# MINUTES OF THE ANNUAL HAMILTON REGION SR&ED PRACTITIONERS WORKSHOP

Date:	<u>Time:</u>	Location:	
Thurs, Sept. 27, 2012	4:00-6:30 PM	McMaster U, Ron Joyce Centre, 4350 S. Service Rd. Burlington, ON,	
Recording of webcast a	at: <u>http://www.yout</u>	ube.com/watch?v=6-1elljfg3Y	
sele	ect "show more" to	view " <b>specific issues</b> " below	
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Name Firm		
Moderators		
David Sabina	MEUK / RDBASE Consortium	
Dominic Ioannoni	CRA Research Technology	
Russ Roberts CATA		
Attended In person		
Alex Murphy	Murphy & Co	
Allan Gordon	SRED Professionals LTD.	
Andrew Bauder	IRAP	
Andrew Kolodziej	Benetax	
Arnie Luik	RDP Associates Inc.	
Barry Doerbecker	Henderson Partners LLP	
Bob Turner	INAC Services Limited	
Chris Fattaei	Chris Fatteai	
Chris Stoute	Professor at Ryerson University	
Christine Ermarkaryan	Global R&D Consulting Group Inc.	
Christine Gribowski	Gribowski Associates	
Cory Poechman	Pinnacle Consultants	
Darren Drury	Pinnacle Consultants	
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Julia Stubbs Benefact		
Julie BondBond Consulting Group Inc.		
Kierek Jaszccuk	Consultant	
Laura Martin	Business Improvement Group	
Leo Ditschun	Braithwaite Technology Consultants Inc.	
Margaret Karpinska	Business Improvement Group Inc	
Mark Vainberg	SRED Professionals LTD.	
Matt	Pinnacle Consultants	
Patrick Murphy Murphy & Co		
Peter Martens	Pippard Incorporated	
Qasmi Mahmood	NorthBridge Consultants	
Robert Galipaeu	Benefact	
Robert Zawadzki	Consultant	
Theo Meimar	R&D Tax Solutions	
Tom Nagel	Novatron Systems	

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Bryan FergusonBell CanadaCrystal GarveyWindsor Machine & Stamping (200)			
		Duncan Peake Professional Corpora	
Eric Martin	Emergex		
Greg Doucette	SOMOS Consulting Group Ltd.		
Greg Farrell	CI Solutions		
Heather Posgate	Ideacia ONE Inc. Group of Companies		
Katrina Carpenter	Georgian Bay Management Solutions Inc.		
Kim Ackerman	Impact 360 Degrees Inc.		
Mark Daugela	Time Consulting		
Martin Taves	Business Improvement Group		
Martine JavelasEricssonMike LesterCertitude EngineeringMokhtar AmalouBell Canada			
		Neha Tiku	Techcentive Services Inc.
		Paul Zubkov	ATP Canada
Peter Wright	Impact 360 Degrees Inc.		
Pierre Morin	Canada Revenue Agency		
Sarmen Khagerian	Maxim Strategy Consultants Inc.		
Stephen Viszlai	Tolko Industries		
Todd Louie   Sheldon & Milstein			
Vishal Bhandari	Maxim Strategy Consultants Inc.		

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Darren Drury	Pinnacle Consultants	
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Eric Richardson	Skura	
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Harvey Cantor	Harvey Cantor C.A.	
Jay McLean	PricewaterhouseCoopers	
Jay Wigna	Deloitte	
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# I) SR&ED 2012-1 (40 Minutes) Federal S&T funding changes

A) Survey results - Science & Technology Policy issues addressed
B) S&T Policy Issues NOT directly (or fully) addressed

C) SR&ED issues & recommendations on CRA administration

D) Commercialization – new focus & options

# <u>2012-1</u>

# <u>March 29, 2012 Federal budget -</u> <u>Science & Technology (S&T)</u> <u>funding changes</u>

Finance Minister Jim Flaherty, announced the 2012 budget will be released Thursday, March 29.

In a Dec.16, 2011 speech to reporters, Prime Minister Stephen Harper indicated the 2012 federal budget will have significant changes to the SR&ED tax credit program stating,

"It is the government's most explicit commitment to act on the recommendations of, Innovation Canada: A Call to Action:"

- an expert panel report headed by
- Open Text Corp. chairman, Tom Jenkins
- that was released in October, 2011

We propose the relevant reports on S&T include

- Jenkins Federal Commission / POV
- Mowat (U of T) Academic POV
- Matthews/ CATA VC + industry POV
- CD Howe / PWC Private Commission POV
- Canada's S&T Policy- Conservative Party POV

The related SR&ED issues have been **discussed in prior meetings and newsletters** and have been summarized in the following documents (click to view):

- <u>SR&ED newsletter 2011-2</u> (12pages)
- SR&ED newsletter 2011-4 (25 pages)
- SR&ED Practitioner meeting Sept 22, 2011
  - o Minutes (58 pages)
  - o Webcast of meeting (90 minutes)
- <u>Letter to Mike Wallace, MP</u> (Feb. 3, 2012, 11 pages)
- <u>Slides on key issues</u> (Feb. 8, 2012, 45pages)

#### Survey administered

We submitted the issues cited to SR&ED stakeholders (practitioners and claimants) in the form of an <u>online survey</u>.

#### **Summary of findings (next page)**

To date we have compiled approximately 120 responses.

In general term most SR&ED practitioners and claimants appear to;

- 1) Agree with most recommendations but
- 2) Strongly Disagree with proposals to;
  - o shift of SR&ED funds to grants
  - & have a new NRC agency (vs. CRA) administer the program





# SURVEY - OPINIONS ON POTENTIAL SR&ED CHANGES - 2012 BUDGET

Prime Minister Harper has indicated the 2012 federal budget will have significant changes to the SR&ED tax credit program stating, "It is the government's most explicit commitment to act on the recommendations of, Innovation Canada: A Call to Action." (aka the "Jenkins's Report")

The purpose of this survey is to gather input from  $\ensuremath{\mathsf{SR\&ED}}$  Practitioners.

	<u>IMMENDATIONS FOR SR&amp;ED (JENKIN'S &amp; RECENT REPORTS)</u>	Agree	<u>Disagree</u>	<u>No Opinion</u>
1)	Refund of ITC's to large & foreign companies (full or partial)	70%	10%	20%
2)	Concentrate new funds on 4 key industries "strategic clusters"	20%	30%	50%
3)	Restrict eligible costs to labour only vs. materials & capital	40% initial - 90% > discussion*	10-60% *	0%
4)	Shift funding from SR&ED tax credits to direct (grants, contracts & VC)	5%	90%	5%
5)	Reduce filing deadline to 6 (vs. 18 months)	60-90%*	10-30%*	0%
6)	CRA administer technological eligibility vs. new "NRC" based agency	80%	10%	10%
<u>POTE</u> 1)	COMMERCIALIZATION: Refund ITC's to large co's if "collaborate" with	<u>Agree</u> 90%	Disagree 0%	No Opinion
2)	COMMERCIALIZATION: Refund ITC's to large co's if "collaborate" with CCPC's Understand industry preference SR&ED (25,000+ claimants/yr.) to IRAP (2,500?)	<u>Agree</u> 90% 100%	Disagree 0%	<u>No Opinion</u>
2)	COMMERCIALIZATION: Refund ITC's to large co's if "collaborate" with CCPC's Understand industry preference SR&ED (25,000+ claimants/yr.) to IRAP (2,500?)	<u>Agree</u> 90% 100%	Disagree 0% 0%	No Opinion
2) 2) 20 70 70 70 70	COMMERCIALIZATION: Refund ITC's to large co's if "collaborate" with CCPC's Understand industry preference SR&ED (25,000+ claimants/yr.) to IRAP (2,500?) MENTS: E RESULTS ABOVE REPRESENT THE OPINIONS OF APPROXIMATELY 120 F	Agree 90% 100% RESPONDENTS AT	Disagree 0% 0%	No Opinion

# <u>A) Survey results - Science &</u> <u>Technology Policy issues addressed</u>

Recent reports have made a series of specific recommendations relate to S&T policy:

# 1) <u>Refund of ITC's to large & foreign</u> <u>companies (full or partial)</u>

It has long been observed that a substantial amount of R&D is moving outside of Canada due to large corporations inability to use <u>non-refundable credits</u>.

This also provides potential mechanisms to encourage work with small & medium sized enterprises (SME's) to address further issues on commercialization.

#### Comments by Survey Respondents

- "Set up separate program for Foreign companies but leave SRED as is. It works and gives much direction to Canadian companies."
- 2) "large/foreign entities should be entitled to partial refundable ITCs"

# 2) <u>Concentrate new funds on 4 key</u> <u>industries "strategic clusters"</u>

Since this is more of an economic than a tax issue most respondents often showed a mixed response or no opinions.

Of those with an opinion we appear to have an equal mix of supporters (software developers) or strong resistance (manufacturing sector) however, the opinions appear based more on the specific interests of the respondents than any factual analysis.

#### **Comments by Survey Respondents**

1) I found the conclusions and recommendations of the Jenkins report to be extremely disappointing and ill-informed. Government selection of key industries has never been successful in the past.

## **Group Recommendations**

This could be a source of opportunity if done with proper, "balance.'

Some of the issues on determining the optimal allocations have been provide in the Industry specific commentary in the "sectors to receive new funding" section of <u>newsletter 2011-4</u>.

#### **Group Recommendations**

Consider **refundable SR&ED credits for large firms who "collaborate" with small Canadian firms.** 

This meets all objectives including "commercialization" and "knowledge" transfer (discussed in section D).

It is also already supported in the current layout of the SR&ED claim form.

# A-3) Restrict eligible costs to labour vs. materials & capital PROS:

Used effectively by Quebec for decades

CRA can review (payroll withholdings)

 Hedged transaction, i.e. Canadian wages & "employee income taxes" CONS;

"Timesheet" tracking issues

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# 3) <u>Restrict eligible costs to labour only</u> <u>vs. materials & capital</u>

#### This is one of the major areas of disagreement!

Proponents for this method argue that unlike credits for materials & equipment which can be sources from other countries, credits based on Canadian wages represents a "hedged" transaction from a Department of Financial perspective.

In other word the only way to earn credits is to pay wages which in require income taxes withholdings to fund these credits.

It is also very easy to review form a CRA perspective since they can confirm all T-4 reported earnings & related payroll remittances.

Those against this focus cite the needs of industry for such funding & related problems in determining "adequate" time reporting.

#### **Comments by Survey Respondents**

 "Len Lucier's comment at the recent annual Hamilton SR&ED Conference was right on the mark: one of the most challenging aspects for claimants relates to CRA's acceptance of the labour allocation.

It is illogical for the Jenkins Panel to have concluded that a labour-only basis to determine ITC's will simplify the determination of the SR&ED calculation.

In fact, determination of eligible contract and material expenditures is trivial compared to labour expenditures for SMEs that do not require a time card system to run their business."

2) "In my MBA classes we were taught to shift resources from less profitable areas to more profitable areas regardless that both areas are profitable. By focusing the SRED resources / credits on labour only this is achieved."

- 3) "This idea is brilliant & long overdue!
  - used effectively by Quebec for decades
  - it greatly simplifies the calculations
  - CRA can quickly review (payroll withholdings)
  - creates a hedged transaction, i.e. the only way to
    - o earn more credits is to
    - o pay more Canadian wages which in turn
    - o creates the "employee income taxes"
    - o to pay the credits.

As a result, this process is much easier to budget for all stakeholders (government & business)."

#### **Group Recommendations**

There is **little group consensus** on this issue **unless** it is **reworded** as follows:

"If we need to reduce SR&ED funding somewhere would you prefer labour or materials & capital?"

Once this issue was considered the consensus would be to;

Focus the claims on wages (labour)

- i. Using the Quebec model with
- ii. Wages (direct or via Canadian Contractors)
- iii. Simplified calculations

This can also provide a basis to:

- increase claimants incentive to keep time records,
- documentation of experimental development &
- hopefully reduce compliance costs

further addressing CRA & Parliament's concerns on these issues.

# A-4) Shift funding from SR&ED to grants, contracts & VC)

Understand "industry" preference of SR&ED over direct funding:

> 25,000 companies claim SR&ED every year (73% of Jenkins survey)vs.

< 1,000 VC funded deals / year &</p>

< 5,000 ? IRAP/NRC funded grants / year (17% of Jenkins survey)

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# **Group discussion – summary of significant comments**

#### Direct (Grants) vs. Indirect funding (tax credits)

The pros and cons were discussed including the potential for abuse or misappropriations due to;

- The lack of published information on the number of companies funded each year
- the small degree of people making decisions without secondary review
- The length of time IRAP advisors stay with clients (often 10+ years)
- Secrecy of the process
- The apparent hostility which many IRAP advisors exhibit towards any external advisors
- Many felt this ranged from mere un professionalism to borderline anti-social behavior

#### **Direct comments from the group:**

#### **Pro Direct funding / IRAP:**

[Regarding Fairness & Objectivity] "I have worked for IRAP and can guarantee that no advisor has funded their cousins."

"Both IRAP and SR&ED are competent. Why can't they agree and share resources?"

"why no science review by IRAP instead of CRA?"

#### **Pro SR&ED tax credits:**

"the client must call on their own & the IRAP advisors will not talk to professionals. Clients don't have the resources and professionals can't help."

"In my experience, IRAP, as review is really non-existent, is very prone to fraud - much more so than SR&ED."

"We need to discover why the vast majority of claimants appear to favor SR&ED tax credits to IRAP grants or any other type of direct funding."

"the right to file objections and go to tax court present a completely different system than a discretionary system based on grants."

#### Other methods - Patent box concept: for commercialization

#### Dr. Russ Roberts:

"With the patent box, concept you get additional tax credits associated with commercialization, patent expenses, etc. of the SR&ED eligible product / process developed."

"It has been used successfully in other countries and shown to maximize benefits from technologies by preventing business going offshore. This has been an issue with SR&ED, VC and other funding options."

"This is also similar to IRAP funding of the commercialization portion of a project which had previously received funding of the research and development."

# 4) <u>Shift funding from SR&ED tax</u> <u>credits to direct (grants, contracts &</u> <u>VC)</u>

#### **Grants**

Statistics on the total number of IRAP claimants or any of the other "direct" programs are not publicly posted. Perhaps the best current statistics are cited in the Jenkins report.

"Among the **488 survey respondents**<sup>1</sup> that had accessed a federal R&D program in the past three years,

- 73 % reported using the SR&ED tax credit program,
- 17 % IRAP,
- No other program was identified by more than 1
   % of the companies."

This strongly suggests that federal programs are;

- not well known or
- accepted by business.'

#### **Contracts (procurement)**

Few respondents addressed this issue.

A great example of past failures might be the 1990's when federal government decided to licenses Microsoft Office (US firm) instead of Corel Office (Canadian firm) which;

- had combined Lotus & WordPerfect technologies
- representing a realistic challenge to what is effectively
- now a worldwide product monopoly.

#### Venture Capital

Venture Capital represents a source of opportunity if done properly. The real issues will come down to a matter of "balance."

These investors typically do **<1,000 deals / year** in Canada and generally **demand a minimum 40% annual return** on investment. This is discussed further in <u>newsletter 2011-4</u> page 23-24.

#### **Comments by Survey Respondents**

- "I am against any further support being forwarded to IRAP. For 25 years my company and 35 of my clients have witnessed the continued arrogance and incompetence of IRAP's consultants. How the government has justified supporting such a group of ineffective freeloaders is beyond our understanding to give these people even more power will certainly destroy R&D in Canada."
- 2) "IRAP is a process which needs fixing never any allocations and far too long lead time to hope of funding - companies can't invest the time for the hope of getting 50% that will only grind their SRED claim. Jenkins report was so self-serving and too restricted in what could be recommended it is useless."
- 3) In the early 2000's, there was much criticism of direct funding programs such as TPC. Media criticism was that government (and academia) did not have a good track record at ""picking winning companies"" and the investment decision was best left to industry (through the SR&ED program). It is interesting how the pendulum has started to swing back the other way."
- 4) "The VC market has disappeared in Canada as angel investors have had their wings clipped. This is a key driver to the economy to the point that the government gave \$50 m to the BDC as a VC fund and these bureaucrats didn't know what to do with it."
- 5) "Grants for SR&ED as a replacement for tax credits is a very bad idea. Decisions on grants take too long and usually have to be made by technically uninspired people. Is the government trying to reduce the costs of ITCs? I don't know, but if so, then specifically address that issue."
- 6) "Need more certainty in the program to encourage investing funds in new research, but don't want to slow down process with extensive grant applications before starting research."
- 7) "In my experience, grants such as IRAP and regional grants are far more susceptible to fraud than the SR&ED program. Recent SR&ED cases in Montreal are the exception. IRAP field officers have been (and may still be?) contractors, not employees of NRC. There have been many cases of nepotism, kick-backs, etc. There are few checks on them except the fact that their pot of money is more limited."

<sup>&</sup>lt;sup>1</sup> "Jenkins" report (Figure 5.3)

8) The reports largely ignore the history of the debate of grants versus tax credits and why Canada went to tax credits.

I was a heavy participant in the period 1977 to 1989 when SR&ED was young and grants were still the main government support. I ran contract R&D labs in Calgary and in Sydney, Nova Scotia. I witnessed the growth of regional grant agencies, under both Liberal and Conservative governments.

The selective grants dried up in 1989 because the NAFTA and other trade agreements made direct grants to industry not possible if it interfered with fair trade of goods or services. SR&ED did not interfere – all companies are treated equal.

A return to grants would be to institutes not companies – otherwise, any benefits would go to lawyers to fight the WTO and NAFTA litigations.

9) Why not simplify (and expand) the direct funding approach instead of SR&ED? A rhetorical question, it would seem, as the intent of government in introducing change to the latter program, I believe, is to ultimately reduce its financial commitment and burden under the cloak of improved program efficiency. "

#### Other recent comments - Globe & Mail

A March 11, 2011 Globe & Mail <u>article</u> provides quotes from Andrew Dunn, a managing partner at Deloitte, expressing worries Ottawa will slash the credit scheme on a potentially" faulty" premise.

"Moving from credits to grants puts the decision in the hands of government," he said.

"Canada has a bad history of grant-type programs. The global trend is from grants to credits."

#### **Group Recommendations**

Industry recommends that the government first understand "industry" preference of SR&ED (tax credits) over direct funding (grants):

- > 25,000 companies claim SR&ED every year vs.
- < 1,000 VC funded deals / year &
- < 5,000 ? IRAP/NRC funded grants / year

Venture capital represents an opportunity but if overly funded, it may not only

- play havoc with "free market" forces but also
- "play into" a strategy of putting,
- "all of the eggs into very few baskets."

## Notable quote:

"Clarification on these issues would be helpful to taxpayers so they are not blind-sided at the time of the next Federal Gov't budget."

- SR&ED survey respondent

# A-5)Reduce filing deadline to 6 (vs. 18 months)

According to a recent CATA pronouncement

approximately 30% of the CRA

costs of compliance relate to

amended claims

 (typically filed between 6-18 months from year end).

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# 5) <u>Reduce filing deadline to 6 (vs. 18</u> <u>months)</u>

## This is one of the major areas of disagreement!

According to a recent CATA white paper approximately 30% of the Canada Revenue Agency's costs of compliance relate to amended claims (typically field between 6-18 months from year end).

They propose that,

"Almost **one-third of claims** received by the CRA in any given year are **retrospective** claims being filed for **previous years**.

A significant portion of these claims appear to be of a speculative nature, providing windfall revenues to businesses & consultants [resulting in] questionable value as incentives for the SR&ED."

They then go on to suggest,

"if the SR&ED program eliminated retrospective claims filed for previous years ... it could free up as much as 30 per cent in funding to be redeployed into direct investment."

Comments by Survey Respondents

While most survey respondents were against this measure, when it was reworded as

"If some costs had to be cut and this could save 30% of CRA review time would you consider this?"

the consensus tended to shift to support the reduction of this filing timeline.

## Group Recommendations

In a properly structured SR&ED system companies should be able to report these costs with their tax return (filing due date of 6 months from year end)

As a related issue the CRA may in turn relax its filing requirements on a "complete claim" so as not to "punish" claimants for simple omissions or "honest" mistakes.

# Notable quote:

"Each person's work is always a portrait of himself."

- Samuel Johnson

# A-6) CRA vs. new agency for "technology" eligibility

 Maintains strong history and basis for objection, appeal & tax court review.

 No similar rights or objectivity under any grant programs.

Right vs. a privilege -accountability

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# 6) <u>CRA continue to administer</u> <u>technological eligibility vs. new "NRC"</u> <u>based agency</u>

Many of these issues have also been addressed in the our discussion of Grants vs. SR&ED tax credits (issue 4).

The following additional comments are specific to this issue.

#### **Comments by Survey Respondents**

- "Is the government trying to get more consistent adjudication of claims? If so, we need a few more technical people at HQ and a hiring policy for technical reviewers which attracts more recently retired technical professionals rather than MSc.s with little practical experience."
- 2) "Nothing to do with R&D funding should be in the Tax Act. Period."
- 3) "SR&ED administer by CRA or other party?

Key factors favoring the CRA include,

- Respect It is a felony to file a false income tax return. Most people could cite stories of the laws and precedence that both protect the "rights" of the taxpayer (e.g. Duke of Westminster decision) & punish those who violate the system (e.g. Al Capone).
- Corruption Can you name anyone convicted of "grant" or "government procurement" frauds? The only ones I can recollected involved unsuccessful attempts to charge former Prime Ministers Brian Mulroney & Jean Cretien with complicity in improper funding allocations to their "friends."
- Rights as a taxpayer if you have performed SR&ED you can appeal decisions to the tax court since you have a "right" to the funds. You can't do this with IRAP or any grants. As a result there is NO certainty which is the most important criteria for industry acceptance of any program.
- History / Infrastructure Tax law has a system of lawyers, CA's, and judges trained in tax law. Moving this to a grant system represents the

elimination of the full recourse process & shifts the funding to a fully discretionary process at the discretion of politicians and their friends."

#### **Group Recommendations**

Continue to use the CRA as the primary reviewer of SRED claim since this;

- Maintains strong history and basis for objection, appeal and tax court review &
- No similar rights or objectivity under grant programs.

# B-2) US vs. Canada– collaboration vs. confrontation

 US continues to expand
 Governor of Michigan questions the fairness of "business tax breaks"

Potential for collaboration since

- The IRS code provides for credits using similar definitions &
- The Canadian SR&ED form already contemplates "collaborative" claims for SR&ED projects.

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# <u>B) S&T Policy Issues NOT directly</u> (or fully) addressed

# 1) <u>Macro vs. Micro Economics –</u> <u>benefit of every \$ invested</u>

Several newspaper articles have provided factual information in a potentially "misleading manner" when they discuss the <u>"marginal tax utility" of every dollar</u> the government invests in SR&ED incentives.

The articles report hat the tax investment only provides

- equal 1:1 payback of every tax \$ invested
- by way of direct tax revenues (marginal utility)
- however, this creates and estimated 500% social return on this investment
- by way of "spillovers!"

Mathematically speaking the "full picture" indicates up to 600% (economic + social) return of every tax \$ invested.

#### Authors Recommendations

While the facts stated in the article are correct: the marginal utility for every tax dollar invested is "break even," this is only one piece of a "larger picture."

When considering the Jenkin's report recommendations we should endeavor to consider the;

- o full "economic" vs.
- o just the marginal value of incentives.

# 2) <u>US vs. Canada – collaboration</u> <u>vs. confrontation</u>

- The US continues to <u>announce expansion of this</u> <u>credit</u>
- The governor of Michigan<sup>2</sup> has questioned the <u>fairness of Canadian policies</u>
- There appears to be a huge potential for collaboration since
  - The IRS code provides for credits using similar definitions &
  - The Canadian SR&ED form already contemplates "collaborative" claims for SR&ED projects.

Authors Recommendations

Recommendation for US vs. Canada collaboration

-Consider co-operative

-Claim & Review functions

- Between US & Canadian Companies (claims)
- Using both IRS & CRA staff (reviews)
- For claims in both jurisdictions

<sup>&</sup>lt;sup>2</sup> "Canada Should End Business Tax Breaks, Michigan's Snyder Says," Business Week, Nov., 8, 2011

# B-3) Regulation of fees for consultant support

Cons:

- other methods free market
- effects (eg. US, IRAP) non use

Ideas:

- simplify the system
- use free market forces

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# **Group discussion – summary of significant comments**

#### Contingency fee regulation - Opening queries to group

Dr. Russ Roberts:

"Do contingency fees cause high costs for companies & are there abuses we can cite?"

#### Direct comments from the group:

#### **Pro contingency fees**

"the forms are complicated ... requiring consultants who know what they are doing ...

"fees have come down recently ... market could be adjusting fees down ...

"could be argued that contingency fees discourage bad claims due to risk to consultant business and reputation

"They also protect claimants from bad/unsuccessful claims in that they keep their money. Without contingency fees, dirty consultants get paid even without success for claimant

"why not do a bad claim for hourly work?

"Consulting Fees must cover overhead and marketing costs - registration costs can increase contingency fees.

They are putting contingency and aggressive behaviour in same basket. They should deal with aggression separately

"Contingency affects small business and helps clients do what they cant do

"Contingency fees are the market places response to the uncertainty, risk and unpredictability of the SR&ED program

"The current proposal appear to treat consultants as if they are thieves. We are not thieves"

"I agree, the issue is not how firms are paid, but how the program is administered."

# 3) <u>Regulation of fees for consultant</u> <u>support</u>

Changes are expected to limit consultants' share of the SR&ED credit as Ottawa expresses concern that too much federal science cash is flowing outside the "intended" sector.

# <u>Globe & Mail articles on % SR&ED paid to</u> <u>consultants</u>

To "sensationalize" this issue in March 11, 2011 the Globe and Mail ran an article entitled,

Flawed R&D scheme costs taxpayers billions<sup>3</sup>

which, in the author's opinion,

- a) Provided examples of specific (inappropriate) practices used by one of these Rogue consultants
- **b**) presented "opinions" which may mislead readers.

The article stated,

"This year, Ottawa and the provinces will dispense \$4.7-billion to more than 20,000 Canadian companies.

But a third or more of that cash is being wasted and paid to consultants as a result of hazy rules on what's legitimate R&D and limited government auditing resources,

according to dozens of interviews with consultants, claimants and government officials."

According to this March 7, 2012 article,

**Gary Goodyear, the federal minister of science and technology**, is hinting that upcoming changes will aim to limit these added costs to the SR&ED program.

"I'm not concerned about what accountants charge for their everyday business. My concern is simply that that money then moves out of the science, research & development sectors & into another area of our economy."

The article also quoted **Andrew Dunn, a managing partner at Deloitte** who disputed that consultants are pocketing too much of the R&D credits.

"While some consultants charge contingency fees of 30 or 40 percent, the overall numbers are much lower."

He pointed to a survey by the Canadian Institute of Chartered Accountants which found that the

"top six accounting firms in Canada earned \$117-million in 2010 from SR&ED".

Mr. Dunn then recommended the,

"government could root out overly aggressive practices by banning contingency fees and requiring registration of all consultants."

#### **Authors Commentary**

Using the example quoted, if the top 6 CA firms can be assumed to complete 100% of the claims for large corporations (i.e. not "Qualified CCPC's") the

Average compliance costs of SR&ED would be

- = Total SR&ED fees / total SR&ED credits claimed
- = \$0.117 billion / \$ 4 billion
- = 2.9% (cost of compliance as % credit received)

Ottawa eyes keeping science cash out of accountants' hands<sup>4</sup>

<sup>3</sup> Globe & Mail, March 11,2011 Link to article;

http://www.theglobeandmail.com/report-on-, business/flawed-rd-schemecosts-taxpayers-billions/article1939418/

# <u>Authors personal experience, examples &</u> <u>opinions</u>

#### Facts & Issues

1) **Client choice** - I have practiced in the SR&ED field since 1993. From 1993 to 2000 I worked on some of the largest SR&ED files in Canada on an hourly or flat fee basis.

On almost all hourly agreements "sophisticated" clients required a budget and authorization before incurring any fee overruns. In reality these resulted in "flat fees."

When I left partnership and started MEUK Corporation I decided to offer clients all 3 billing options:

- hourly,
- flat fee or
- % of recovery

I have **clients who prefer each of these options** for various reasons.

2) **Needless complexity** - As the co-author of the SR&ED course for the Canadian Institute of CA's and seminar leader for the past 15 years I can say that I spend over 30 minutes explaining the just the rules on "specified employees."

He course itself runs a full 8 hours and only provide an overview of many "complex" issues.

Most CA's walk out of the course claiming it is:

- needlessly complicated &
- one of the most confusing areas of income tax they have ever explored.

The result is that they tend to charge a minimum \$5,000 for compilation of the SR&ED related tax forms, assuming the client prepares the technical (project) descriptions.

3) **Related liability** - Worse yet I have seen lawsuits for millions of dollars against CA's for failure to adequately:

- plan or complete the SR&ED forms
- within required deadlines.

## <u>Analysis</u>

My experiences on billing methods is at each has its own pros & cons however, it is ultimately the claimant who should be empowered with choice..

The majority (approximately 80%) of first time claimants, under \$100,000 of ITC's prefer to use the % recovery in the first year.

The % fees for this work range from 2-20% of recovery dependent on the nature of the work and range of services provided.

I have some flat fee clients who's fees (including costs to plan & complete the project descriptions & income tax forms) are <2% of total credits.

Fees at the higher end of this fee range tend to be paid by clients with weaknesses in the SR&ED documentation systems.

Most clients will not pay aggressive fees for services which they believe they can perform on their own.

If the free market willing to pay high fees for product or service it is because they perceive high value.

#### **Related Recommendations**

The free market is likely the best mechanism to determine the fair price of any service commodity.

It should be the client's choice which method of billing & payment best meets their business needs.

As a result the government should not attempt to regulate the fee or service providers other than as to quality of work.

The Jenkins and other current SR&ED reports recommend, "streamlining the SR&ED claim system."

If the government policy makers & CRA wish to reduce the fees consultants charge all they need do is simplify the current complexity of the program.

# C-1) CRA Ombudsman report – Dec 2011

 "We did not receive any actual complaints that we could substantiate. On one hand, there may indeed be some inconsistencies in the way the program is administered."

 In some of the reports the RTAs simply stated, "the claim did not meet the criteria of the Income Tax Act"

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# <u>C) SR&ED issues &</u> recommendations on CRA <u>administration</u>

# 1) <u>Ombudsman report<sup>5</sup></u>

In December 2011 the CRA Ombudsman released its report on

## Issues of service & fairness within the SR&ED Program

# Select excerpts:

Although our Office heard criticisms and comments through consultations with claimants about the perception of regional discrepancies,

"we did not receive any actual complaints that we could substantiate. On one hand, there may indeed be some inconsistencies in the way the program is administered."

In some of the reports the RTAs<sup>6</sup> simply stated that,

"the claim did not meet the criteria of the Income Tax Act"

without explaining in a clear and complete manner how the decision was arrived at.

This is an excerpt from one such Technical Review Report:

"Designing a XYZ is not considered an attempted technological advancement.

The work is not considered to be performed for the purpose of achieving technological advancement and therefore it does not meet subsection 248(1)(c) of the Income Tax Act."

## Author's commentary

It should be noted that the report was premised on 5 main questions for claimant & preparer feedback, regarding post Feb. 21/07 SR&ED claims:

- Did CRA adequately inform taxpayers about the recent changes to the T661 form?
- Has the cost of filing and defending an SR&ED claim changed?
- Did CRA accept your request for a "second opinion"?
- Did CRA review and audit your claim in a professional and courteous manner?
- Has any CRA person ever attempted to dissuade you from retaining professional advice?

The report was silent as to the responses to these specific questions.

The report otherwise speaks for itself: no on provided evidence to back up their complaints.

# **Related Recommendations**

We suggest the best solution to this issue would be for;

- One or more claimants to
- post relevant complaints publicly
- for SR&ED stakeholder review & input since

This should to remove the "secretive" nature of the

- current process & provide
- required accountability based on specific facts.

<sup>&</sup>lt;sup>5</sup> This publication is available in electronic format at www.oto-boc.gc.ca.

<sup>&</sup>lt;sup>6</sup> CRA "Research & Technology Advisor s"

# <section-header><section-header><list-item><list-item><list-item><list-item><list-item><table-container>

# **Group discussion – summary of significant comments**

# Issue - RTA does not have background in correct field of science

# Direct comments from the group:

# Disagree with CRA's use of RTA without proper technical qualification

"My client claimed actuary science, but computer science RTA was sent. We argued we needed mathematician. This was solved months later after several disputes."

"A claim for a large pulp and paper company was refused. The RTA said no advancements in chemical engineering."

"We have a reviewer sent to food, manufacturing company and we still don't know what their background is and are told we are not allowed to ask."

# Defending CRA's use of RTA's without matching technical qualification

"I think this could backfire if we keep pressing it. We all do claims that are arguable out of our own fields of science, so CRA could argue the same point."

"We can't expect every RTA to be expert but should be open minded."

# Neutral position – potential solutions IRS rebuttal presumption

"It should be noted that the IRS requires its R&D Tax credit auditors to support challenges to a claim by providing a **rebuttal presumption that the discovery test is not met**."

In short this means the claimant is required to keep reasonable evidence that they attempted to define standard practice.

If completed the **IRS would have to demonstrate** that the information would have been known to skilled professionals had they performed (before the research was undertaken) a reasonable investigation of the existing level of information in the particular field of science or engineering." (Reg § 1.41-4(a)(3)(v))

# 2) <u>Related - Administration of the</u> <u>SR&ED program by the CRA</u>

# <u>CRA SR&ED Directorate - top 5 program</u> problems (Jan 11, 2012)

The CRA's SR&ED Directorate held its annual practitioners meeting in Burlington, Ontario on January 11, 2012.

The CRA's new Director General for SR&ED, Susan Betts, listed the **top five concerns of industry and CRA about SR&ED.** 

For industry:

- 1) RTA's not qualified to correctly assess claims
- 2) Narrowing eligibility criteria
- 3) Complexity of process and forms
- 4) Requirement for supporting documents too onerous
- 5) Outcomes uncertain year to year and lack of consistency

#### For CRA:

- 1) Personal attacks against CRA staff
- 2) Incomplete claims / information not sufficient to allow desk review processing
- Success fee billings "unfairly" divert benefits from taxpayers to consultants
- 4) Increasingly aggressive claims
- 5) Claims withdrawn if challenged by CRA
- including penalties for unjustified claims &
- prosecution of claimants & tax advisors

#### **Authors Recommendations**

#### Technological eligibility recommendations – 2 steps

We propose that the CRA management could consider 2 steps to improve the current system:

#### 1) <u>1 complete project example / industry</u>

- based on existing <u>CRA SR&ED examples</u> &
- compliant with all
  - a. technology & tax reporting expected of claimants & related
  - b. <u>precedence set by the Tax Court of</u> <u>Canada</u>

#### 2) Dispute resolution mechanism

- objective,
- third party, 2nd review system to
- Arbitrate /settle disputes
- In a timely manner (30 day objective)

#### Financial eligibility recommendations – 1 step

We propose that SR&ED policy makers can assist CRA management by

- moving to a labour based system
- with simplified calculations.

# D) Commercialization via T661 claim – Canada & Int'l

Collaboration via T661 claim;

 a single project description for multiple claimants (reduced compliance costs),

 additional incentives to large firms who work with SME's &

perhaps even joint incentives for work with

- Canadian & US companies, jointly administered
- By the CRA and the IRS.

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# <u>D) Commercialization – new focus</u> <u>& options</u>

# <u>SME and large firm – collaboration for</u> <u>commercialization</u>

Facts:

Several of the reports acknowledge that

- "large, multi-national" co's have
- strong commercialization infrastructures &
- prefer to have SR&ED funding vs.
- SME's who need commercialization assistance.

A Feb.28, 2012 report from CATA acknowledges,

"53 per cent of surveyed companies compete in the market without collaborating with industry peers."

The report then recommendations that,

"To compete and survive, small companies need to collaborate among themselves, as well as with large anchor companies that have built-in channels to the market. Canada does not have a culture of collaboration,"

"The government must encourage collaboration among Canadian industry companies on a much larger scale than at present, where most of the incentives were focused on collaboration between government labs and industry and on ways to get more academic institutions to license their inventions to industry,"

#### **Group Recommendations**

Consider incentive for;

- "large co's" to act as "ANCHORS" for
- development, mentoring & commercialization with
- SME's on SR&ED projects.

This could be implemented;

- based on previously approved SR&ED projects &
- as a basis to implement the proposed &/or
- refundable SR&ED ITC treatments.

As noted in the section on US collaboration the

- Canadian SR&ED form already contemplates
- Collaborative claims for SR&ED projects

As a result we recommend the:

- existing SR&ED claim information can be used to
- identify "collaborative" SR&ED work, allowing;
  - a single project description for multiple claimants (reduced compliance costs),
  - additional incentives to large Canadian firms who work with Canadian SME's &
  - o perhaps even joint incentives for work with

o Canadian & US companies,

ojointly administered by the CRA & IRS.

# See example on next page

	SD & FD f	own
	SK&LD I	
Part 2 – Project infor	nation	CRA internal form identi
Section A - Project Identit	feation	
2000 Project title (and identifica	fon code # applicable)	
Project start date	Completion or expected completion state	2005 Field of science or technology code (Dee guide for list of codes)
Project claim history	previously claimed project	sied
		·····
f you answered you to line 218	complete lines 200 and 201.	
220	Names of the Businesses	221 🛤
1		
2		
2		

# SR&ED claim form - method to claim "collaborative work"

#### Part 2 – Project information

#### CRA Internal form Identifier 060 Code 1101

#### Complete a separate Part 2 for each project claimed this year.

Section A – Project Identification				
200 Project title (and identification code if applicable)				
202 Project start date 204 Completion or expected completion date (See guide for list of codes)				
Project claim history				
2013     1     Continuation of a previously claimed project     210     1     First claim for the project				
218 Was any of the work done jointly or in collaboration with other businesses?				
If you answered yes to line 218, complete lines 220 and 221.				
220 Names of the businesses 221	BN			
1				
2				
3				

#### Collaboration - stage 1 (Large & Small companies)

Consider "refundable credit" incentive for;

- "large co's" to act as "ANCHORS" for
- development, mentoring & commercialization with
- SME's on SR&ED projects
- Including a single project description for multiple claimants (reduced compliance costs),

## Collaboration - stage 2 (Canada-US SR&ED)

Consider extending SR&ED 1 "collaboration";

- To include joint incentives for work between
- Canadian & US companies,
- Jointly administered by the CRA & IRS

# <u>Crowd funding for SME's – follow US</u> <u>model?</u>

The Entrepreneurs Access to Capital Act, recently passed in the U.S House of Representatives with overwhelming support. It is now being reviewed by the U.S. Senate.

In Canada, CATA and other technology policy groups have launched advocacy campaigns to encourage provincial securities legislators to adopt similar approaches.

Peter Andrews, CATA Director stated,

"the crowd funding model is like a bake sale, where people pitch in a small amount of money to get a project off the ground."

Key features of the new U.S. crowd funding legislation include:

• \$1,000,000/year limit on the amount an issuer can raise (\$2,000,000 if audited financial statements);

• limits on the amount sold to any investor in any year

lesser of ;

(a) \$10,000

(b) 10% of the investor's annual income).

A recent issue of Small Business Report provides additional insights Crowd Funding and Start up Capital.

#### **Group Recommendations**

Most parties agree that this appears to be a promising incentive for;

- "small companies" to "raise private capital"
- Development & Commercialization of SR&ED
- Without the use of taxpayer funds.

As a result most parties support recommendations to speed the passing of this legislation in Canada.

# What was not said – items for 2013+ budgets

- Many of the issues raised by various SR&ED reports
- were NOT addressed in this budget but may appear in 2013 onwards
- These are summarized in the remaining slides

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# 2012-2: Summary of SR&ED changes

# SR&ED changes in March 29,2012 Federal budget

	Year change proposed to start (prorate)	<u>2012</u> current	<u>2013</u>	2014 full effect
1)	Federal ITC rate (non-CCPC)	20	20	15
2)	Subcontractor costs (% eligible)	100	80	80
3)	Rate to calculate proxy (overhead)	65	60	55
4)	Capital equipment (% eligible)	100	100	0

# Summary of the changes

The federal government released it budget on March 29, 2012 including 4 minor changes to the SR&ED tax credit program.

These changes are summarized above.

The actual legislation (Notice of Ways & Means Motion) has also been reproduced on the next page.

#### Author's commentary:

Overall these changes appear relatively modest based on the media buildup and proposals of various S&T reports.

# <u>What was not said – items for 2013+</u> <u>budgets</u>

Of interest were many of the issues raised by various SR&ED reports which were not addressed in this specific budget but may appear in 2013 onwards.

A survey (link to complete the survey) was conducted by the RDBASE.NET Consortium of SR&ED practitioners to

- inform stakeholders of these changes
- gather input & opinions

These results are summarized in

- SR&ED newsletter 2012-1 &
- related presentation.

# <u>NWMM – Federal Budget,</u> <u>March 29, 2012</u>

# Scientific Research and Experimental Development Program<sup>7</sup>

(20) That,

(*a*) for taxation years that end after 2013, the reference to "20%" in paragraph (*a.1*) of the definition "investment tax credit" in subsection 127(9) of the Act be replaced with "15%", except that for taxation years that include January 1, 2014, it shall be read as a reference to the percentage that is the total of

(i) 20% multiplied by the proportion that the number of days that are in the taxation year and before 2014 is of the number of days in the taxation year, and

(ii) 15% multiplied by the proportion that the number of days that are in the taxation year and after 2013 is of the number of days in the taxation year;

(*b*) for taxation years that end after 2013, the reference to "15%" in subsection 127(10.1) of the Act be replaced with "20%", except that for taxation years that include January 1, 2014, it shall be read as a reference to the percentage that is the total of

(i) 15% multiplied by the proportion that the number of days that are in the taxation year and before 2014 is of the number of days in the taxation year, and

(ii) 20% multiplied by the proportion that the number of days that are in the taxation year and after 2013 is of the number of days in the taxation year;

(c) for expenditures incurred after 2012, subparagraph (a)(ii) of the definition "qualified expenditure" in subsection 127(9) of the Act be amended to include only 80% of an expenditure that

(i) would otherwise be included under that subparagraph,

(ii) is for scientific research and experimental development performed for or on behalf of the taxpayer by another person or partnership with whom the taxpayer deals at arm's length, and

(iii) has been reduced to exclude any amount of a capital nature incurred by the other person or partnership in the performance of the scientific research and experimental development;

(*d*) the percentage at which the prescribed proxy amount, for a taxation year, referred to in paragraph (*b*) of the definition "qualified expenditure" in subsection 127(9) of the Act is calculated be, for taxation years that end after 2012, the percentage that is the total of

(i) 65% multiplied by the proportion that the number of days that are in the taxation year and before 2013 is of the number of days in the taxation year,

(ii) 60% multiplied by the proportion that the number of days that are in the taxation year and in 2013 is of the number of days in the taxation year, and

(iii) 55% multiplied by the proportion that the number of days that are in the taxation year and after 2013 is of the number of days in the taxation year;

and

(*e*) for expenditures made by a taxpayer after 2013,

(i) section 37 of the Act be amended to exclude an expenditure in respect of the use or the right to use property that would, if it were acquired by the taxpayer, be capital property of the taxpayer,

(ii) paragraph 37(1)(b) of the Act be repealed,

(iii) subparagraphs (a)(i) and (iii) of the definition "qualified expenditure" in subsection 127(9) of the Act be repealed, and

(iv) section 127 of the Act be amended to exclude from the SR&ED qualified expenditure pool an expenditure in respect of the use or the right to use property that would, if it were acquired by the taxpayer, be capital property of the taxpayer.

<sup>&</sup>lt;sup>7</sup> Federal Budget 2012 Notice of Ways & Means Motion http://www.budget.gc.ca/2012/plan/anx4-2-eng.html



# **<u>Group discussion – summary of significant comments</u>**

# **Direct comments from the group:**

"I'm surprised they weren't able to find any history in the Triton DIMS program itself.

http://triton-sys.com/Page2.html"

"The dentist was not able to remember exactly when he did the analysis - the verbal and documentation with both doubtful if done in the right timeframe."

"This case still leaves several questions. If the correct evidence had been identified it could have gone differently."

# 2012-3: Recent SR&ED tax cases & related issue(s)

Copies of the judgments are available from the Tax Court of Canada's website.<sup>8</sup>

# <u>Murray Arlin Dentistry PC – adequate</u> <u>documentation<sup>2</sup></u>

Facts:

The appellant is a professional corporation that operates the dental practice which specializes in implants.

Fifteen years ago, Dr. Arlin purchased a computer software program called the Tritan Dental Implant Management System, which is designed to track the success rate of various types of dental implants.

Dr. Arlin uses the software to compare the success rate of implants in different circumstances. Some of **the variables relate to the patients' circumstances** (e.g. smokers versus non-smokers) and other variables to the **characteristics of the implant device.** 

The program contains approximately 200 potential inputs for every implant. According to the testimony, Dr. Arlin uses about 50 of these. Currently he has records for approximately 12,000 implants.

Dr. Arlin believes that by studying this data he can provide a useful addition to scientific knowledge.

Dr. Arlin estimated that he spent 350 hours per year on SR&ED since Fridays were spent on research when he does not see patients.

#### Evidence of experimentation or analysis

Dr. Arlin testified that he updated his research for all of his lectures.

The judge also noted that;

a) this testimony was very brief

b) should have provided greater detail and documentary support &c) many of the **lectures** were

- not given to implant specialists &
- had a marketing component.

# Issue(s):

- 1) whether there was systematic investigation &
- 2) whether the allocation of Dr. Arlin's time was reasonable.

## Relevant legislation and analysis:

A significant focus at the hearing was on the requirement of "systematic investigation" in the definition of SR&ED<sup>10</sup> in Income Tax Act.

The CRA argued the research is not sufficiently documented to qualify as "systematic investigation" since;

a) Dr. Arlin "failed to develop specific **hypotheses prior to the data collection &** 

# Ruling & rationale: loss due to lack of documentation

The judge;

- a) was "reluctant to agree with" the requirement for "hypotheses [to be] determined prior to the data collection" however,
- b) "the main problem ... very little detailed evidence regarding the analysis done in the years at issue and the time spent."

#### She stated that,

"the Tritan program is designed to present comparative tables at the press of a button. The actual time spent on applied research potentially might be very small....

In order to support the appellant's claims, the evidence as to actual research done, and the amount of time spent, would have to be much more detailed."

40 ©2012

b) there is **insufficient evidence of time spent** by Dr. Arlin on research in the relevant years.

<sup>&</sup>lt;sup>8</sup> Tax Court of Canada website [www.tcc-cci.gc.ca]

<sup>&</sup>lt;sup>9</sup> Murray Arlin Dentistry Professional Corporation v. The Queen - Tax Court of Canada, 2012 TCC 133, Informal procedure

<sup>&</sup>lt;sup>10</sup> Income Tax Act subsection 248(1)

## Implications and author's commentary

Though the judge did not require pre-stated hypotheses these might have helped the situation as far as relevant evidence.

The biggest disappointment in this case was the claimant's inability to provide any real evidence of experimentation or analysis.

We are told they provided a single research article which was published in 2007 in order to support claims for the 2007 and 2008 taxation years. Clearly the 2007 article could NOT have dealt with the 2008 work and perhaps not even 2007 work.

#### **Results vs. Conclusions:**

Basically Dr. Arlin's system was able to illustrate "what" happened however he did not appear to have any written evidence attempting to document;

Why these results occurred &

How any conclusions were formulated.

#### Evidence examples

The following list illustrates the types of evidence which are typically used to substantiate these types of claims. If Dr. Arlin had provided any of these they would have been excellent supporting documentation.

**Notebooks** – dated daily with brief, **point form notes of hypotheses, related analysis & time spent** 

**Emails** – correspondence with the suppliers & colleagues regarding any hypotheses & analysis.

**Test Reports** – any queries from the Tritan system which were used to analyze hypotheses.

## **Defining the SR&ED hypotheses**

This is probably one of the most important and misunderstood sections of the SR&ED process.

To address this issue further in the next section we have outlined some of the key issues and opportunities in defining the "hypotheses for SR&ED purposes."

# Notable quote:

# "The general advice concerning statistics is, figures never lie, but liars figure"

## -Anonymous

# What is a "hypotheses" for SR&ED

- Null hypothesis life sciences
- Principle
- Testing for differences Example
- Directionality
- Sample size
- The testing process
- Common test statistics
- Arlin case apply null hypotheses

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# <u>What is a "hypotheses" for</u> <u>SR&ED</u>

# Null hypothesis<sup>11</sup>

The practice of science involves formulating and testing hypotheses, assertions that are capable of being proven false using a test of observed data.

The null hypothesis typically corresponds to a general or default position. For example, the null hypothesis might be that there is no relationship between two measured phenomena or that a potential treatment has no effect.

The term was originally coined by English geneticist and statistician Ronald Fisher in 1935. It is typically paired with a second hypothesis, the alternative hypothesis, which asserts a particular relationship between the phenomena.

# **Principle**

Hypothesis testing works by collecting data and measuring how likely the particular set of data is, assuming the null hypothesis is true.

For instance, a certain drug may reduce the chance of having a heart attack. Possible null hypotheses are

- "this drug does not reduce the chances of having a heart attack" or
- "this drug has no effect on the chances of having a heart attack".

The test of the hypothesis consists of administering the drug to half of the people in a study group as a controlled experiment.

If the data show a statistically significant change in the people receiving the drug, the null hypothesis is rejected.

# **Testing for differences**

In scientific and medical research, null hypotheses play a major role in testing the significance of differences in treatment and <u>control</u> groups.

The typical null hypothesis at the outset of the experiment is that no difference exists between the control and experimental groups (for the variable being compared). Other possibilities include:

- that values in samples from a given population can be modeled using a certain family of <u>statistical distributions</u>.
- that the <u>variability</u> of data in different groups is the same, although they may be centered around different values.

# **Example**

Given the test scores of two random <u>samples</u> of men and women, does one group differ from the other? A possible null hypothesis is that the mean male score is the same as the mean female score:

$$H_0: \mu_1 = \mu_2$$

where:

 $H_0$  = the null hypothesis  $\mu_1$  = the mean of population 1, and  $\mu_2$  = the mean of population 2.

A stronger null hypothesis is that the two samples are drawn from the same population, such that the variance and shape of the distributions are also equal.

A **one-tailed hypothesis** is a hypothesis in which the value of a parameter is specified as being either:

- above a certain value, or
- below a certain value.

An example of a one-tailed null hypothesis would be that, in a medical context, an existing treatment, A, is no worse than a new treatment, B.

The corresponding alternative hypothesis would be that B is better than A. Here if the null hypothesis were accepted (i.e. there is no reason to reject the hypothesis that A is at least as good as B), the conclusion would be that treatment A should continue to be used.

If the null hypothesis were rejected, the result would be that treatment B would used in future, given that there is evidence that it is better than A.

A hypothesis test would look for evidence that B is better than A, not for evidence that the outcomes of treatments A and B are different.

Formulating the hypothesis as a "better than" comparison is said to give the hypothesis **directionality**.

# **Directionality**

Quite often statements of point null hypotheses appear not to have a "directionality", namely, that values larger or smaller than a hypothesized value are conceptually identical.

<sup>&</sup>lt;sup>11</sup> From Wikipedia, the free encyclopedia

However, null hypotheses can and do have "direction" in many instances statistical theory allows the formulation of the test procedure to be simplified, thus the test is equivalent to testing for an exact identity.

For instance, when formulating a one-tailed alternative hypothesis, *application of Drug A will lead to increased growth in patients*, then the true null hypothesis is the opposite of the alternative hypothesis, i.e. *application of Drug A will not lead to increased growth in patients* (a composite null hypothesis).

The effective null hypothesis will be *application of Drug A will have no effect on growth in patients* (a point null hypothesis).

# <u>The testing process</u><sup>12</sup>

In the statistical literature, statistical hypothesis testing plays a fundamental role.[8][*citation needed*]

The **usual line of reasoning** is as follows:

1. There is an initial research hypothesis of which the truth is unknown.

2. The first step is to state the relevant **null and alternative hypotheses**. Specifically, the null hypothesis allows to attach an attribute: it should be chosen in such a way that it allows us to conclude whether the alternative hypothesis can either be accepted or stays undecided as it was before the test.

3. The second step is to consider the statistical assumptions being made about the sample in doing the test; for example, assumptions about the statistical independence or about the form of the distributions of the observations.

4. Decide which test is appropriate, and state the relevant **test statistic** *T*. – SEE DETAILS ON NEXT PAGE

5. Derive the distribution of the test statistic under the null hypothesis from the assumptions. In standard cases this will be a well-known result.

For example the test statistic may follow a Student's t distribution or a normal distribution.

6. The distribution of the test statistic partitions the possible values of T into those for which the null hypothesis is rejected, the so called critical region, and those for which it is not.

7. Compute from the observations the observed value *t*obs of the test statistic *T*.

8. Decide to either **fail to reject** the null hypothesis or **reject** it in favor of the alternative.

The decision rule is to reject the null hypothesis *H*0 if the observed value *t*obs is in the critical region, and to accept or "fail to reject" the hypothesis otherwise.

An alternative process is commonly used:

6. Select a significance level ( $\alpha$ ), a probability threshold below which the null hypothesis will be rejected. Common values are 5% and 1%.

7. Compute from the observations the observed value *t*obs of the test statistic *T*.

8. From the statistic calculate a probability of the observation under the null hypothesis (the p-value).

9. Reject the null hypothesis or not. The decision rule is to reject the null hypothesis if and only if the p-value is less than the significance level (the selected probability) threshold.

#### Choice of testing process

The two processes are equivalent. The former process was advantageous in the past when only tables of test statistics at common probability thresholds were available. It allowed a decision to be made without the calculation of a probability. It was adequate for classwork and for operational use, but it was deficient for reporting results.

The latter process relied on extensive tables or on computational support not always available. The explicit calculation of a probability is useful for reporting. The calculations are now trivially performed with appropriate software.

 $<sup>^{12}</sup>$  Statistical hypothesis testing - Wikipedia, the free encyclopedia Page 5 of 22

 $http://en.wikipedia.org/wiki/Statistical\_hypothesis\_testing\ 5/28/2012$ 

# **Common test statistics**

In order to address the null hypotheses a series of analytical methods are applicable:

**One-sample tests** are appropriate when a sample is being compared to the population from a hypothesis. The population characteristics are known from theory or are calculated from the population.

**Two-sample tests** are appropriate for comparing two samples, typically experimental and control samples from a scientifically controlled experiment.

**Paired tests** are appropriate for comparing two samples where it is impossible to control important variables. Rather than comparing two sets, members are paired between samples so the difference between the members becomes the sample. Typically the mean of the differences is then compared to zero.

**Z-tests** are appropriate for comparing means under stringent conditions regarding normality and a known standard deviation.

**T-tests** are appropriate for comparing means under relaxed conditions (less is assumed).

**Tests of proportions** are analogous to tests of means (the 50% proportion).

**Chi-squared tests** use the same calculations and the same probability distribution for different applications:

- <u>Chi-squared tests</u> for **variance** are used to determine whether a normal population has a specified variance. The null hypothesis is that it does.
- Chi-squared tests of **independence** are used for deciding whether two variables are associated or are independent.
- Chi-squared **goodness of fit** tests are used to determine the adequacy of curves fit to data. The null hypothesis is that the curve fit is adequate.

**<u>F-tests</u>** (analysis of variance, ANOVA) are commonly used when deciding whether groupings of data by category are meaningful. If the variance of test scores of the left-handed in a class is much smaller than the variance of the whole class, then it may be useful to study lefties as a group. The null hypothesis is that two variances are the same - so the proposed grouping is not meaningful.

# Sample size

Statistical hypothesis testing involves performing the same experiment on multiple subjects. The number of subjects is known as the <u>sample size</u>. The properties of the procedure depends on the sample size.

Even if a null hypothesis does not hold for the population, an insufficient sample size may prevent its rejection. If sample size is under a researcher's control, a good choice depends on

- the statistical power of the test,
- the effect size that the test must reveal and
- the desired significance level.

The statistical power is the probability of rejecting the null hypothesis when it does not hold in the population (i.e., for a particular effect size).

The significance level is the probability of rejecting the null hypothesis when the null hypothesis holds in the population.

According to published theory, "Generally fewer than 30 trials puts any conclusion at risk."

# Further issues in health science studies

Biostats uses basic statistics only as a foundation.

Biological variability results in developing stats applications well beyond those that have been listed & generally requires advice from a biostats practitioner.

Each study has to tailor its stats tools to the overall objectives & intended approach of the study (e.g.,

- different applications/premises used to identify
- causal agents affecting health in epidemiology vs.
- determining potential health outcomes in treatment studies, etc.).

then study specific objectives including,

- calculation of adequate population size,
- methodology (inclusion/exclusion criteria, type & number of biomarkers, cohort assignment, etc.) &
- statistical analyses methods which are inextricably linked.

A study protocol that incorporates all these facets prior to embarking on data collection is a key component of an eligible study.

# <u>Arlin case revisited– application of</u> <u>null hypotheses</u>

Based on the facts as provided it appears Dr. Arlin may have required a null hypothesis to use as the basis for:

Each set of circumstances/conditions that would potentially influence success/no-success (smoker / non-smoker / diabetic / immuno-compromised /plaque profile /etc.);

Each condition would represent a different cohort and inclusion/exclusion criteria need to be specified;

Outline statistical analyses for data with associated calculation of target population size (would need to identify a control for comparative purposes for each cohort);

Ongoing data development is SR&ED eligible, so annual reviews of data/trends necessary to maintain continuity and demonstrate analysis.

The above represents demonstration of systematic approach flowing from the null hypotheses, then

- time can be allocated by patient enrollment/visitations
- within any given year specific to intervention requirements including;
  - dentist /assistant for data collection &
  - annual analysis review).

Much of this would be present in the patient records, it's the ongoing analyses that are key.

#### Author's note:

Records relating to of any of these tests would be strong evidence of SR&ED.

As previously noted, had Dr. Arlin produced such records he would likely have been successful in his claim.

# 2012 Provincial SR&ED updates

Manitoba – 20% ITC
 Currently 5% refundable all corps
 Increase to 10% refundable

Saskatchewan – 15% ITC

 Currently refundable all corps
 > Mar 31, 2012 refundability restricted to CCPC's up to \$3 million exp. Limit

Hamilton Region SR&ED Practitioners Group 2012

# 2012 Provincial SR&ED updates

So far the provincial budgets have been released for BC, Saskatchewan, Manitoba, Ontario & Quebec.

The only significant provincial changes to the SR&ED Tax Credit

## <u>Manitoba</u>

The Manitoba SR&ED tax credit (ITC) rate remains 20%; however the budget provides a reminder that starting 2012 the refundable portion of the ITC will be 10% (up from 5% in 2011).

#### <u>Saskatchewan</u>

Saskatchewan introduced measures to make the province's Research and Development Tax Credit non-refundable, except for certain Canadian-controlled private corporations (CCPCs);

Currently, Saskatchewan provides a 15% refundable Research and Development (R&D) Tax Credit for all corporations.

For R&D expenditures incurred after March 31, 2012:

- a 15% refundable R&D tax credit can be claimed by CCPCs on up to \$3 million of qualifying expenditures annually; and
- a 15% non-refundable credit can be claimed on qualifying expenditures incurred by: CCPCs exceeding the above limit and other corporations.

# International Def'n of Qualified Projects (Scientific Method)

 Phase 0: Eligible fields of S&T (OECD)
 Phase 1: Objectives > "Standard Practice"
 Phase 2: Variables of Technological Uncertainty
 Phase 3: "Systematic" Experimentation
 Putting it all together – the Project template

# 2012-4 International R&D Tax Credits

Often companies perform eligible research in several countries.

A detailed review of the government funding methods in most countries illustrates that almost all countries use a similar definition of the R&D project and thus the eligible activities.

#### History of the international definition

The **Frascati Manual** is a document setting forth the methodology for collecting statistics about research and development. The Manual was prepared and published by the Organisation for Economic Co-operation and Development (OECD).

In June 1963, OECD experts met with the NESTI group (National Experts on Science and Technology Indicators) at the Villa Falconieri in Frascati, Italy. Since then it has been revised several times. In 2002 the 6th edition was published.

The manual sets forth fundamental definitions for: basic research, applied research, and research & development. It also organizes Fields of science into main and subcategories.

Over the past 40 years, the NESTI group has developed a series of documents, known as "Frascati Family", which includes manuals on:

- R&D (Frascati Manual),
- innovation (Oslo Manual),
- human resources (Canberra Manual),
- technology balance of payments and patents as science and technology indicators.

Originally an OECD standard, it has become an acknowledged standard in R&D studies all over the world and is widely used by various organisations associated with the United Nations and European Union.

#### Three forms of research

The Frascati Manual outlines three forms of research. These are basic research, applied research and experimental development:[1]

- 1. **Basic research** is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts, **without any particular application or use in view**.
- 2. Applied research is also original investigation undertaken in order to acquire new knowledge but directed towards a specific practical aim or objective.
- 3. Experimental development is systematic work, drawing on existing knowledge gained from research and/or practical experience, which is directed to producing **new materials, products** or devices, to installing new processes, systems and services, or to improving substantially those already produced or installed.

# **Definition of Qualified Activities via Eligible Projects (Scientific Method)**

"For a ... project to be classified as R&D, its completion must be dependent on a scientific &/or **technological advance**, the aim of the project must be the **systematic resolution** of a scientific and/or **technological uncertainty**."<sup>13</sup>

<sup>13</sup> Frascati Manual 2002 paragraph 13550

# **Phase 0: Defining Eligible Fields of Science or Technology**

		7
1. Natural Sciences	1.1 Mathematics	
	1.2 Computer and information sciences	
	1.3 Physical sciences	
	1.4 Chemical sciences	
	1.5 Earth and related environmental sciences	
	1.6 Biological sciences	
	1.7 Other natural sciences	
2. Engineering	2.1 Civil engineering	
& Technology	2.2 Electrical engineering, electronic	
	engineering, information engineering	
	2.3 Mechanical engineering	
	2.4 Chemical engineering	
	2.5 Materials engineering	
	2.6 Medical engineering	
	2.7 Environmental engineering	ELIGIBLE for R&D
	2.8 Environmental biotechnology	tax credits
	2.9 Industrial Biotechnology	
	2.10 Nano-technology	
	2.11 Other engineering and technologies	
3. Medical &	3.1 Basic medicine	-
<b>Health Sciences</b>	3.2 Clinical medicine	
	3.3 Health sciences	
	3.4 Health biotechnology	
	3.5 Other medical sciences	
4. Agricultural	4.1 Agriculture, forestry, and fisheries	-
Sciences	4.2 Animal and dairy science	
	4.3 Veterinary science	
	4.4 Agricultural biotechnology	
	4.5 Other agricultural sciences	
5. Social Sciences	5.1 Psychology	
	5.2 Economics and business	
	5.3 Educational sciences	
	5.3 Sociology	
	5.5 Law	
	5.6 Political Science	
	5.7 Social and economic geography	
	5.8 Media and communications	
	5.7 Other social sciences	<b>NOT ELIGIBLE for</b>
6. Humanities	6.1 History and archaeology	R&D tax credits
	6.2 Languages and literature	
	6.3 Philosophy ethics and religion	
	6.4 Art (arts history of arts performing	
	arts music)	
	6.5 Other humanities	

# Fields of science - OECD classifications 2007



#### A) Define industry "standard practice"

"The basic criterion for distinguishing R&D from related activities is the presence in R&D of an appreciable element of novelty and the resolution of scientific and/or technological uncertainty,

i.e. when the solution to a problem is **not readily apparent to someone familiar with the basic stock of common knowledge** and techniques for the area concerned."<sup>14</sup>

#### B) Technological objective beyond standard practice

".... If the primary objective is to make **further technical improvement** on the product or process then the work comes within the definition of R&D ...... if the primary objective is to develop markets, to do preproduction's planning or control system working smoothly, then the work is no longer R&D." <sup>15</sup> "The basic criterion for distinguishing R&D from related activities is the presence in R&D of an appreciable element of novelty and the resolution of scientific and/or technological uncertainty,

i.e. when the solution to a problem is not readily apparent to someone familiar with the basic stock of common knowledge and techniques for the area concerned."<sup>16</sup>

The paper includes some supplementary criteria for distinguishing R&D:

- What is new or innovative about this project?
- Is it seeking previously undiscovered phenomena, structures or relationships?
- Does it apply knowledge or techniques in a new way?
- Is there a significant chance that it will result in new (extended or deeper) understanding of phenomena,
- relationships or manipulative principles of interest to more than one organization
- Are the results expected to be patentable?

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<sup>&</sup>lt;sup>14</sup> Frascati Manual 2002 paragraph 84

<sup>&</sup>lt;sup>15</sup> Frascati Manual (2002) proposed standard practice for survey on research and experimental development Paragraph 111

<sup>&</sup>lt;sup>16</sup> Frascati Manual 2002 paragraph 84 52



"Research and experimental development is creative work undertaken systematically to increase the stock of knowledge, including knowledge of humanity, culture and society, and the use of this stock of knowledge to devise new applications."17

Research has been defined in a number of different ways. "In the broadest sense of the word, the definition of research includes any gathering of data, information and facts for the advancement of knowledge."<sup>18</sup>

Generally, research is understood to follow a certain structural process including<sup>19</sup>:

- Observations and Formation of the Objective
- Hypothesis: A testable prediction which designates the relationship between two or more variables.
- Gathering, Analysis & Interpretation of data
- Test, revising of hypothesis
  - Conclusion, reiteration if necessary

# **Implications to R&D Tax Credit Claimants:** The Project Template

(next page)

The Frascati directives and requirements indicate the following project documentation methodology:

- If researcher teams can compile this information,
- they should be able to claim related tax credits.
- in ANY related country.
- Examples of completed R&D projects by country are available at www.rdbase.net

# Notable quote:

"They always say time changes things, but you actually have to change them yourself."

- Andy Warhol

<sup>&</sup>lt;sup>17</sup> (OECD (2002) Frascati Manual: proposed standard practice for

surveys on research and experimental development, 6th edition <sup>18</sup> Wikipedia definition of "Research"

<sup>&</sup>lt;sup>19</sup> Wikipedia definition of "Scientific Method"

# **RDBASE.NET** template for claiming tax credits internationally



	PRC	DJECT OBJECTIVE BEYON	ND STANDARD	PRACTICE:	<u>GOAL is to prove to</u> Government (CRA, IRS, etc.)
i)	State of Existing technology: Benchmarking methods & sources				Technology limits of "readily
			Number (#) of		"skilled in the art."
	i	Internet / Google Searches		internet sites	
	ii 	Articles		articles	
		Patent searches		patents	
	1V	Le house technologie		products / processes	
	vi	Botontial components		products / processes	
	vii	Queries to experts			
	viii	Other		lesponses	
		-		-	
ii)		<u>Objective(s)</u>	Performance l	enchmarks (top 5)*	Quantifiable Objectives
			Benchmark 1	Benchmark 2	beyond known limits
	i	Existing benchmark			
	ii	Units of measure			
	iii	Performance objective			
	iv	Result (III below)*			
		Name of variable	<u>Variable 1</u>	<u>Variable 2</u>	
-					
ι ()	EXP	ERIMENTAL ACTIVITY			Defined by tax year*
I () i)	<u>EXP</u>	ERIMENTAL ACTIVITY Experimentation method	<u>Number of</u>		Defined by tax year* Justify sample sizes via "variables"
I <b>()</b> i)	EXP	ERIMENTAL ACTIVITY Experimentation method Analysis / simulation	<u>Number of</u>	alternatives	Defined by tax year* Justify sample sizes via "variables" Quickest
I <b>()</b> i)	EXP i ii	ERIMENTAL ACTIVITY Experimentation method Analysis / simulation Process trials	<u>Number of</u>	alternatives runs / samples	Defined by tax year* Justify sample sizes via "variables" Quickest Longer
I <b>()</b> i)	EXP i ii	ERIMENTAL ACTIVITY Experimentation method Analysis / simulation Process trials Prototypes	<u>Number of</u>	alternatives runs / samples samples	Defined by tax year* Justify sample sizes via "variables" Quickest Longer Longest
I <b>(</b> )	<u>ЕХР</u> і іі	ERIMENTAL ACTIVITY Experimentation method Analysis / simulation Process trials Prototypes protoype revisions	<u>Number of</u>	alternatives runs / samples samples revisions	Defined by tax year* Justify sample sizes via "variables" Quickest Longer Longest
I (i) i)	<u>ЕХР</u> і іі	ERIMENTAL ACTIVITY Experimentation method Analysis / simulation Process trials Prototypes protoype revisions Analysis	<u>Number of</u>	alternatives runs / samples samples revisions	Defined by tax year* Justify sample sizes via "variables" Quickest Longer Longest
I (i) i) ii)	EXP i ii iii	ERIMENTAL ACTIVITY Experimentation method Analysis / simulation Process trials Prototypes protoype revisions Analysis Results	<u>Number of</u>	alternatives runs / samples samples revisions * vs. Objectives I	Defined by tax year* Justify sample sizes via "variables" Quickest Longer Longest Identify the unexpected
I (i) i) ii)	EXP i ii iii ii	ERIMENTAL ACTIVITY Experimentation method Analysis / simulation Process trials Prototypes protoype revisions Analysis Results Conclusions	<u>Number of</u>	alternatives runs / samples samples revisions * vs. Objectives I ** on Variables II	Defined by tax year* Justify sample sizes via "variables" Quickest Longer Longest Identify the unexpected Attempt understand "why?"
I (i) i)	EXP i ii ii ii ii ii	ERIMENTAL ACTIVITY Experimentation method Analysis / simulation Process trials Prototypes prototype revisions Analysis Results Conclusions Documentation	Number of	alternatives runs / samples samples revisions * vs. Objectives I ** on Variables II Experiments/Analysis	Defined by tax year* Justify sample sizes via "variables" Quickest Longer Longest Identify the unexpected Attempt understand "why?" Proof experiments & costs
I (i) i) ii)	i i ii ii ii	ERIMENTAL ACTIVITY Experimentation method Analysis / simulation Process trials Prototypes protoype revisions Analysis Results Conclusions Documentation Direct Costs	Number of	alternatives runs / samples samples revisions * vs. Objectives I ** on Variables II Experiments/Analysis	Defined by tax year* Justify sample sizes via "variables" Quickest Longer Longest Identify the unexpected Attempt understand "why?" Proof experiments & costs
I (i) i) ii)	EXP i ii iii iii	ERIMENTAL ACTIVITY         Experimentation method         Analysis / simulation         Process trials         Prototypes         protoype revisions         Analysis         Results         Conclusions         Documentation         Direct Costs         Wages	Number of	alternatives runs / samples samples revisions * vs. Objectives I ** on Variables II Experiments/Analysis Hours / Employee	Defined by tax year* Justify sample sizes via "variables" Quickest Longer Longest Identify the unexpected Attempt understand "why?" Proof experiments & costs * PROJECTS span multiple years bu
I (i) i) ii)	EXF i ii ii ii ii ii	ERIMENTAL ACTIVITY         Experimentation method         Analysis / simulation         Process trials         Prototypes         protoype revisions         Analysis         Results         Conclusions         Documentation         Direct Costs         Wages         Contractors	Number of	alternatives runs / samples samples revisions * vs. Objectives I ** on Variables II Experiments/Analysis Hours / Employee Labour \$ / Contractor	Defined by tax year* Justify sample sizes via "variables" Quickest Longer Longest Identify the unexpected Attempt understand "why?" Proof experiments & costs * PROJECTS span multiple years bu ACTIVITIES match tax years.

# **R&D** funding by country

- Comparison of
  - Beta indices
  - Overall funding
  - Proportions
    - Direct (grants / procurement) vs.
    - Indirect (tax credits)

# <u>Comparing R&D Funding by</u> <u>Country</u><sup>20</sup>

If we want to make a rough comparison of Canada's funding vs. other industrialized countries we can use a ration named the "Beta Index" (B-Index).

It is calculated as:

After tax cost of \$1 of R&D / (1- tax rate)

Simply stated:

B-Index is the before-tax income needed to break even on one dollar of R&D spent.

The **lower** the B-Index the more **favorable** it is for a company to perform R&D in a particular country.

As we can see from this comparative that Canada does in fact have one of the lowest B-Indices however, **many countries provide other "direct" funding** instead of "tax incentives."

The OECD report provides a further comparison of the total % of "Business Expenditures on Research & Development" (BERD) which are financed by the government (next page).

# Notable quote:

"He who asks a question is a fool for 5 minutes. He who does not ask a question remains a fool forever."

- Chinese proverb

Comparing the value of B-indexes 2002						
(manufacturing companies, by country)						
	Large	Small				
Country	company	company				
Australia	0.801	0.801				
Austria	0.875	0.875				
Belgium	1.009	1.006				
Canada	0.827	0.678				
Denmark	0.893	0.893				
Finland	1.01	1.01				
France	0.939	0.939				
Germany	1.025	1.025				
Greece	1.015	1.015				
lceland	1.012	1.012				
Ireland	1	1				
Italy	1.026	0.557				
Japan	0.991	0.879				
Korea	0.874	0.821				
Mexico	0.969	0.969				
Netherlands	0.901	0.647				
New Zealand	1.023	1.023				
Norway	1.018	0.768				
Portugal	0.665	0.665				
Spain	0.559	0.559				
Sweden	1.015	1.015				
Switzerland	1.01	1.01				
United Kingdom	0.904	0.894				
United States	0.934	0.934				

 $<sup>^{20}</sup>$  Tax Incentives for Research and Development: Trends and Issues, OECD, 2002

## **Government funding of business (OECD) Direct (Grants) vs. Indirect (Tax Credits)**



#### Authors Analysis & commentary:

This table indicates that the Canadian government finances approximately 4% of total business research whereas most other countries are significantly higher (e.g France, US & UK are all >10%).

As a result it appears that the Canadian government is not nearly as generous as other countries in funding SR&ED.

Despite this fact the SR&ED credit appears to have created a scenario where a smaller amount of funding is in fact creating a significant amount of SR&ED.

The next page provides a comparison of the funding provided directly (grants & contracts) vs. indirectly (tax credits). NOTE: These balances **do NOT** include "military & defence" related R&D spending.

# Notable quote:

"The best way to have a good idea is to have a lot of ideas."

# - Dr. Linus Pauling

# Government Funding of Business R&D - Direct vs. Tax Credits<sup>21</sup>





 $<sup>^{21}</sup>$  OECD SCIENCE, TECHNOLOGY AND INDUSTRY SCOREBOARD 2011 © OECD 2011

# Charging of Contingent fees by R&D tax consultants

- Canada contemplating regulation of fees for consultant support
  - How to define services (technical, tax, IP, funding,..)
  - What is a contingent fee vs. warranty
  - Question on rates

US perspective - Ryan LLC challenge to IRS legality of contingent fees

# <u>Contingent Fees Charged by</u> <u>R&D Tax Consultants</u>

# <u>Canada contemplating regulation of</u> <u>fees for consultant support</u>

Changes are expected to limit consultants' share of the SR&ED credit as Ottawa expresses concern that too much federal science cash is flowing outside the "intended" sector.

On August 3, 2012 Finance Minister Flaherty announced,

"We continue to strive to make improvements to the administration of the SR&ED program and look forward to hearing from taxpayers and tax preparers on any initiatives that could allow us to make further progress.

The consultations seek input from stakeholders to better understand:

- Why firms hire third-party tax preparers on a contingency-fee basis;
- why these tax preparers charge contingency fees;
- the prevalence of this practice;
- the amounts charged; and
- the impacts of this practice on the effectiveness of the SR&ED tax incentive program.

The <u>attached document</u> provides guidance for the consultation.

Related Document<sup>22</sup>: Consultation Regarding the Impact of Contingency Fees on the Effectiveness of the Scientific Research and Experimental Development Tax Incentive Program."

Stakeholders are invited to provide comments by October 1, 2012 to SRED-Consultations to <u>RSDE@fin.gc.ca</u> or:

SR&ED Consultations Department of Finance 140 O'Connor Street Ottawa, Ontario K1A 0G5

# <u>Author's personal experience, examples & opinions</u>

#### Facts & Issues:

3) **Client choice** - I have practiced in the SR&ED field since 1993. From 1993 to 2000 I worked on some of the largest SR&ED files in Canada on an hourly or flat fee basis.

On almost all hourly agreements "sophisticated" clients required a budget and authorization before incurring any fee overruns. In reality these resulted in "flat fees."

When I left partnership and started MEUK Corporation I decided to offer clients all 3 billing options:

- Hourly
- Flat Fee
- % of Recovery

I have **clients who prefer each of these options** for various reasons.

4) **Needless complexity** - As the co-author of the SR&ED course for the Canadian Institute of CA's and seminar leader for the past 15 years I can say that I spend over 30 minutes explaining just the rules on "specified employees."

The course itself runs a full 8 hours and only provides an overview of many "complex" issues.

Most CA's walk out of the course claiming it is;

- needlessly complicated &
- one of the most confusing areas of income tax they have ever explored.

The result is that they tend to charge a minimum \$5,000 for compilation of the SR&ED related tax forms, assuming the client prepares the technical (project) descriptions.

3) **Related liability** - Worse yet I have seen lawsuits for millions of dollars against CA's for failure to adequately;

- plan or complete the SR&ED forms
- within required deadlines.

<sup>&</sup>lt;sup>22</sup> http://www.fin.gc.ca/activty/consult/sred-rsde-eng.asp

#### Analysis:

My experiences on billing methods is that each has its own pros & cons however, it is ultimately the claimant who should be empowered with choice.

The majority (approximately 80%) of first time claimants, under \$100,000 of ITC's prefer to use the % recovery in the first year.

The % fees for this work range from 2-20% of recovery dependent on the nature of the work and range of services provided.

I have some flat fee clients who's fees (including costs to plan & complete the project descriptions & income tax forms) are <2% of total credits.

Fees at the higher end of this fee range tend to be paid by clients with weaknesses in the SR&ED documentation systems.

Most clients will not pay aggressive fees for services which they believe they can perform on their own.

If the free market willing to pay high fees for product or service it is because they perceive high value.

#### **Related recommendations:**

The **free market** is likely the best mechanism to determine the fair price of any service commodity.

It should be the client's choice which method of billing & payment best meets their business needs.

As a result the government should not attempt to regulate the fee or service providers other than as to quality of work.

The Jenkins and other current SR&ED reports recommend, "streamlining the SR&ED claim system."

If the government policy makers & CRA wish to reduce the fees consultants charge all they need do is simplify the "perceived" current complexity of the program.

# <u>US Perspective - Ryan LLC Challenge</u> <u>to IRS Legality of Contingent Fees</u><sup>23</sup>

Since 2007 the IRS has prohibited the use of contingent fees for R&D tax credit consultants. These restrictions are outlined in IRS Circular 230.

This has resulted in a backlash by many US practitioners.

The related issues appear to be universal and have been outlined clearly in a recent complaint filed by one such practitioner.

On April 11, 2012 Ryan LLC filed suit in the U.S. District Court seeking judgment that the IRS has;

- exceeded the scope of authority to regulate the practice of CPAs before the IRS &
- requesting a permanent injunction against the IRS enforcing such provisions of Circular 230 to regulate the practice of CPA's.

Ryan, a US CPA firm which provides global tax services, alleges that the contingent fee restrictions imposed on practitioners in 2007 amendments to Circular 230 are unconstitutional because they;

- unconstitutionally restrict the ability of taxpayers to pursue Ordinary Refund Claims with the IRS in violation of the petition Clause of the First Amendment of the United States Constitution.
- exceed the scope of regulation authorized in the statute.

#### Author's commentary:

Given that the USA is regarded as a leader in the concept of "free market" forces vs. government control and regulation it appears ironic that they would favor the "regulation" method to decide such policies.

As this issue gains momentum in Canada we expect to see harmonization of the results in the US and internationally.

<sup>23</sup> Full complaint as filed by Ryan LLC (69 pages) http://www.ryan.com/Assets/Downloads/Complaint.pdf

# Recent SR&ED tax cases & related issue(s)

Bagtech (PWC Trustee) – CCPC status with > 50% foreign shareholders
Ruling & rationale: win Unanimous Shareholders Agreement breaks control
Implications:

See other similar cases (Perfect Fry)
 ITA 256

# Recent SR&ED Tax Cases & Related Issue(s)

Copies of the judgments are available from the Tax Court of Canada's website.<sup>24</sup>

# <u>Bagtech (PWC Trustee) -</u> <u>CCPC Status with > 50% Foreign</u> <u>Shareholders</u><sup>25</sup>

#### Facts:

Despite the fact that the "person" holds more than 50% of Class A shares of Bagtech, under the USA (Unanimous Shareholders Agreement), it could elect a majority of directors. According to the USA, these are residents of Canada who elect a majority of directors,

- 4 of 7 directors during 2004 and
- 4 of 8 directors during 2005.

#### Issue(s):

Can the terms of a USA for the election of directors of a corporation be taken into account in determining de jure & or defacto "control" of a company?

#### **Relevant legislation and analysis:**

It appears from paragraph 146 (1) of the CBCA four conditions in order that an agreement could be described as unanimous shareholder agreement.

- First, the agreement must, of course, be lawful and consistent with the general requirements of the contracts.
- Then, the agreement must be written, and it is important to clarify that this requirement is indeed a condition of validity, not only a question of evidence.
- It must also be signed by all shareholders of a corporation, either among themselves or with third parties.

• Finally, it must restrict in whole or in part the powers of directors to manage the business and affairs of society, or supervise the management.

# Ruling & Rationale: win USA breaks control

Based on the facts and legislation in question the judge concluded that the foreign "person" could not,

"control Bagtech within the meaning of the ITA<sup>26</sup>... [with the result] the company is entitled to a "refundable investment tax credit."

#### **Implications and author's commentary:**

In Canada this issue tends to recur every 5-10 years (see Perfect Fry 2004).

The issue is also prevalent internationally due to the enhanced research tax incentives for domestic SME's (Small & Medium Sized Enterprises).

The rulings tend to vary so this will likely be an issue of contention form many years to come.

# Notable quote:

"In every work of genius, we recognize our once rejected thoughts"

# - Ralph Waldo Emerson

<sup>&</sup>lt;sup>24</sup> Tax Court of Canada website [www.tcc-cci.gc.ca]

<sup>&</sup>lt;sup>25</sup> PWC Trustee for BIOARTIFICIAL GEL TECHNOLOGIES (BAGTECH) INC v. The Queen - Tax Court of Canada, 2012 CCI

<sup>120,</sup> Date : 20120412, Dossier : 2009-3734(IT)G

<sup>&</sup>lt;sup>26</sup> paragraph b) of the definition of a CCPC in subsection 125 (7)

# **Group discussion – other issues - summary of significant comments**

#### Entitlement to Exploit criteria

Background – It is sometimes unclear to claimant that they do not need to own all rights to a product in order to claim SR&ED. They do however need "entitlement to exploit" the results.

**Ensuring "entitlement to exploit" -** Canada Revenue Agency (CRA) directives on this issue have been provide in IT-151R5, para 37,

"...this requirement is considered to be met in cases where the taxpayer has the right to use a patent that results from the SR&ED project even if the taxpayer is charged a royalty or similar fee for the use of the patent. This requirement is also considered to be met in cases where the taxpayer is entitled to distribute and market any product that results from the SR&ED project."

Per Russ Roberts: "This should be a non-issue. It has been clear for many years that claimants need not own the full rights to a product or process in order to meet the entitlement to exploit criteria."

CRA response: "This should be addressed by the Financial Reviewer. Some of the RTA's may still be confused on the issue."

# **Questions or feedback**

We welcome your questions or feedback on any issues raised in this letter. Please email dsabina@meuk.net.

We also encourage interested parties to examine past SR&ED minutes& newsletters &

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