are small, averaging about 1.6 cents per dollar of tax revenue forgone (Source: Canada Revenue Agency).

Compliance costs, comprising both the costs of assembling information over and above what the firm would use for its own purposes as well as addressing any concerns raised by the CRA, are more substantial. A survey undertaken on behalf of the Panel found that small firms on average incurred compliance costs amounting to 14.5 cents per dollar of tax credit claimed (Table 5), approximately three times higher than those for large firms, reflecting a substantial "fixed cost" in making a claim. Costs for the smallest claims (up to $25,000) are 37 cents per dollar claimed, but decline to 15 cents for claims in the $50,000–100,000 range and to eight cents for claims in the $250,000–500,000 range. Small firms also make more use of third parties to prepare SR&ED applications than other firms (75 percent compared with 46 percent). Just under half of firms making use of third parties to prepare claims made payments that were either wholly or partly contingent on the amount of tax credit allowed by CRA.

[3] An important difference between the two definitions of R&D is that the SR&ED definition recognizes that incremental improvement can contribute to the technological advancement, whereas the Frascati Manual definition recognizes only substantial improvement. The Frascati Manual is a document stipulating the methodology for collecting and using statistics about R&D in OECD member countries. The standardized definition of R&D identified by the Frascati Manual has been used for policy development in many OECD and non-OECD countries.

Table 5 Compliance Cost Survey Results (per $ claimed)

	Small Firms (CCPCs)	CCPCs excluding first-time claimants	Other Firms	Total
Compliance cost	0.145	0.145	0.047	0.085
Number of observations	121	108	60	181

Source: Secretariat's calculations based on web-survey undertaken in May and June 2011.

Recent Changes to the Administration of the Program

In 2007, joint Finance–CRA consultations were held with external stakeholders. The goal was to identify opportunities for increasing the level of private sector R&D performed in Canada by improving the SR&ED program through cost-effective improvements to the tax incentives and further streamlining of the program's administration. With respect to administration, four areas were identified for improvement: accessibility, complexity, consistency and predictability. On the basis of these consultations, Budget 2008 (Department of Finance 2008b) announced an additional $10 million annually to allow the CRA to implement an action plan to improve the administration of the SR&ED program by increasing the CRA's scientific capacity and improving its services to claimants.

Since this time, the CRA has undertaken several initiatives, some of which are still under way and whose full benefit is not expected be realized until several more years.

- The CRA increased the number of technical reviewers who determine program eligibility and provide claimant services. There are currently about 250 such reviewers. In April 2010, it released a new Claim Review Manual for technical reviewers, and has made a version of this document available to the public online (CRA 2010). It is also developing a national training program for employees.

- In November 2008, the SR&ED Form and Guide to claiming SR&ED expenditures were simplified by the CRA, with a view to improving accessibility and predictability.

- An SR&ED Policy Review Project is under way to consolidate and clarify all program policy information in an accessible web-based format. This work is currently being undertaken with the input of external stakeholders and is expected to be completed by the end of 2012.

Review of Issues Raised During the Consultations

In the consultations, the SR&ED tax credit drew considerable commentary, which is not surprising given that the program touches more Canadian businesses than any other R&D support mechanism. SR&ED's admirers appreciated its broad application — it does not discriminate between industrial sectors. The program is seen by many to encourage new investment in R&D, offset the high cost of exploratory work, directly support operations, generate cash flow and enable access to credit. Without it, said one stakeholder, there would be very little start-up R&D. Others called SR&ED the federal government's best and most effective public policy tool for encouraging domestic R&D spending.

At the same time, a number of possible changes to the SR&ED program were identified during the consultations and in discussions with the Panel. They fall into the following six general categories:

- making the structure of the SR&ED simpler by basing the credit on direct labour costs only, together with an increase in the tax credit rates to compensate for the narrower base
- making the SR&ED credit more effective through better targeting of the SR&ED tax credits to projects to generate a higher economic return
- improving access to the SR&ED credit by expanding the refundability provisions or examining alternatives to the current structure
- broadening coverage to include other innovation activities
- improving administration
- improving transparency.

Simplifying the Credit

The SR&ED tax credit structure is complex and has evolved over the years. Numerous additional provisions have been added to reflect special circumstances such as partial use of capital equipment. Attempts have been made to simplify the structure by adding options for taxpayers such as the 65-percent proxy amount as an alternative to identifying overhead expenses separately. Sometimes, however, the benefits of simplification are not fully realized. For example, providing options for taxpayers may still entail an assessment of which option would be the most beneficial under differing circumstances. More fundamental simplification of the SR&ED system would benefit all companies by lowering their compliance costs, which reduce the net value of the SR&ED tax credit.

Base the SR&ED Credit on Labour Costs

The complexity of the SR&ED system would be substantially reduced by moving to a base for the tax credit that includes labour and certain other direct costs only. As noted previously, Canada has a broad

definition of expenditures eligible for the credit, which increases the generosity of the system as well as its complexity. The base includes direct labour costs, capital expenditures including leases, materials consumed or transformed in the R&D process and overhead expenditures as well as contracts.

It can be administratively difficult to determine exactly which of the capital costs and overhead expenses should be included in the base eligible for the SR&ED tax credit. Complex rules are currently in place to determine what proportion of capital expenditures should qualify for the SR&ED tax credit. For example, if a piece of equipment is used "all or substantially all" for the purposes of SR&ED, then it is fully included in the base eligible for the tax credit. CRA administers the "all or substantially all" concept as meaning more than 90-percent usage.

Similar rules are in place where capital equipment is only partly attributable for R&D and is partly used for other purposes. In this latter case, a smaller percentage of capital expenditure is then included for tax credit support. Even with these rules, the determination of what elements of capital expenditures should be included can be difficult. There are also issues around timing. For example, how long does a piece of equipment have to be used in an R&D function before it can be used in some other function? What type of recapture of the tax incentives should take place if this threshold is not met? These issues require the specification of additional rules in the *Income Tax Act* that add to the complexity of the tax measure, which in turn leads to greater uncertainty about eligibility and greater expenses for administering and complying with the credit.

Similar problems exist with respect to overhead expenses. Is this overhead expense really linked to the research? Are these expenditures for support staff directly linked to the underlying research? This difficulty is one of the reasons why companies undertaking R&D have the option of measuring their direct R&D costs and applying a 65-percent proxy amount for overhead as a simpler method for firms to make their R&D claim. While making this option available to firms does simplify the application process, some of the benefits are lost because some firms will still do the calculations under the traditional method and then determine if the proxy amount will generate a higher overall claim.

Moving to a labour base would reduce compliance costs, resulting in more of a net benefit to the firm by eliminating all of the calculations related to capital, materials and overheads. Secretariat calculations indicate that if compliance costs were to drop by about one third with the change to simpler base, savings would be in the order of $115 million for SR&ED claimants ($80 million for small firms and $35 million for large firms). Assuming that CRA administration costs would decline by about half of the percentage reduction in compliance costs, savings would be about $10 million.

Limiting eligible expenditures to direct labour costs would reduce the expenditure base for the SR&ED credit, thereby requiring an increase in the tax credit rates to deliver the same level of overall benefits. Large corporations would have a greater percentage increase in their credit rate in the move to a labour base since their current ratio of labour to total expenses is lower than that for small businesses.

A concern with this approach is the intersectoral redistribution that would occur. Low overhead/low capital firms, such as smaller software companies, individuals and working proprietors, would see an increase in their R&D tax subsidy. Similarly, high capital/high overhead operations would see a net decrease in their R&D tax subsidy. Another issue is that a labour-based credit favours labour over other inputs used in the R&D process, which could adversely affect efficiency.

Experience in Other Jurisdictions

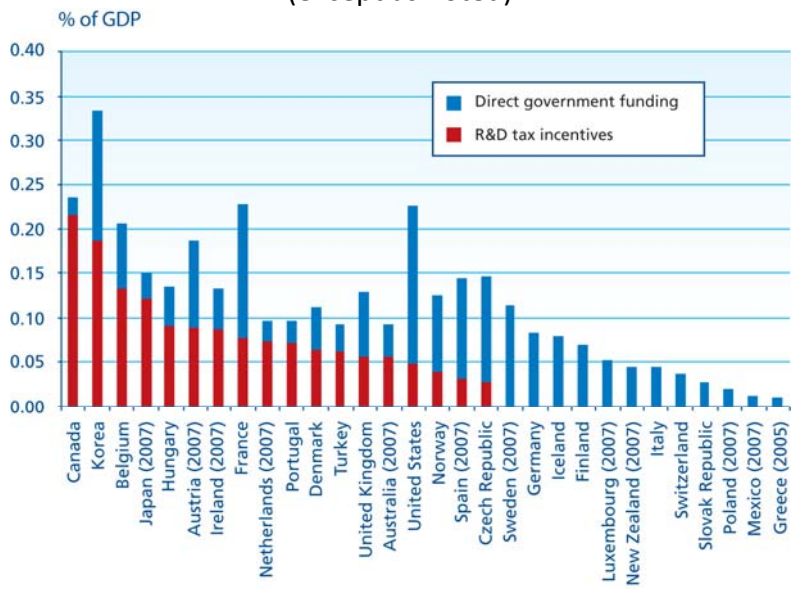
Canada has a broader definition of the tax credit base than most other countries. In most cases the differences are minor (e.g., a broader definition of materials, the inclusion of shared-use equipment). Four developed countries (the US, Japan, Australia and Singapore) exclude capital costs from the base; the US also excludes overhead expenses while in the Netherlands the credit is based on wage costs only.[4]

As mentioned above, Québec tax credits are available only in respect of R&D wages paid and 50 percent of contract expenses. The half inclusion of contracts approximates the labour cost of the R&D performed under contract. Other costs such as materials, equipment and overhead are not eligible. For large corporations and foreign-controlled corporations, the Québec R&D tax credit is calculated as 17.5 percent of qualified R&D wages, while a 37.5-percent tax credit is available of the first $3 million of qualified R&D wages for qualified small companies. These rates are roughly equivalent to 8 and 20 percent using the current SR&ED base.

Improving the Effectiveness of the SR&ED Investment Tax Credit

The SR&ED program in Canada provides generous support to businesses, particularly the refundable credits that are paid out to small businesses. A number of factors would suggest that Canada may be relying too much on tax credits and that the level of the incentive is too high. First, relative to comparative countries, Canada's support is heavily weighted toward tax incentives as opposed to direct support measures (Figure 1).

Figure 1 Government Support for Business R&D, 2008
(except as noted)



Source: OECD 2010.

[4] New Zealand's R&D tax credit, which was repealed effective from the 2009–10 income tax year, also excluded capital costs from the base.

Second, for SR&ED claimants, the "stacking" of benefits from all sources (federal and provincial tax credits and grants) results in a level of assistance that may often be too high to generate a net economic benefit, particularly for small firms where the level of assistance is the highest, as shown in Table 6. In 2007, the average benefit from all sources amounted to approximately 42 percent of spending on R&D for small firms and about 21 percent for large firms. There were approximately 1600 small firms, or about 9 percent of all small firms claiming the SR&ED credit, that received government assistance exceeding 50 percent of their R&D expenses (Figure 2).

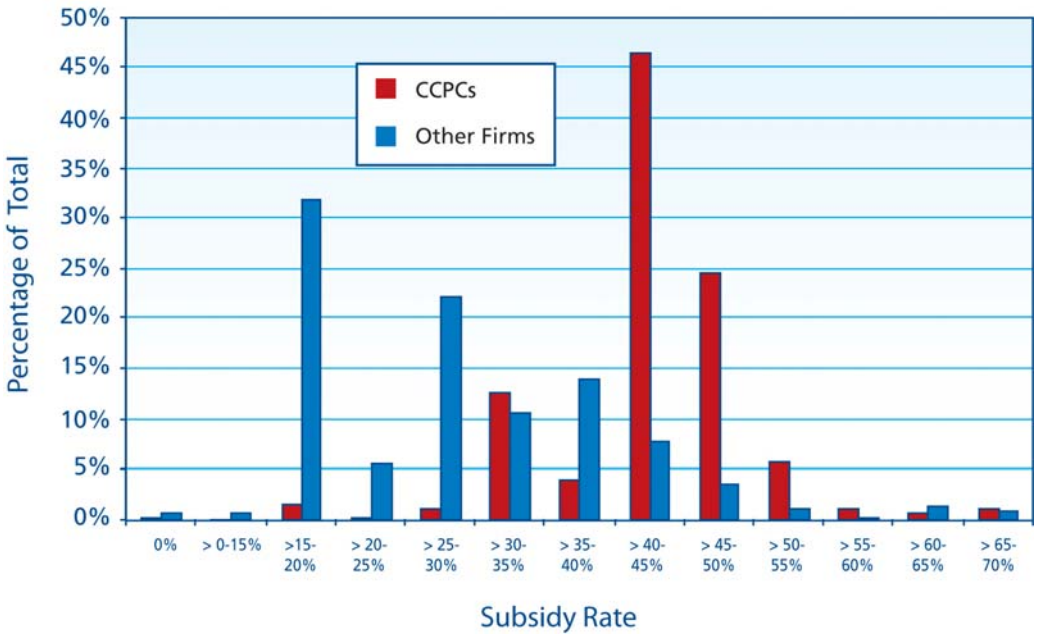
Table 6 Average Subsidy Rates Provided by Federal and Provincial R&D Support Programs
(assistance provided in 2007 as a percentage of R&D spending)

Size	SR&ED[a]	Other Programs	Total[b]
Small firms	33.3	13.1	42.0
Large firms	16.0	6.4	21.3
Total	20.9	8.4	27.5

[a] Nominal credit rates are adjusted to reflect exclusion of buildings from eligible spending as well as the impact of delays in claiming the large-firm credit.
[b] The SR&ED tax credit applies to R&D spending net of other program assistance.

Source: Secretariat's calculations using SR&ED claims data.

Figure 2 Distribution of Government Assistance, by Subsidy Rate



The economic rationale for providing higher support for small CCPCs rests partly on the premise that the R&D performed by small businesses results in a higher social return than that by large firms.[5] This could arise because the spillovers from R&D are higher for small firms or because small firms are more responsive to R&D subsidies, which would raise the net social benefit per dollar of tax revenue forgone. There is no evidence that spillovers from R&D undertaken by small firms are greater than those from large firms, and the message from theoretical analysis is mixed (McFetridge 2011b). There is also little evidence of a higher incrementality impact for incentives given to small firms (McFetridge 2011a).

Assuming that spillovers and the incrementality effect are the same for small and large firms, a benefit-cost analysis of the two credits indicates a substantially lower net benefit from the refundable credit. The high subsidy rate provided to small firms and the higher compliance costs they incur cause the net benefit to dip into negative territory, while the net benefit from the large firm credit is highly positive. Using the average subsidy rate shown in Table 6 causes the net benefit to fall further below zero for small firms.

The benefit-cost framework is highly stylized and so does not capture all of the benefits of supporting innovative small firms. A key missing element is promotion of small firms that make the transition into large successful firms. There are many situations where a small business makes significant inroads in a market and experiences significant growth. Some of these high-growth firms — Research in Motion, Open Text, Sierra Wireless — become dominant players. These companies would have benefited from the higher tax credit prior to becoming public companies. However, the current generous federal and provincial SR&ED tax credits are available to all small businesses, even though relatively few innovative start-ups make the transition to large successful firms. An analysis of start-ups created over the 2000–2004 period indicates that, within five years following incorporation, approximately 2 percent of innovative start-ups grow into large firms that continue to undertake R&D (Department of Finance Year). This outcome suggests that the enhanced SR&ED tax credit is a relatively blunt instrument for targeting the “gazelles” among the numerous start-ups that are eligible for the enhanced SR&ED credit. A shift in support for small and medium-sized enterprises (SMEs) from the enhanced SR&ED to other programs could result in a higher net economic benefit.

The net benefit calculation also leaves out some costs. For example, projects that have low probability of success still qualify for the credit, and firms undertaking these projects may therefore be less sensitive to costs. Refundability of the SR&ED tax credit gives these firms a low-cost option on their project — they take the upside if successful, but the government absorbs some of the downside risk. Another concern that surfaced during the consultation period was that the enhanced credit may be providing an incentive to stay small: the prospect of losing the enhanced credit would prevent firms from investing and growing into larger firms, which would impose a cost on society.

Partial Refundability for SMEs

Two broad illustrative approaches to improving the effectiveness of the SR&ED credit are considered in this paper. The first approach is linked to the simpler system of calculating SR&ED tax credits based on direct labour costs. If this new narrower expenditure base were to be adopted, the prevailing credit rates could be increased by less than the amount required to maintain the credits at their current value.

[5] As discussed below, the higher level of support could also be justified by the fact that some small firms receiving support make the transition to large successful firms.

In addition to rebalancing support for SMEs, savings from large and small firms could be motivated by recognizing that lower compliance costs from a simpler system would directly benefit claimants, thereby allowing a lower credit rate to have the same impact on R&D spending. Further, as noted above, the current proxy method for calculating overhead expenses appears to be generous for most taxpayers.

The second approach would modify the refundability provisions for the 35-percent credit for small businesses by making only a portion of the credit refundable (i.e., the first 20 percentage points) but allowing firms to offset the remaining credit against tax otherwise payable. The refundable portion of the credit would mitigate the capital market challenges facing small businesses, while the remaining portion would be targeted to those small businesses able to successfully generate net income and associated federal taxes from their endeavours to utilize the non-refundable portion of the tax credit.

This "targeting success" would impose additional market discipline on the program. Some small businesses would have reduced benefit from their R&D tax credits as they will not be in a position to fully utilize the non-refundable portion of the SR&ED tax credit. However, the change would restrict part of the subsidy to higher-quality projects, because only those small businesses that are successful in bringing their projects to market, generating net revenue and generating the federal tax otherwise payable would be able to utilize the non-refundable credit. This partial refundability approach could be implemented in conjunction with a move to a labour base. In this case, there would be refundable and non-refundable portions of a tax credit rate higher than the current 35-percent level that would be applied to the direct labour base of small businesses. Implementing this approach is likely to require changes to several program parameters rather than simply dividing the enhanced credit into refundable and non-refundable portions. A first consideration would be a review of the taxable income limits; with unchanged limits, successful firms would lose eligibility for the enhanced credit as they generate enough taxable income to take advantage of the non-refundable part of the credit. A second consideration is the possibility of providing a fully refundable credit for a fixed number of years for start-ups. Without access to the detailed tax return data, however, it is not possible to determine the appropriate changes in the taxable income limits or whether additional changes would be required to ensure that the program better targets success.

Improving Access to the SR&ED Credit

During the consultations, numerous proposals for refundability were made by large businesses that were not in a taxpaying position (and therefore generating tax credits that are of no immediate value) and by profitable foreign-owned firms whose value of the credits may be compromised by the interaction with foreign tax structures. Another approach suggested was to preserve the value of SR&ED tax credits earned but not claimed in the year by inflating them by an interest rate to preserve their present value. Interest was also expressed in the greater use of flowthrough shares as an alternative mechanism to refundability that would encourage investment in R&D companies. Finally, a number of representations suggested that more assistance should be available for R&D undertaken outside Canada.

Refundability/Present Value Adjustment for Large Businesses

During the consultations, representatives of large firms suggested that refundability be extended to large firms, since they are not always able to use the credit as it is earned, which reduces its value to the

firm. Canadian subsidiaries of certain US multinationals that are paying Canadian tax and fully utilizing the SR&ED tax credit have also called for the government to adopt refundability for credits earned by large businesses but for very different reasons. These firms have expressed concern about the "treasury transfer" effect whereby the R&D credit can be effectively transferred to the US treasury. This occurs because the R&D tax credit reduces the Canadian tax payable of the Canadian subsidiary. When the firm then makes a repatriation of its earnings to the US parent, earnings are first grossed up to their pre-Canadian tax level, the US tax is imposed and a credit is then given for Canadian tax actually paid. Since Canadian tax paid by the subsidiary has been lowered by the credit, the US parent then faces a higher US tax bill, leaving the combined parent/subsidiary taxes unchanged. As a result, the US treasury rather than the company could benefit from SR&ED tax incentive.

However, a number of considerations could diminish the practical importance of the treasury transfer effect. For example, firms can choose both if and when they wish to repatriate earnings to the parent. The US rules also allow the blending of low-taxed Canadian earnings (because of the SR&ED credit) with higher-taxed earnings from other jurisdictions in order to avoid paying taxes on repatriated earnings. Other tax minimization techniques are also available to avoid the impact (Department of Finance 2008a). That being said, there may be some multinationals that do not factor the Canadian SR&ED tax credit into their investment decisions because of the potential impact of higher US taxes on the parent.

Refundable tax credits would remove the treasury transfer effect through their treatment under US tax rules. These rules treat refundable credits in a manner similar to grants, including them in the US earnings and profits calculations and not offsetting US tax otherwise payable. A Canadian subsidiary could then benefit from the refundable tax credit but receive a full foreign tax credit for its Canadian tax paid prior to the SR&ED credit offset. Since many of these firms are already claiming the credit against tax, the value of claims would not be affected for these firms.

From a public policy perspective, the social benefit of R&D undertaken in the current year is the same for a firm that is in a taxable position and for a firm that will be in a taxable position only in a subsequent year. This line of reasoning suggests that some type of mechanism to provide similar levels of R&D subsidy to the two types of firms could be appropriate. However, as noted previously, the tax credit imposes a market test on companies since only those firms that can successfully generate income will be able to benefit from it. Making credits refundable would remove this test and considerably increase the cost of the program. Refundability would also remove the existing incentive for multinationals to place more of their non-R&D operations in Canada to generate additional federal tax otherwise payable in order to fully utilize the R&D tax credit.

An alternative to refundability would be to increase the SR&ED tax credits that are earned but not claimed in a given year in order to preserve their present value.[6] This approach would be consistent with both the "targeting success" principle and the notion that the social benefit of R&D is independent of when the credit is claimed. This alternative to refundability could be achieved by increasing the SR&ED tax credit pool each year using a government bond rate — which represents a risk-free rate — to preserve its present value.

An increase in tax pools solely for R&D would increase pressure to make the same adjustments for other tax credits that can be carried forward, for loss carry-forwards in general and for unutilized capital cost

[6] Note that this would respond to the first issue of loss of value over time but not the second issue of treasury transfer.

allowance provisions. The rationale for applying such an increase only to R&D-related activities could be linked back to the social benefit argument: the government wishes to increase R&D undertaken by lowering the threshold pretax target rate of return for projects independently of when they become taxable.

Extending refundability to large firms could substantially increase the cost of the SR&ED tax credit. In contrast, the cost of maintaining the value of unused credits would be small in the beginning years if the government increased the credit pool only in respect of new credits earned. In the short run, indexation would benefit only those firms that cannot use credits in the year they are earned but are able to apply them against taxes payable in the years immediately following. The longer-run cost, however, could be more substantial. On average over the five years ending in 2007, firms claimed $700 million in credits that were earned in previous years. If the average delay in claiming was three years, the cost of indexing would have been about $110 million in 2007, assuming a 5-percent government bond rate. If the average delay in claiming was five years, the cost of indexing would have been about $200 million.

Use Flowthrough Shares as a Substitute for Refundability

A number of representations were made during the consultation period encouraging the government to consider the institution of a flowthrough share mechanism available to large companies that would act as a substitute for direct refundability available to smaller companies that undertake R&D projects.

The basic idea behind flowthrough shares is to provide refundability of credits to firms that pass a market test of viability; firms that are not expected to be profitable over the longer term would not be able to find buyers for the shares. Flowthrough shares encourage investment in risky ventures by essentially allowing the company to "monetize" some of its tax preferences to attract investment.

Flowthrough shares are currently restricted to the oil and gas, mining and renewable energy sectors. They are a popular tax shelter that allows a firm to transfer unused tax deductions to investors purchasing shares. For example, many smaller exploration companies generate deductions well in excess of their revenue. The company can flow its exploration and development expenses to outside investors when they purchase a qualifying flowthrough share. In this case, the small exploration company renounces its ability to claim the exploration expense, and the flowthrough share investor is then eligible to take the exploration claim on the company's behalf. Purchase of a flowthrough share that was entirely directed to exploration expenses of $100 would generate a $100 deduction for the flowthrough share investor as if the flowthrough share investor tax had actually made the exploration expense directly.

The analogy, if applied in the R&D context, would be a situation in which an R&D company could flow out $100 of R&D expense together with the associated R&D credits that would then not be available for the company to use to reduce taxable income and taxes payable. Both the deduction and the associated tax credits would then be available as a tax benefit for the investor in the R&D flowthrough share.

For the government, flowthrough shares have two fiscal impacts:

- First, there is the timing difference, since the investor is taking a deduction currently, whereas the issuing company might otherwise have had to wait until it was in a taxable position to claim the expense. Further, in many cases, the issuer would not have been able to make use of the

deduction and credit.

- Second, there is a rate differential between the investor and the issuing company if the investor is an individual and takes the deduction at the 29-percent top federal personal income tax rate, whereas the expense would otherwise have been taken at the corporate tax rate of the issuing company (16.5-percent federal corporate tax rate in 2011, scheduled to drop to 15 percent in 2012).

These additional fiscal impacts of flowthrough shares would cost much more than simply refunding the R&D tax credit to large firms. First, flowthrough shares would involve a broadening of refundability, since both the value of the R&D deduction as well as the R&D tax credit would effectively be monetized by the investor. Second, the rate differential between the investor and the issuing company is an additional cost relative to direct refundability.

The benefit obtained by the firm from flowthrough shares could also be less than the benefit from refundability. Economic theory predicts that the tax benefit will be shared between issuers and investors, and the net benefit to the issuer is further reduced by legal, accounting and brokerage fees incurred in issuing flowthrough shares.

Issuance of flowthrough shares may involve more "eligibility risk" in the R&D area than in the resource sector. The definition of exploration expenses is relatively straightforward. This may not be the case with respect to particular R&D projects. If an expense was subsequently found not to qualify as research and development, then the flowthrough share investors would be reassessed. This additional uncertainty would also affect the pricing, again reducing the net benefit to the issuer.

Extend the SR&ED Tax Credit Base to Include More Activities Occurring Outside Canada

Qualified expenditures for the SR&ED tax credit normally have to be incurred in Canada. Budget 2008 expanded this definition to include certain expenditures incurred outside Canada. Wages and salaries incurred for SR&ED work carried on outside Canada qualify, provided that the work is directly undertaken by the taxpayer (i.e., not on a contract basis) and the work is solely in support of SR&ED carried on by the taxpayer in Canada. The claim for wages and salaries incurred outside Canada cannot exceed 10 percent of the total wages and salaries incurred for SR&ED in Canada.

Some have argued that the 10-percent cap on wages and salaries is too restrictive and that the definition of qualified SR&ED activities occurring outside Canada should be expanded to also include contract certain capital-related expenditures such as the use of testing equipment not generally available in Canada.

Many countries, including Japan, the UK, Austria, Norway and Singapore, do not restrict eligible expenditures to be incurred domestically. Countries that do impose limits have set these limits higher than Canada's (Spain 25 percent of overall project costs and Australia 50 percent of overall project costs). The quality of the R&D project may be higher as a result of gaining access to the best possible participants in the R&D project regardless of their location. Some projects may require expenditures to be made outside Canada because neither the services nor the capital employed are available here.

On the other hand, as expenditure levels increase outside Canada, there is a risk that much of the social benefit of the R&D will accrue outside our borders, so the world may be better off but the benefit to Canada may be too small to justify the loss in tax revenue. More precisely, in the absence of a direct link to Canadian employment and without the linkages between the R&D facilities in Canada and associated manufacturing and production facilities, there may not be a net benefit to Canada.

Broadening Tax Assistance Beyond R&D Activities

Since R&D is one of several inputs to innovation, the base for the SR&ED tax credit could be broadened to include other innovation activities; alternately, a new tax credit possibly at a different rate or another government initiative could be put in place to encourage these activities. The amount of support provided to each innovation input/activity should be based on the nature and extent of the market failure affecting each activity. In the case of many of these innovation activities, however, spillovers are likely to be much smaller than those for innovation inputs or even non-existent, so it may be harder to justify government support. In general, the closer a product is to market, the more the spending will likely be highly specific to the product and the firm and the less the spillover will benefit the rest of the economy.

The most natural extension of the SR&ED credit would be to include other activities related to the generation of ideas and knowledge as inputs to innovation, such as licensing intellectual property or research related to developing a new marketing method, organizational method or workplace organization. In these cases, however, the spillover benefits may be too small to justify government intervention. Another innovation activity is the commercialization of a product or process. The R&D may have been completed, but significant expenditure may still be needed to commercialize the project and bring it to market. There may be uncertainties in this process in terms of how best to tailor the potential product to a particular marketplace or clientele.

Government intervention could be targeted in ways that attempt to address certain challenges faced by smaller firms. For example, Australia provides repayable grants to assist innovative companies to undertake activities that enable a new product, process or service to be developed to the stage where it can be taken to market. Eligible expenditures include the systematic work necessary for installing and establishing processes, systems and services that enable a new product, process or service to be effectively brought to market. Australia also provides Proof-of-Concept grants to assist researchers, entrepreneurs and innovative companies in establishing the commercial viability of a new product, process or service. Regional development agencies in Canada provide similar repayable support, while the federal granting councils also support proof of concept work at universities.

These program approaches raise interesting design issues about the role of grants versus tax incentives, administrative review versus the automatism of a tax program, and grants versus repayable assistance based on the subsequent success of the product or process. The challenge is to design a program that will provide incremental improvement to innovation in Canada and not simply transfer funds to companies likely to capture all of the benefits of the spending on commercialization.

From a tax administration perspective, it would be difficult to define eligible expenditures for commercialization or innovation in order to provide certainty to both the taxpayer and the tax administration. From a cost perspective, broadening the definition of qualifying activities beyond SR&ED that would then be eligible for some type of government support could be expensive. Based on effective

tax credit rates observed over the 2000–2007 period, each $100 million broadening of the SR&ED base would cost the government $17–24 million in forgone tax revenue.[7]

In summary, assessing the role of tax-based versus expenditure-based programming and the tradeoff between non-repayable and repayable assistance will be important in balancing the benefits of government support against the social costs of the necessarily substantial funding. A general conclusion that could be drawn is that tax credits are unlikely to be the best mechanism for delivering support for non-R&D innovation activities.

Administrative Improvements to the SR&ED Tax Incentive

Pre-Approval of SR&ED Expenditures

Since 1999, the CRA has provided a number of services to help businesses with their SR&ED claims. These free services include the Preclaim Project Review (PCPR) Service, the Account Executive (AE) Service, and the First-Time Claimant Service (FTC).

The PCPR Service is designed to help businesses in their planning and investment decisions by identifying which R&D projects and work may qualify for SR&ED tax incentives, providing a preliminary opinion on the eligibility of SR&ED projects without having to generate extensive paperwork, potentially reducing the time and cost of claim preparation, and helping companies understand what supporting documentation should be kept. The PCPR Service is available before SR&ED tax incentives are claimed and, ideally, early in the R&D process or even before the work is undertaken. This provides greater up-front certainty about the eligibility of R&D work for SR&ED tax incentives. The PCPR Service is neither an advance income tax ruling nor a pre-approval of an SR&ED claim. A final determination on any SR&ED claim must be based on the actual work done and can be made only after the claim is filed.

The AE Service is an optional service that assigns a designated CRA account executive from the SR&ED program to a business, generally accessible after a business has already filed its first claim and has had an SR&ED review. The account executive provides personal, up-to-date, consistent service to each business, ensuring a better understanding of the SR&ED program, the types of R&D that qualify for the SR&ED tax incentives and the type of information that is required to support a claim.

The FTC puts a first-time claimant in touch with SR&ED staff who will work closely with the business to answer questions, provide the information, tools and help needed to complete the first SR&ED claim, and possibly visit the business to explain the program benefits and requirements in more detail.

Some of the submissions to the expert Panel suggested that CRA's existing "pre-approval" service is not achieving its objective of improving the speed and predictability of the claims process. With existing services, clients can obtain an informal ruling on eligibility, which can be useful to firms seeking loans and using tax credits as security. A formal ruling, particularly one that is available at any stage of the R&D process, would evidently be more valuable to R&D performers and would reduce the incentive to

[7] These estimates are the lower and upper bounds of the range of the tax expenditures to total allowable expenditures ratios observed over the 2000–2007 period.

make use of contingent fee arrangements with third parties. A more predictable eligibility determination process would also reduce the current tension between CRA and taxpayers when projects are determined not to qualify *ex post*, which can in some cases impose a significant financial risk for the entire company.

One approach would be to enhance the effectiveness of CRA's existing "pre-approval" service by allowing clients to request a written eligibility confirmation prior to filing their tax return. Alternatively, the pre-approval function could be undertaken by a new entity, which could operate much as CRA does now, such as selective review of claims based on risk factors. Rulings by the new entity would be subject to audit by CRA that the planned work was indeed undertaken. It was argued during the consultations that a separate entity could allow more highly qualified science professionals to be hired, and perhaps result in more consistent rulings. The use of an outside agency would speed up the approval process by eliminating the tax-filing lag, and has the potential to provide a more consistent science-based and fact-based eligibility mechanism. On the other hand, even if the new entity were to use the same procedures as CRA uses now, costs would increase because of the need to coordinate the eligibility and audit functions and provide higher pay to review officers to the extent they were more highly qualified.

Another area that may yield benefits would be to encourage industry and CRA to develop an R&D audit protocol or process review. This is a procedure whereby both a business and CRA review the mechanisms and reporting systems in place that identify what activities constitute SR&ED, and then what costs are tracked in support of these eligible projects. By doing more work up front, there is more certainty for the taxpayer, more confidence on the part of CRA that claims are legitimate, and more assurance that the documentation to support the claims is being generated contemporaneously. Large companies such as Bell and Ericsson have these systems in place. While this approach was supported in the past by CRA head office, stakeholder feedback suggests that the enthusiasm for it currently varies considerably between district offices.

Other alternatives would include the use of an independent scientific body to adjudicate in the case of a dispute between the taxpayer and the tax authority regarding the eligibility of a project. This would constitute more of an appeals function than a certification function.

Other countries have adopted the approach whereby the eligibility of an R&D project is determined by a group or agency outside the tax department. For example, the R&D content of projects must be approved by the Research Council of Norway *ex ante*, whereas final costs are approved by the tax authorities *ex post*. In Australia, claims are selected for review based on risk factors and are sent to an independent body for approval, a process that would prevent any substantial increase in administration expenses.

In Canada, other tax programs have used an approval process outside CRA. For example, claims made under the Canadian Film and Video Tax Credit are approved by the Department of Canadian Heritage, although pre-approval is not required.

In summary, the perceived benefits to firms of having business scientists talking to government scientists in order to obtain a formal determination of eligibility in advance of filing the claim would have to be weighed against increased administrative costs overall as well as increased coordination challenges between the new entity, CRA auditors and taxpayers.

Use of Contingent Fees

In the consultations, a number of representatives raised concerns that some taxpayers are paying up to 35 percent of their SR&ED claim value to third-party consultants contingent on a successful claim. The high fees have been perceived by some as "leakage" of the credit to third-party consultants, undermining the basic purpose of the SR&ED tax credit. Concern was also expressed that contingent billing may be encouraging certain consultants to be very aggressive in developing their business, with some encouraging weak claims.[8] As a result, some have suggested disallowing such contingent fees in the tax area, similar to the restrictions that apply to consultants who help in the preparation of grant and contribution applications.[9]

Taxpayers may choose a contingent fee arrangement when limited in-house expertise makes it difficult for them to judge the eligibility of their projects. They see a contingent fee as similar to buying insurance: pooling with other taxpayers, they may be paying what amounts to a high fee if the claim is accepted as filed but a low fee if many hours are spent defending the claim in an audit. The alternative of paying a preparer on an hourly rate provides an incentive for the preparer to make claims for projects of marginal or uncertain eligibility. A preparer paid on a contingent fee basis would be less likely to spend time on those projects, thereby shifting risk to a party better able to assess eligibility. Consultants can also play a useful role in helping companies better understand the SR&ED program and its requirements. In this regard, they supplement many of the educational activities that are currently undertaken by CRA, particularly for smaller companies.

For SMEs in particular, cash flow is a key reason for wanting a contingent fee arrangement. Given the financing constraints faced by these companies, they cannot afford to pay a preparer in advance of actually receiving the credits. A portion of the contingent fee could therefore be perceived as a financing cost.

In large corporations, getting approval to add a headcount to one's department can be very high. Head office may be more amenable to enter into a contingent fee arrangement than to hire an employee, even if the size of the claims means that a full-time engineer looking after SR&ED claims would be less expensive. This is especially true for foreign-owned companies that are less familiar with the Canadian SR&ED program.

For all preparers charging contingent fees, there is a degree of "audit roulette" in their profitability. They make money on claims that are assessed as filed, or where a short CRA audit does not identify significant issues or areas of dispute. They make minimal profit or lose money on claims that undergo lengthy or difficult CRA audits, or where all or a large portion of the claim is denied. Like taxpayers, they are very concerned about inconsistency among CRA offices or auditors, since unpredictability can significantly impact their profits.

If contingent fees were disallowed for SR&ED claims, there would be a proportionally higher impact on

[8] Interestingly, the compliance cost survey indicated that 6 percent of respondents were unaware that they qualified for the SR&ED tax credit until contacted by a consultant.

[9] In the US, IRS rules prohibit the use of contingent fees (for any tax preparation, not just R&D tax credits) by advisers who are authorized to represent taxpayers before the IRS, although contingent fees are allowed at the appeal stage of claims.

small and medium-sized enterprises that do not have the cash flow for fixed fee arrangements, and a higher impact on larger firms outside the typical high-technology area, where much of the R&D may be occurring on the shop floor in non-traditional areas. It may be difficult, however, to police a "no contingent fee" policy or a cap, given that consultants and companies would then collude to structure contracts with what appear to be non-contingent payments but where, in reality, certain charges may be waived if the expected results are not forthcoming.

More fundamentally, any move toward a simpler SR&ED structure such as basing the credit on labour costs only or providing more certainty about eligibility upfront would address some of the eligibility risk issues directly and make it less attractive for companies to mitigate these risks through the use of contingent payments to third parties.

Requiring a Minimum Threshold for Making SR&ED Claims

Some countries require a minimum amount of research and development to be undertaken before an incentive is granted to an enterprise. This ensures that there is a serious effort within the firm to undertake SR&ED. From a social benefit perspective, questions could be raised about the likely spillovers and the general quality of research undertaken on a very small scale. There is, however, no empirical evidence that small projects induce more or less spillover benefits per dollar than larger ones. In addition, since administration and compliance costs are proportionately higher for small than for larger claims, a minimum threshold could eliminate some claims that are not generating a net social benefit, even if the R&D is of average quality. For example, if compliance costs are 35 percent of the value of the credit, the social cost of the credit, which includes administration and compliance costs, will exceed by a substantial margin the social benefit arising from knowledge spillovers, even if they are assumed to be of average quality.

Meeting a minimum expenditure threshold is necessary to claim some income tax credits in Canada. Examples include the former Home Renovation Tax Credit (minimum expenditures of $1,000), the Tuition Tax Credit (minimum of $100) and the Medical Expense Tax Credit (total expenditures must exceed the lesser of $2,024 or 3 percent of the net income of the taxpayer). Minimum amounts are not used for investment tax credits (e.g., the SR&ED tax credit, the Atlantic Investment Tax Credit and the Mineral Exploration Tax Credit).

While there is currently no minimum amount for the SR&ED tax credit in Canada, other jurisdictions, such as the United Kingdom and Australia, do require a minimum amount to be incurred to qualify for their R&D tax incentives: £10,000 and A$20,000, respectively, or roughly C$15,000–20,000).[10] Imposing a similar minimum in Canada would have a minor impact: corporations spending less than $20,000 earned SR&ED credits amounting to less than $10 million.

Improving the Transparency of the SR&ED Tax Credit

Administrators of federal grant programs are required to publish performance metrics and evaluate programs on a regular basis. Evaluation is the systematic collection and analysis of evidence on the

[10] New Zealand's R&D tax credit, which was repealed effective from the 2009–10 income tax year, had a NZ$20,000 minimum claim size.

outcomes of programs to make judgments about their relevance, performance and alternative ways to deliver them or achieve the same results. For direct programs, this evaluation provides Canadians, parliamentarians, ministers, central agencies and deputy heads an evidence-based, neutral assessment of their value for money in terms of relevance and performance (Treasury Board Secretariat 2009). Stakeholders stated that imposing the same discipline on the SR&ED tax credit would allow a better assessment of the impact of the credit and provide important feedback to both policy makers and administrators.

A main stumbling block to date has been the lack of data from taxpayers and the reluctance of the CRA to require taxpayers to provide quality data on the program that is not directly relevant to the audit function. Provision of the necessary data would impose certain additional compliance costs on firms, but this is key to a better assessment of the program.

Considerations would include potential performance indicators that would be appropriate for the program, any additional compliance costs that would be incurred by businesses and the possibility that an effective evaluation of the program may require relaxing some of the constraints imposed by the *Income Tax Act*.

Regular publication of the following data on the SR&ED tax credit would facilitate broader assessments of the program, without compromising taxpayer confidentiality:

- allowable expenditures on SR&ED, by type of firm
- credits earned and credits claimed, by firm size, credit rate and type of firm
- credits received as refunds as a share of total credits
- credits earned, by type of research activity (basic and applied research, experimental development or other activities directly supporting the preceding activities)
- credits earned and claimed, by sector
- tax credit pool balances, by firm type and industry
- the number of claims and their size distribution, by type of firm
- information on “stacking” of other government assistance with SR&ED tax credits (distribution of subsidy rates).

In addition, periodically gathering and publishing information on compliance costs, including the use of third parties to prepare claims, would further enhance the capacity to evaluate the tax credit program.

Annex: Background Information on the SR&ED Program

Description of the SR&ED Program

The Department of Finance and the Canada Revenue Agency share responsibility for the SR&ED tax incentives. The Department of Finance sets out in the *Income Tax Act* the tax policy and parameters governing the income tax deductions and investment tax credits, which constitute the incentives. The CRA is responsible for administering the SR&ED program, which it does by providing claimants with program information, by responding to inquiries, by reviewing and processing claims, by developing and publishing forms, guides, application policies and brochures, and by delivering various services such as public information seminars, the preclaim project review service and the account executive service.

Objectives

The federal income tax incentives for R&D are intended to provide broadly based support for R&D performed in every industrial sector in Canada, and to support small businesses in the performance of R&D. The rationale for this tax support is that the benefits of R&D extend beyond the performers themselves to other firms and sectors of the economy. The existence of these spillovers or externalities means that, in the absence of government support, firms would perform less R&D than is optimal for the economy.

Summary of Program Rules

The SR&ED tax incentive program has two components:

- An **income tax deduction**, which allows immediate expensing of all allowable expenditures: R&D spending is generally considered to be an investment (i.e., the spending is undertaken in one period with the expectation of generating revenues in future periods) but both current and most capital SR&ED expenditures are deductible in the year they are incurred. There is a significant benefit to firms to be able to immediately expense their capital expenditures. The full value of current and capital expenditures is added to a pool of unused SR&ED deductions, which can be taken at the discretion of the taxpayer. Unused deductions can be carried forward indefinitely.

- An **investment tax credit**, which is applied to income taxes otherwise payable: Unused credits can be carried forward 20 years and back three years to reduce taxes payable in those years, and are partially or fully refundable for smaller businesses.

A business can generally claim both the income tax deduction and the investment tax credit on the same R&D expenditures, although there are some specific differences in the base of expenditures eligible for the two components of the program (described below).

The *Income Tax Act* and related regulations set out the key elements of the current system, including the definition of SR&ED, the types of expenditures that are eligible for the SR&ED incentives, and the calculation of the income tax deductions and investment tax credits themselves.

Rates and Limits

There are two rates of investment tax credits (ITCs) for R&D activities undertaken in Canada.

- The general rate is 20 percent.

- An enhanced rate of 35 percent is provided to small Canadian-controlled private corporations (CCPCs) on their first $3 million of qualified expenditures.

Credits earned in a year are refundable for small CCPCs that have prior-year taxable income of $500,000 or less and prior-year taxable capital of $10 million or less.[11]

- For these corporations, ITCs on the first $3 million of current expenses is eligible for a 100-percent refund.[12]

- ITCs on current expenses in excess of $3 million, in addition to all capital expenditures incurred by small CCPCs, are eligible for a 40-percent refund. For these firms, ITCs are earned at a 20-percent rate.

For CCPCs, the $3-million expenditure limit is gradually reduced if prior-year taxable income is between $500,000 and $800,000 or if prior-year taxable capital is between $10 million and $50 million. CCPCs within these ranges will receive refundability on expenditures up to the value of the reduced expenditure limit.

Unincorporated businesses receive the general ITC rate of 20 percent but are generally eligible for a 40-percent refund on both current and capital expenses.

Unused ITCs can be carried back up to three years and carried forward up to 20 years to be applied against taxes payable in those years.

This information is summarized in Table 7.

Eligible Activities

Activities eligible for the SR&ED tax incentives are defined in the *Income Tax Act* and involve systematic investigation or search carried out in a field of science or technology by means of experiment or analysis. In general, three broad categories of activity are eligible: basic research, applied research and experimental development.[13]

[11] Special rules apply to associated corporations, which generally result in the application of taxable income, taxable capital and expenditure limits to group totals.

[12] Where a tax credit is refundable, the refundable portion of the credit that is not needed to reduce a taxpayer's tax liability (because it is already zero) may be paid to the taxpayer.

[13] The definition of SR&ED for income tax purposes is largely consistent with the OECD definition of R&D, as presented in the Frascati Manual.

Certain support activities are also eligible where they are commensurate with the needs and directly in support of basic research, applied research or experimental development. These support activities include engineering, design, operations research, mathematical analysis, computer programming, data collection, testing and psychological research.

Table 7 Federal SR&ED Tax Credit Rates and Rates of Refundability (%)

Business Type	Credit Rate	Refundability Rate	
		Current Expenditures	Capital Expenditures
Unincorporated businesses expenditures	20	40	40
CCPCs with prior-year taxable income of $500,000 or less and prior-year taxable capital employed in Canada of $10 million or less:			
Expenditures up to expenditure limit[a]	35	100	40
Expenditures over expenditure limit	20	40	40
CCPCs with prior-year taxable income between $500,000 and $800,000 or with prior-year taxable capital employed in Canada between $10 million and $50 million:			
Expenditures up to expenditure limit[b]	35	100	40
Expenditures over expenditure limit	20	0	0
CCPCs with prior-year taxable income over $800,000 or with prior-year taxable capital employed in Canada over $50 million or non-CCPCs:			
All expenditures	20	0	0

[a] Expenditure limit is $3 million a year for taxation years that end on or after February 26, 2008.
[b] Expenditure limit for CCPCs is phased out for prior-year taxable income between $500,000 and $800,000 and for prior-year taxable capital employed in Canada between $10 million and $50 million.

However, certain activities are excluded from the definition of SR&ED, including the following:

- market research or sales promotion
- quality control or routine testing of materials, devices, products or processes
- research in the social sciences or the humanities
- prospecting, exploring, and drilling for or producing minerals, petroleum or natural gas
- commercial production of a new or improved material, device or product, or commercial use of a new or improved process
- style changes
- routine data collection.

In administering the SR&ED tax incentive program, the Canada Revenue Agency assesses the work against certain criteria to determine eligibility. In order for an activity to be eligible for the SR&ED program, the activity must satisfy the following three criteria:

- **Scientific or technological advancement** — The work must generate information that advances the understanding of scientific relations or technologies.

- **Scientific or technological uncertainty** — The possibility of achieving a given result or objective, or the way in which it could be achieved, must be unknown or indeterminable based on generally available scientific or technological knowledge or experience.

- **Scientific and technical content** — There must be evidence that qualified personnel with relevant experience in science, technology or engineering have conducted a systematic investigation through experiment or analysis.

Further information, including application policies and guides, can be found on the CRA website (http://www.cra.gc.ca/sred).

Eligible Expenditures

Most current and capital expenditures in respect of SR&ED in Canada performed by or on behalf of a taxpayer and related to a business of the taxpayer may be eligible for the SR&ED tax incentives.

In general, current expenses that are eligible for the SR&ED tax incentives include:

- salaries or wages of employees directly engaged in SR&ED

- salaries or wages for SR&ED performed outside Canada, subject to certain limits

- the cost of materials consumed or transformed in SR&ED

- lease costs relating to machinery and equipment used all or substantially all (90 percent or more) for SR&ED

- certain expenses associated with contracts to perform SR&ED directly on behalf of the taxpayer or payments to third parties whereby the taxpayer is entitled to exploit the results of the SR&ED.[14]

In addition, taxpayers have a choice in how to treat overhead and administrative expenses:

- Under the "traditional method," overhead and administrative expenses must be specifically identified and allocated in respect of SR&ED and may be eligible for both the SR&ED tax deduction and credit.

[14] Generally, eligible third parties are approved non-profit or tax-exempt associations, universities, colleges, research institutes and similar organizations.

- Under the “proxy method,” overhead and administrative expenses that are attributable to SR&ED are deductible as ordinary current expenses. For purposes of the SR&ED tax credit, however, these expenses are not included, and instead a notional amount (i.e., an additional 65 percent of salaries or wages of employees directly engaged in SR&ED) is calculated and is eligible for the tax credit.

In general, capital expenditures that are eligible for the SR&ED tax incentives consist of:

- expenditures for machinery and equipment that is all or substantially all used or consumed in the performance of SR&ED in Canada

- shared-use equipment that is primarily used for SR&ED (i.e., more than 50 percent but less than 90 percent), which is eligible for a partial ITC but is not eligible for immediate expensing (i.e., regular CCA deductions apply).

Buildings (other than prescribed special-purpose buildings) are not eligible for SR&ED tax incentives.

In the context of the SR&ED program, expenditures that are generally eligible for the SR&ED deduction are referred to as “allowable” expenditures; “qualified” expenditures are expenditures that are eligible for the SR&ED investment tax credit. The differences between allowable and qualified expenditures relate mainly to the treatment of government and non-government assistance received with respect to the expenditures incurred (these receipts are excluded from qualified expenditures) and the use of the proxy method for overhead (which is included in qualified but not allowable expenses).

Changes to the SR&ED Program (1998–2009)

The basic structure of the current system of federal income tax incentives for SR&ED was put in place between 1983 and 1985. Developments related to SR&ED between 1998 and 2008, including legislative and key program administration changes, are outlined below.

1998–2001

Concerns heard by the CRA about the consistency, predictability and effectiveness of the administration of the SR&ED program led the CRA, in co-operation with industry, to improve the program’s administration through a comprehensive 13-point action plan, which was announced in 1998 and fully implemented in 2001.

The implementation of the action plan led to the adoption of a more customer-centric approach (including the creation of a first-time SR&ED claimant service, a preclaim project review service and the adoption of an account executive model, which provides SR&ED claimants with a designated contact at the CRA). The CRA also worked to identify ways to reduce the need for businesses to prepare claim-specific documentation, and improved the way in which information about the program is communicated to businesses.

2000

Budget 2000 introduced a change to the program, whereby provincial deductions for SR&ED that exceed the actual amount of the expenditure are considered to be government assistance.

2002

The CRA introduced an administrative change allowing corporations to claim current-year contributions to agricultural organizations that finance SR&ED activities.

2003

In line with increases to the income tests used to determine eligibility for the small business deduction, the range of prior-year taxable income over which the enhanced credits for small CCPCs are phased out was increased from $200,000–400,000 to $300,000–500,000.

2004

Budget 2004 introduced a change whereby small CCPCs that have a group of common investors (which group the Minister of National Revenue is satisfied was not formed to gain access to multiple expenditure limits) will not have to share the expenditure limit solely because two or more investors collectively have a majority interest in the shares of each corporation.

2005

Budget 2005 announced that SR&ED incentives would be extended to include expenditures incurred in the performance of SR&ED in Canada's exclusive economic zone (i.e., within 200 nautical miles from the Canadian coastline). As an example of the impact of this measure, the fishing sector can benefit from SR&ED for expenditures undertaken in Canada's exclusive economic zone.

2006

Budget 2006 announced that the carry-forward period for unused investment tax credits, including SR&ED tax credits, was extended from 10 years to 20 years.

In line with increases to the income tests used to determine eligibility for the small business deduction, Budget 2006 also announced that the range of prior-year taxable income over which the enhanced credits for small CCPCs are phased out would be increased from $300,000–500,000 to $400,000–600,000.

2008

Budget 2008 further enhanced the SR&ED tax incentives by increasing the expenditure limit for the 35-percent SR&ED credit to $3 million from $2 million, increasing the upper bound of the taxable capital

phaseout range to $50 million from $15 million, and increasing the upper bound of the taxable income phaseout range to $700,000 from $600,000.

Budget 2008 also extended the SR&ED ITC to certain activities carried on outside Canada, limited to a maximum of 10 percent of the value of Canadian SR&ED labour expenditures.

2009

Budget 2009 increased the taxable income thresholds that determine when the $3-million expenditure limit for SR&ED begins to be reduced, at the proposed small-business limit of $500,000, to be fully eliminated where taxable income in the previous year is $800,000 or more. This change will apply when the previous taxation year ends after 2008.

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