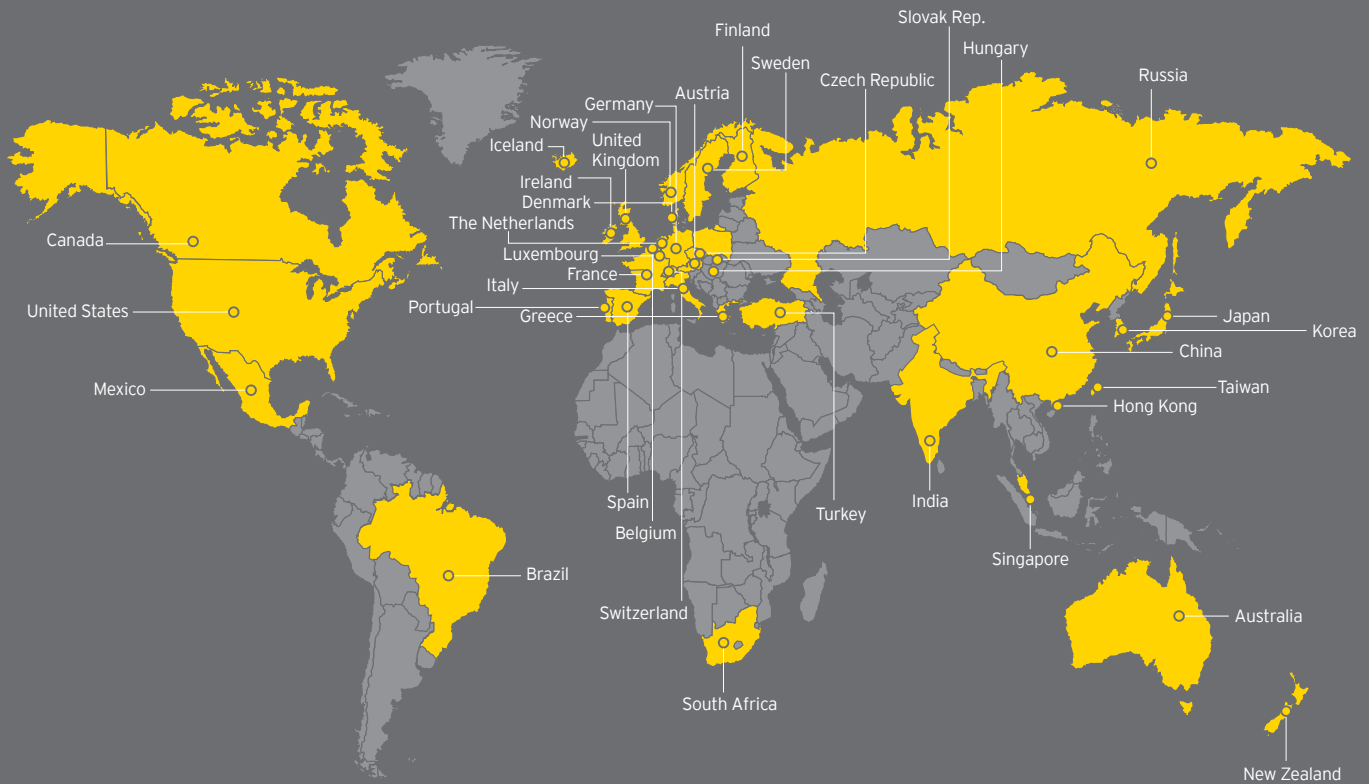




R&D incentives in the new tax landscape

Countries surveyed by Ernst & Young



Stay up-to-date with the R&D incentives landscape

Information on the R&D incentives identified in each of the 37 countries surveyed will be available to readers of this publication after 31 July 2010. To access the country summaries – and to stay up-to-date with tax incentive news and views in the future – log on to www.ey.com/researchincentives

Contents

Executive summary	04
The picture today	06
What are incentives, why do they exist and how do they work?	08
What's driving incentive policy?	16
Incenting R&D – viewing the shifting landscape	20
Managing incentives – the business impact of planning and process	26
Incentives enforcement on the rise worldwide	32
What questions are global companies asking themselves?	34
Conclusion – the impact on business	36

Executive summary

Research and development (R&D) is a long acknowledged driver of economic prosperity and competitiveness, and the prevalent view is that more private investment in R&D will yield significant social benefit.

“Spending on research and development is widely acknowledged as providing benefits not only to the firm undertaking the activity but also to the economy at large in the form of lower prices, improved products and access to new production technologies.”¹

The work done, that is considered R&D for most countries, is typically much broader than many people think; it is not limited to people working in white lab coats and it often includes large elements of new product and process development, evolution and continuous improvement. A broadly accepted definition can be found in the OECD Frascati Manual:

“Research and experimental development (R&D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications.”²

And includes Experimental Development, defined as:

“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.”³



¹ An International Comparison of Marginal Effective Tax Rates on Investment in R&D by Large Firms; John Lester, Andre Patry, Donald Adea, Working paper 2007-07 September 2007, Department of Finance, Canada. Page 1

² Frascati Manual 2002 - ISBN 92-64-19903-9 - © OECD 2002 page 30

³ Ibid



Through R&D, we learn to do things we could not do before, or to do them differently: more efficiently, more accurately or with fewer emissions. The spin-off benefits from R&D include the jobs created, the advancement of science or technology, the infrastructure that supports them, the manufacturing and services businesses that arise or benefit from the R&D and the spending in the economy of R&D employees and their families. As a result of all the good that comes from R&D, governments around the world want the work to be done in their countries. To attract the business, governments provide grants, loans, tax advantages and R&D infrastructure for companies, the work and the people who do the R&D. International companies may find

significant impacts when they add these incentives to the models they use to choose and plan where to put R&D and how best to structure the work for financial efficiency.

In early 2010, we surveyed our international network of R&D tax and incentive practitioners in order to understand the current state and recent trends in R&D incentives around the world, particularly as governments and companies are making changes to react to and grasp the opportunities that arise over the re-balancing following the financial crisis.

The picture today



We found that the world of tax incentive mechanisms around the world – as well as their administration and enforcement – is shifting rapidly. Governments are actively dealing with a wide range of enormous challenges, all of which have had a growing impact over the last decade:

- ▶ Deficits are on the rise globally and available funds must be targeted with precision.
- ▶ Climate change is a mega trend that must be addressed.
- ▶ Governments are increasingly trying to ensure that their economies are attractive and competitive from a tax perspective.

What are incentives, why do they exist and how do they work?



There are many R&D incentive mechanisms available to governments, and a multitude of variables and permutations within these mechanisms provides governments with the ability to tailor and customize their R&D programs more closely. Comparing R&D programs across jurisdictions can be a complex task and an understanding of the most common incentive mechanisms and typical variables is a key component of any R&D strategy.

Many R&D tax credits and super deductions, such as Canada's, are an exception as the only cap is the criteria for what work is eligible. The eligibility is technology independent, country wide and not capped.

Types of incentives

Tax credits

Definition

A tax credit can be defined as a dollar-for-dollar reduction of an entity's tax liability. A refundable credit is receivable in cash regardless of the entity's tax liability, whereas a non-refundable credit may only be applied against taxes otherwise payable. Non-refundable credits, therefore, only have value to entities that are profitable and taxable, whereas refundable credits benefit all R&D performers.

Examples

Canada federally provides a 20% tax credit on all allowable R&D expenditures, enhanced by 15% and refundable for small Canadian Controlled Private Corporations, and Provincial programs that may be 10% or 15% refundable.

Portugal's credit has a basic rate of 32.5% with a 50% credit for expenditures in excess of the average of the preceding two years with a limit of Euro 1.5 million.

In **Belgium**, if, after five years the credit was not used to reduce tax payable, the excess credit is refunded.

The basic **Italian** credit rate is 10%, but increases to 40% if the expenses are incurred with universities and public research organizations. Furthermore, eligible expenditures are capped at Euro 50 million per year.

Variations and directions

Common variables in addition to refundability include:

- ▶ Broad or narrow expenditure base.
- ▶ Credit rate – can be variable based on size of company, incremental R&D expenditures compared to prior years or other factors.
- ▶ Ability to carry credit forward or back to future or past taxation periods.
- ▶ Applicability to taxes other than income tax, i.e., payroll tax, VAT or other.



Super deductions

Definition

Super deduction schemes allow an R&D performer a deduction from taxable income of an amount greater than the actual expenditures incurred on R&D.

Examples

The **UK** currently has a super deduction of 130% for large companies and 175% for small- and medium-sized enterprises of eligible expenditures.

Russia allows a 150% super deduction of eligible expenditures that do not lead to the creation of results that are qualified as IP objects under the Russian civil code.

Variations and directions

The most common variables are the super deduction rate and the expenditures eligible for super deduction treatment. Countries may also impose a cap on eligible expenditures.

Accelerated capital depreciation

Definition

Accelerated depreciation allows an R&D performer to deduct expenditures related to capital items more quickly than otherwise allowed.

Examples

Canada allows a 100% deduction in the year the asset becomes available for use for capital assets used 90% or more (value or useful life) in R&D.

South Africa allows accelerated depreciation only for plant, machinery, implement, article or utensil used for an R&D purpose. The schedule is 50% in year 1, 30% in year 2 and 20% in year 3.

Variations and directions

Countries may differentiate between intellectual property and physical assets and may further differentiate based on the type of asset and whether it is dedicated to R&D. The accelerated depreciation may be a 100% deduction in the first year or may be spread across multiple years.

Grants and loans

Definition

Grants and forgivable loans are a targeted means through which governments incent R&D activities.

Examples

This incentive mechanism is widely employed by governments in each of the economy types identified.

Variations and directions

Programs are generally selective in nature, in that governments can choose which applicants will receive funds. Governments may target specific technologies, sectors or sub-sectors, types of companies or geographic regions. They may also vary the types of expenditures to which they will contribute funds.

Direct equity investments

Definition

Under equity investment programs, governments take back an equity investment in either the company or the project.

Examples

Direct equity investments can turn into forgivable loans if the R&D is not successful.

Variations and directions

Equity investments arrangements are generally selective programs and may entail income sharing with the government investor.

Patent or innovation boxes

Definition

Patent box regimes (sometimes referred to as an “innovation box”) target post-development commercial activity by providing tax relief on profits attributable to the results of an R&D projects, patents, or other intellectual property.

Examples

Currently **Spain, Belgium and The Netherlands** have patent box regimes in place, while the **UK** expects to implement a patent box system in April 2013.

- ▶ The **Belgian** patent box allows a patent income deduction of 80% of qualifying adjusted gross income.
- ▶ Prior to 2010, **The Netherlands** limited the amount of income eligible for patent box treatment (special tax rate 10%) to 4 times R&D costs; as per 2010, this limitation has been abolished.
- ▶ As of 2010, **The Netherlands'** innovation box provides a special tax rate of 5% (as opposed to the normal rate of 25.5%) on income attributable to qualifying intangible property.

Variations and directions

Patent boxes may include only internally developed Intellectual Property (IP) or may include purchased IP. Patent boxes either apply a favorable tax rate to income “in the box” or allow a deduction from taxable income of a portion of the patent box income. Governments may impose a cap on the amount of income eligible for patent box treatment. Patent box regimes are closely tied to IP policy.

Tax holidays

Definition

A tax holiday is a period of time during which no or reduced income taxes are imposed.

Examples

Switzerland may grant a tax holiday of up 100% for up to 10 years for newly established active enterprises depending on factors such as type and amount of investment, number of jobs created and regional economic planning aspects.

Variations and directions

Tax holidays may be granted to companies or individuals for varying lengths of time, and governments may target specific sectors or sub-sectors, types of companies or geographic regions. Tax holidays may be entitlement-based or selective.

Favorable sales tax, VAT or other tax treatment		
Definition R&D performers benefit from favorable treatment in respect of other taxes including sales tax, value added tax, excise tax, customs duty and payroll taxes among others.	Examples India has a number of tax relief mechanisms in place, including excise duty relief and two levels of customs duty relief for goods supplied to R&D institutes registered with the Department of Scientific and Industrial Research (DSIR), Ministry of Science and Technology.	Variations and directions The most common variables are rates and type of eligible expenditure.

R&D resource investments		
Definition Organizations that are funded by the government to undertake research academically and working with industry.	Examples Universities, university research chairs, government labs, centers of excellence, specific resources, such as particle accelerators.	Variations and directions Many governments also create an infrastructure to raise new R&D professionals and to provide low-cost, high-quality research to industry. These also serve to keep industry and academics connected so that they understand each other's needs.

Selective vs. entitlement

Selective incentive programs such as grants, equity investments and tax holidays allow governments to choose among applicants to determine who receives funds and how much they receive. This is commonly the case for grants, forgivable loans and equity investments but may be applied to other incentive schemes. Selective programs allow a government to control the amount and use of funds with relative ease.

Entitlement-based programs such as tax credits, super deductions and accelerated capital depreciation are generally legislated, and all applicants who meet the requirements of the program are entitled to receive the incentive. Governments must use the program requirements to control the amount and use of funds. Entitlement programs may be on a first-come first-served basis with a cap on funding, but generally provide a government with less certainty with respect to the amount and use of funds. Entitlement-based programs are less common in emerging and smaller economies.

Control mechanisms

Governments may use control mechanisms to achieve a number of objectives. Government funds available to incent R&D activities are limited, and governments tend to use R&D incentives to achieve other policy objectives such as job creation or development of specific geographical regions. Generally, governments are concerned with how much is spent, who receives it and what it is used for. In this section, we describe common control mechanisms employed by governments to achieve their objectives.

Common controls

Rates – varying the rate at which an incentive is earned directly impacts the value of the incentive to the R&D performer and the cost of the program to the government.

Refundability – governments use refundability as a means to control cash flow and, in conjunction with other controls, program size. As discussed prior, a refundable credit is receivable in cash regardless of an entity's tax liability, whereas a non-refundable credit may only be applied against taxes otherwise payable. Refundability may be targeted to certain types of claimants based on size or other factors. For example:

- ▶ France recently made their R&D program fully refundable.
- ▶ Australia allows small- and medium-sized enterprises (SMEs) to cash out their R&D via a refundable cash-out.

Alternate uses – a tax credit may not be fully utilizable by a claimant to reduce tax otherwise payable in the year that it is earned. Some programs allow a claimant to use the excess to reduce taxes payable other than income tax.

Caps on incentives – incentive programs may impose limits on either the incentive value or the eligible expenditures. Expenditure caps may apply to entire

claims, individual projects or specific expenditures. Caps may be in absolute or relative terms.

Carry forward or carry back – an incentive may not be fully utilized by a claimant in the year that it is earned. Some programs allow a claimant to use the excess in prior or future taxation years subject to time limits. Carry back can effectively turn a credit to cash if a company paid tax in prior years. For example:

- ▶ Canada has a 20-year carry forward for the tax credit and an infinite carry forward for the R&D deduction pool.
- ▶ The United States allows unused research credits to carry back one year and forward 20 years.

Broad vs. narrow expenditure base – the categories of expenditures that are eligible for the R&D incentive form the expenditure base. A broad-based program may include all expenditures attributable to a project whereas a narrow-based program may focus on specific expenditures such as internal payroll.

Intellectual property ownership – some programs require the claimant to own the related intellectual property resulting from the project. In the case of patent boxes, this requirement is implicit. IP ownership requirements tend to be found in larger developed economies.

Geographic restrictions – incentives may only be available within specified geographic regions.

Sector-specific exceptions – some countries disallow specific sectors to make R&D claims.

- ▶ South Africa disallows the financial sector to claim tax credits.
- ▶ Australia, Canada and the UK disallow research in the social sciences and the humanities (although testing or psychological research is allowed as support work in Canada).



“Why might you want to carry out research and development outside of your headquarters’ location? Well, one reason may be that you’re developing a new sales market in India, China or Brazil, for example. To ensure that you end up being able to develop your market, you will want to have an R&D and technical presence in that country. It’s important that the country feels that you’re actually supporting their growth and development. That way, you end up with a better partnership relationship, and that’s beneficial for everyone.”

*Nancy Palmintere –
Director of Global Tax
and Trade, Fortune 500
technology company*

Incremental

Explanation

As an on-going tax policy discussion, most R&D incentives are intended to cause more R&D to occur than would have occurred without the incentive. Some countries are concerned about incenting R&D that “would have happened anyway”; as a result, the percentage is applied to expenses above and beyond historical R&D spending for the company.

Example

The United States’ 14% to 20% tax credit is calculated on eligible R&D expenditures in excess of a calculated R&D expenditure base.

Temporary

Explanation

Few of the tax incentives are not permanent; although governments change their policies to meet their needs.

Granting programs may be established with a level of permanence or may have a stated duration or budget.

Example

The US tax credit requires regular renewal; however, over the last 20 years there has only been one 12-month period where it was not active and not instated retroactively.

Government R&D incentive policy

Governments around the world use tax programs to incent R&D⁴. In all but one of the 36 countries included in the comparison the R&D METR is negative, indicating that the tax system subsidizes investment in R&D. Indications from this global survey are that this trend is continuing and the investment is increasing.

Looking at the data it is clear that many countries use more than one mechanism to incent R&D; and that almost all countries use tax incentives. Of the 37 countries surveyed, 33 of them incent R&D through tax mechanisms. And 22 countries have a portfolio that combines multiple incentives. Tax policy theories are supportive of incenting R&D as it is understood that this is one place where the markets fail to provide the level of

benefit to the R&D performer that the society obtains from the occurrence of the R&D. Therefore, incenting R&D corrects a market failure and makes for good tax policy. Other tests of good tax policy include economic efficiency, equity, simplicity, transparency, administrative efficiency and the encouragement of incremental spending or activity. Most R&D tax incentives are based on a broad based definition of the nature of the activity and do not selectively focus on one technology or industry, and thus rank highly for equity. The survey data is aligned with the overall policy expectations, and shows that in this time of change, governments are investing more in R&D to make sure their country is well positioned for the future with a strong economy.

⁴ An International Comparison of Marginal Effective Tax Rates on Investment in R&D by Large Firms; John Lester, Andre Patry, Donald Adea, Working paper 2007-07 September 2007, Department of Finance, Canada. Page 1

The pros and cons of picking winners

Generally speaking, there are two different schools of thought when it comes to the most efficient way to incent R&D activities:

- ▶ Focus the money available for investment to get the highest return on the investment
- ▶ Provide the money available based on broad-based principles and let the free market hold the responsibility for predicting the future.

Each approach has strengths and weaknesses:

1. Focus the money available for investment to get the highest return on the investment

Picking the area where the country and the people have strengths, focus the funding in this area and consciously choose to fund chosen industries or technologies and not fund R&D that is outside of the chosen area:

Pros

- ▶ With limited funding, a critical mass can be achieved: researchers, infrastructure, community.
- ▶ Alignment of infrastructure and academic plans with the areas of funding can create synergies across the near future.

Cons

- ▶ The choice of industry or technology becomes critical for future success.
- ▶ Over time, if the markets and technology changes, much time may have passed and it is hard to change quickly; a country may find they fall behind. Projecting the future can be tricky.
- ▶ If the choice is also the choice of another country, success may depend on the ability to compete or ally that country.

2. Provide the money available based on broad-based principles

Fund R&D broadly and leave industry to choose the focus of the R&D they undertake:

Pros

- ▶ Protects the future from having missed the “winning” spot.
- ▶ Encourages a variety of businesses that may be synergistic; particularly if as many inventions arise from unusual combinations of component technologies.

Cons

- ▶ A critical mass in any one technology may not form; if it forms in another country, those businesses may move.

What our survey results show is

- ▶ There seems to be more reliance on grants and focused industries and technologies within smaller economies that may have less to invest and for whom the need for a critical mass may require focus.
- ▶ As economies become larger and more mature, there is not so much a distinct move from focused to broad-based incentives, as a move to create a portfolio effect by adding broader-based incentives.
- ▶ In the majority of the countries surveyed, we found a portfolio approach of policy instruments – taking advantage of the ‘pros’, while protecting against the ‘cons’.





Exclusions: a way to weed out certain activities

As a reverse of “picking winners,” it is interesting to look at the exclusions of some programs. Most exclusions identified are clarifications. For example, non-R&D activities such as commercial production. There are very few technologies that are excluded from the broad based tax incentives surveyed; the exception being “internal use software.” Some countries exclude internal use software from their incentive program, others have consciously kept this in the program (Canada). The US does not exclude internal use software but applies a secondary test for eligibility. Australia has reviewed their program and is currently taking legislation to Parliament that includes an exclusion of internal use software defined as:

“Developing, modifying or customizing computer software for the dominant purpose of use by any of the following entities for their internal administration (including the internal administration of their business functions):

- ▶ The entity (the developer) for which the software is developed, modified or customized
- ▶ An entity connected with the developer
- ▶ An affiliate of the developer, or an entity of which the developer is an affiliate”

Transaction-based companies (e.g., banks, exchanges, insurance) rely on the development of technologies to compete; the ability to handle more volume, faster and always be perfect on accuracy. If a country has excluded internal use software from their incentive programs, the definition used is important for IT-dependent businesses.

What's driving incentive policy?



There have been two major shifts in the last few years that continue to have a significant impact on governments' stances on R&D, over and above more traditional objectives: the financial crisis and climate change. These two events have occurred simultaneously, alongside longer term trends in the growth of emerging markets and increasing levels of tax competition around the world. As a result of all these changes, government investment in incenting R&D is on the rise globally.

Reaction to the economic and financial crisis

The economic and financial crisis has had an impact around the world. Governments have been spending "stimulus" money to support industries and fund infrastructure and jobs to stabilize their economies, with the OECD estimating that 54%⁵ of stimulus is occurring through the tax systems.

As the economic downturn deepened through late 2008 and into 2009, one of the most pressing concerns for many countries is that businesses will significantly reduce their R&D expenditures to improve their bottom line. To provide added incentive for companies to maintain their investment in innovation, and to attract new R&D activity, many countries enhanced their R&D tax credit provisions.

In all, 11 of the 24 countries Ernst & Young reviewed as part of a global fiscal stimulus study⁶ had taken some action with regard to the R&D credit at the point in early 2009 when the study was conducted. The most common approach was to increase the rate of the credit. We have also seen the introduction of new or enhanced carryback provisions, enhanced refundability options and allowance of reserves for R&D expenditures to be deducted. In some cases, R&D benefits are being particularly enhanced for SMEs.

⁵OECD Economic Outlook – Interim Report, 31 March 2009

⁶"Worldwide fiscal stimulus: tax policy plays a major role," www.ey.com/stimulus



Governments are also planning for how they are going to pay off the debts they continue to develop and have a heightened awareness of sustainable finance, as well as transparency and strong regulation. The reaction has, of course, had an impact on government funding of R&D:

- ▶ Stimulus money is directed towards both R&D and greentech/cleantech and (or) renewables that rely on R&D.
- ▶ Closer attention is being paid to the administration of large funds, including incentives and tax programs; governments want to make sure the money is going where it is intended to get the return on their investment.

The impact of climate change

Stimulating the economy is now often found hand-in-hand with measures to encourage the transformation to a more resource-efficient and low-carbon economy. That said, countries with

large amounts of stimulus dedicated to energy and cleantech (where cleantech is defined as a diverse range of innovative products and services that optimize the use of natural resources or reduce the negative environmental impact of their use) do not necessarily achieve their goals through their tax systems. For example, South Korea has the largest share of stimulus dedicated to energy and cleantech but is spending the funds on appropriations for research, training and other activities rather than to fund tax incentives. The use of grants is a more popular mechanism in the developed world, appearing as a very prominent feature of the US stimulus package and also as a means for encouraging cleantech innovation within the European Union (EU), Australia and Canada. In the developing world, such incentives take shape as soft loans for greenfield developments, often augmented by complementary international financing, designed to encourage inward investment and the growth of certain local activities.

Most of the incentives and credits are administered by the tax offices across the majority of incentive types. The exceptions are the function or project-specific grants and incentives that would be overseen and administered by regulatory bodies such as a country's energy or transportation agencies. The provisions that do not include tax office involvement are most commonly government-funded grants, bond issues and low-interest loans that support research and investment in targeted activities.

In a recent publication entitled *Renewable energy in North America; moving toward a richer mix*, Ernst & Young in co-operation with the Economist Intelligence Unit discuss industry's primary needs to be successful with cleantech: "To exploit the opportunities in renewable, their [companies] preferred ways to increase supply are direct investments in infrastructure and in research and development (R&D)."

Stimulating R&D

Because many smaller businesses have been experiencing greater cash flow difficulties related to the economic downturn, some countries have been offering enhanced R&D credit provisions for SMEs. For example, South Korea has a higher rate of the R&D tax credit for SMEs only. In Australia, there are proposals before legislators to provide a higher rate for SMEs.

In Ireland, the rate of tax credit for incremental expenditure undertaken by a company on qualified R&D has been increased from 20% to 25%. With this increase, the total tax relief available for qualified R&D expenditures in Ireland can be as high as 37.5% (when the tax credit is combined with a tax deduction available for R&D spending). An allowance for capital expenditure on intangible assets is also planned.

Some countries have added carry back provisions and refund elements to their R&D provisions. Ireland, for instance, is now allowing the carry back of excess credits to the previous year, with a refund of excess credit over a three-year period. France is offering a refund of R&D credits from 2005, 2006 and 2007 that have not been previously utilized. The R&D credit for 2008 is eligible for immediate refund if the credit exceeds tax due. The 2009 Australian budget announced adoption, from 1 July 2010, of a 40% tax credit for large companies' R&D, with smaller companies to get cash refund of 45% for their R&D, with the proposed offset also available for foreign-owned R&D.

Under Italy's stimulus decree, the R&D tax credit that was introduced in 2007 will be extended to Italian entities and branches engaging in R&D as contractors and sub-contractors of foreign principals, so long as they reside in an eligible country.

In Japan, the maximum creditable amount for certain R&D activity has been increased from 20% to 40% of the total tax due, along with an increase in the carryforward period from one year to three years.

Under the newly passed corporate income tax law, China stepped up its effort to enhance its R&D-related tax benefits for businesses. It allows taxpayers to deduct up to 150% of their qualified R&D expenditure incurred during the year. Moreover, certain taxpayers who qualify as a "High & New Technology Enterprise" can further enjoy an additional tax benefit in the form of reduced corporate income tax rate for a number of years (usually three years subject to annual review by the Government). If certified by the Government, the reduced tax rate is then set at 15%, which is a 10% reduction from China's national tax rate of 25%.

Aside from R&D tax credit enhancements, some countries have provided other incentives to encourage continued investment in R&D activities. For example, Belgium has increased retention (the portion of the salary withholding tax the employer does not have to transfer to the federal government) from 65% to 75% as of 1 January 2009. Singapore is providing a range of R&D grants and training reimbursement programs. China and Russia are allowing for greater deductions of qualified R&D expenditures for corporate income tax purposes. The Netherlands has temporarily increased the wage tax incentive (a 50% or 18% reduction of the wage tax payable) for R&D staff in 2009 and 2010.





Incenting R&D

Viewing the shifting landscape



When the current changes underway are reviewed, they paint the picture of continued increase in governments funding R&D:

- ▶ France has extended full refundability for 2009 and 2010.
- ▶ The US has just renewed their R&D tax credit, and President Obama is proposing a permanent R&D legislation.
- ▶ While the Spanish incentive was going to be ended in 2011, it is now extended indefinitely. Furthermore, the incentive rate is expected to increase in the future.
- ▶ The Netherlands recently expanded their innovation box by broadening the base while simultaneously reducing the tax rate from 10% to 5%.
- ▶ Portugal increased rates and caps in 2010 compared to 2009.
- ▶ The New Zealand has reintroduced a government grant scheme to replace the previously deleted R&D tax credit scheme, which is planned for an October 2010 start.
- ▶ The Indian budget, as passed by Parliament, has increased the super deduction rates for R&D effective 1 April 2011.

Several countries have recently added R&D incentives, including:

- ▶ South Africa in 2006, China's new incentive, Russia's new incentive and Germany's consideration of a tax regime to support R&D, which is expected to be active in three to four years. The Indian budget under discussion in Indian Parliament proposes to increase the super deduction rates for R&D.
- ▶ Italy is expecting new legislation.
- ▶ Mexico canceled their tax credit; however, it is funding R&D directly with a future program expected.

Innovation incentives in emerging economies

What role does R&D policy play in increasing an emerging nation's global competitiveness and what are the preferred mechanisms, if any? In answering this question, analysis will focus on trends in types of incentive: tax credit or super deduction, government grants and IP ownership. We also ask the questions: does it matter and are there any trends for the future of R&D policy in these economies?

The coverage of the emerging and developing markets from our survey includes nations outside the G7. This includes nations that are or would be traditionally considered "first world" countries (e.g., the Benelux and Scandinavian nations and Australia) as well as the "emerging economies" of Europe, South America and Asia (e.g., Eastern Europe, Brazil, China, India, Far East Asia).



Several core themes were evident within the data, including:

- ▶ The use of super deductions (i.e., where the total deduction available exceeds 100% of the costs incurred) as a policy mechanism for incenting R&D activities appears to be favored over other forms. 15 out of 28 countries from the survey have some form of super deduction with broad industry coverage.
- ▶ The use of direct government grants as a specific policy measure to incent and encourage certain industries was highly evident in emerging economies.
- ▶ The increasing use of patent boxes or innovation boxes as an innovative policy mechanism to retain IP was also evident.
- ▶ The requirements for the local R&D entity to own the IP in the country is of lesser importance. Of greater importance is a requirement by emerging countries to ensure that the R&D activity is conducted in the local country.

Use of super deductions

It would appear the use of super deductions is the key tax policy mechanism generally used across the emerging and developing nations in incenting tax benefits for R&D activities. By nature, these super deductions tend to be applicable across all industries and do not require the government to pick “winners,” unlike direct government grants.

For countries that do not have super deductions, there is a general trend to adopt tax credits as an alternative policy mechanism to provide a broad brush mechanism for incenting R&D. Interestingly, the use of tax credits appears to be favored mainly by the European developing countries (such as Belgium, Spain and Portugal). At the same time, countries such as Australia are considering a change from super deductions to a tax credit regime.

As nations mature and develop, it would appear that there is an increasing preference for policymakers to consider the use of a tax credit system instead of super deductions. While the policy intent and the net tax benefits of a tax credit versus super deductions would appear similar, it is worth considering whether policy legislators may be using the move from one system to another as a means to “tighten” (as is the case in Australia) or “loosen” (as is the case in Singapore, China and India) their respective R&D policies.

With the rapid globalization of policy-making stemming from the aftermath of the global financial crisis, we are starting to observe an alignment of R&D tax policies amongst many countries in the developing and emerging sector. For example, the adoption of the tax credit in Australia mirrors in many aspects the current Canadian tax credit. The enhancement of super deductions in Singapore is being mirrored in some respect by what we are observing in Hong Kong and China, where there are similar incentives being considered to rival their competitors’ regimes.

Direct government grants

For policy-makers in the emerging countries, one of the key policy objectives when considering any form of government support for R&D is the aim of the incentive. In countries such as Belgium and Australia, the use of government grants is currently used to simulate the “green” economies with significant grant funding made available for renewable energy projects. In fact, according to a recent Ernst & Young survey, incentives and grants are the most prevalent government expenditures for promoting activities related to investment in cleantech development and encourage adoption of cleantech solutions as part of the transformation to a more resource-efficient and low-carbon economy.⁷

⁷ *Cleantech and climate change: the role of tax as catalyst for change* – Ernst & Young May 2010

“From a tax policy perspective, one of the things we have seen lately – and which has captured our interest – is the increasing use of innovation or patent box schemes by a number of countries. We’ve seen that increase in the last couple of years, and, as a general comment, I would definitely say that while some countries are tougher than others in administration and enforcement efforts in this area, there seems to be a general willingness on the part of tax administrations to encourage business investment through ensuring that companies, such as ours, are making the best possible use of incentive mechanisms.”

Tax manager, major multinational oil and gas company

Government grants can also act as a supplementary form of funding for R&D activities, and are used by governments to direct funds to areas that either enhance a natural country competitive advantage (e.g., clean coal technologies in Australia, ICT in Ireland) or allow them to develop new capabilities and effect technology transfer (e.g., biotechnology in Singapore, R&D centers in Hungary).

Combined with super deductions or tax credits, this increases the level of attraction for foreign multinationals in attracting foreign R&D investment into those countries.

Use of patent (or innovation) boxes

One of the more innovative set of policies that has emerged in many countries in recent times is the concept of patent boxes. Patent boxes are characterized as a tax measure where income derived from qualifying IP is typically taxed at a lower rate than it would otherwise have been taxed. Examples include the Netherlands innovation box, with an effective tax rate of 5%, and the UK’s proposed patent box regime, which will apply 10% corporation tax on income from patents from April 2013. The use of patent boxes is currently being considered by the UK as a supplementary policy mechanism to the existing tax credit regime. As a relatively new policy measure, patent boxes still require the passage of time to gauge their overall effectiveness. However, the overall concept has merit in preserving IP ownership, especially for countries that have traditionally been known for a high level of R&D intensity (i.e., the G7 countries).

IP ownership requirements

For emerging countries, a key theme that emerged was the lack of requirements for IP to be retained in the country that undertakes the R&D. This is reflected in 67% of our responses. In many regimes, the only requirement is that the R&D activities be undertaken in the country. Compared with the G7 and smaller developed economies, where traditionally there is a high level of R&D intensity across both the public and private sectors of the economy, the survey data pointed to the opposite in a policy where 50% of total responses indicated a requirement for IP ownership to be held in the local entity to qualify for the R&D incentive. An interesting exception is Japan (a G7 country), where there is no specific requirement for IP to be held in Japan or that the R&D must be undertaken in the country to access the R&D tax credit.

For many emerging economies in Europe, Asia and South America, R&D policies are often used by policy-makers and governments to effect technology transfers (e.g., China), provide local employment, and when used in conjunction with direct funding mechanisms such as government grants, provide an overall package of incentives that can be quite powerful in attracting foreign investments into their economies.

This is best illustrated in an example where a multinational company may be looking to locate its R&D activities outside of its home country. The commercial drivers that come into play may include availability of skills, stability of government, being closer to new markets that the multinational may be looking to enter and level of government support. All things being equal, if a multinational had a choice of locations in similar proximity to one another, it is logical to suppose that the level of government support could be a key consideration that may have a significant bearing on the outcome.





Summary

What, then, are the key emerging trends that we are likely to see emerge over the next 5 to 10 years as the world becomes even more connected, and government policies increasingly become more globally aligned in their objectives?

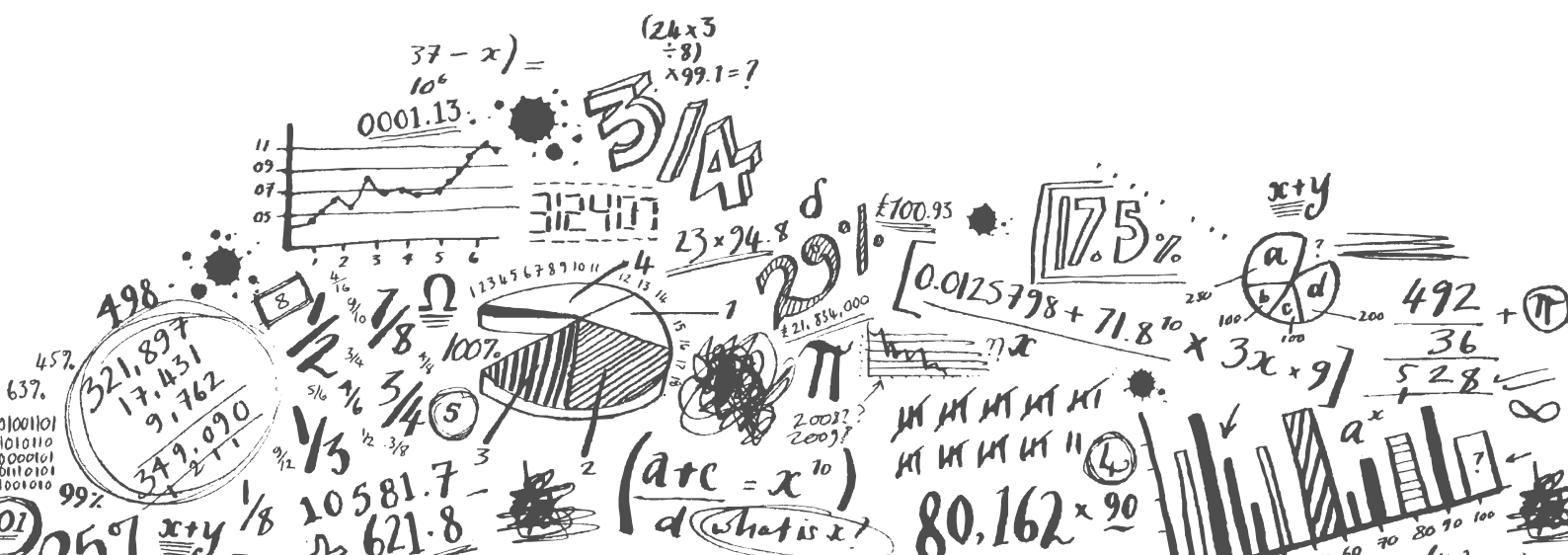
It is clear from our survey data that the R&D policy for emerging countries does play a role in attempting to boost the local country's global competitiveness. From our analysis and observations, the level of sophistication of R&D policy seems to depend on the stage within which a country's development falls. For the rapidly industrializing nations (what we refer to as the emerging countries) of South America, Asia and Eastern Europe, there appears to be a strong use of super deductions and direct government grants to provide the financial incentives to attract R&D. Also, by having a more relaxed policy around IP ownership, it enables those countries to "catch up" with the industrialized nations through technology transfers and the upward skilling of local staff, not to mention the added incentive for companies to employ local staff.

As they mature, countries tend to move away from direct government grants, and in many cases, move from a super deduction regime to a tax credit regime. We would include here countries such as Australia and the developing countries of Europe (outside the G7). IP ownership also becomes more important, and the introduction of patent boxes is an interesting move by some countries to provide a different method of incenting R&D. The policies seem to move away, over time, from the objectives of the emerging countries (around technology transfer and employment) to one of protecting IP while still providing a broad industry incentive.

At the global level, we also see the alignment of government tax policies related to R&D in much the same way as corporate tax rates, and an increased corporate tax base is shifting in a global pattern. There is now a far higher level of information-sharing and policy development occurring between various regimes around the world, and in many respects, this was accelerated as a result of the global financial crisis. There now seems to be a greater sense that governments are not only sharing data on the effectiveness of their R&D regimes but replicating leading practices that have demonstrated success elsewhere. For those in the emerging and developing nations, we expect R&D policies to be at the forefront of many countries' agendas. As a result, we are likely to see ongoing policy "tweaks" and changes for the next 5 to 10 years. For many companies, this period of uncertainty may create additional corporate opportunity. We would not be surprised for countries that previously may not have had R&D policies to also consider an R&D policy as they realize that when appropriately funded and directed, such a policy can become a powerful tool to boost a country's overall global competitiveness.

An overview of R&D incentives by country

	Some form of R&D incentive	Tax credits	Superdeduction	Patent/ Innovation box		Tax incentive	Other incentive	Number of mechanisms
Total	36	17	14	4		32	22	
Australia	✓	✓	✓			✓	✓	3
Austria	✓	✓	✓			✓		2
Belgium	✓	✓	✓	✓		✓	✓	4
Brazil	✓		✓			✓		3
Canada	✓	✓				✓	✓	4
China	✓		✓			✓		1
Czech Republic	✓		✓			✓	✓	2
Denmark	✓					✓	✓	3
Finland								0
France	✓	✓				✓	✓	2
Germany	✓						✓	1
Greece	✓		✓			✓	✓	3
Hong Kong	✓					✓		1
Hungary	✓	✓	✓			✓	✓	3
Iceland	✓	✓				✓		1
India	✓		✓			✓	✓	4
Ireland	✓	✓				✓	✓	2
Italy	✓	✓				✓		1
Japan	✓	✓				✓		1



Managing incentives

The business impact of planning and process



In undertaking R&D tax relief claims, companies should consider the planning required and the processes to be followed to ensure that the value of the benefits is fully captured. The specific requirements will depend on the jurisdiction involved; however, the key points for consideration are often consistent across jurisdictions. The data required to make an R&D claim, how the specifics of local policies impact these data requirements and the processes and frameworks that should be considered to safeguard its collection should all be core parts of the decision-making process.

Data requirements

In preparing to make R&D claims, consideration must be given to the supporting evidence required on both the financial and scientific aspects of eligible projects. Companies must be able to substantiate the level of relief claimed, through the provision of supporting scientific and costing data.

From a scientific perspective, documentation to support the eligibility of projects is often a legislative requirement. Technical project reports describing the eligibility of projects are often used to demonstrate how the activities of a project meet the definition of R&D for tax purposes in each country. This typically includes technical project objectives, the base level of knowledge in the public domain, advances sought and the related technological uncertainties. These descriptions are often used as supporting scientific evidence to the tax authorities. Documentation arising as the project progresses to validate the points made in a project description is another expected review requirement. In addition to the scientific evidence required to support R&D tax claims, data showing the costing categories under consideration and evidence that tax legislative requirements are met is often required.



“We’re in the process of globalizing our R&D incentives thinking because, where the business is flexible, identification of local incentive programs and research initiatives can benefit the wider business. For example, when we look at selection criteria for a particular research center or significant research project, the availability of tax incentives is definitely a driver. This is looked at in conjunction with a wide range of other important variables, such as our tax position in a particular country, or the availability of highly-skilled personnel, and these are obviously key factors. With respect to personnel, India is a good example – while R&D incentives may be in place in India, more important is the huge pool of technically

qualified people to work with. Conversely, the availability of different types of incentives can sometimes be the primary driver; we’ve had examples where, because of our tax position in a particular country and the incentives on offer, it has actually made a lot of sense to us to place some of our research activities there. For example, refundable tax credits, such as the recently announced scheme in France, makes investing in the country more interesting. While I know that a lot of countries are targeting this type of incentive at small and medium-sized enterprises, I think it’s a good mechanism for business, particularly in the current economic climate.”

Tax manager, major multinational oil and gas company

Understanding specifics of local requirements

When planning data collection, it is important to give consideration to the specific review and audit processes that may be required under different jurisdictions and that the presentation of the data must reflect the audience undertaking the R&D claims review. In some jurisdictions this will be a tax inspector for both the financial and scientific elements of the R&D tax claims, while elsewhere, audits may be carried out by other government bodies or independent experts in the field. This can often impact the granularity of data required, specifically for the level of scientific or technical detail that a reviewer will want to understand.

The volume and format of data that must be produced when making R&D claims also varies by jurisdiction. In some cases the number of technical reports to be produced is prescribed, as are the specific formats. For example in Canada, all projects being claimed must have a written report describing how the project activities for which a claim is being made meet the Canadian definition of the SR&ED program. Other countries choose only to provide recommendations on the data that should be available using broad topic headings, and it is typically only upon inquiry that specific supporting documentation needs to be provided.

Summary of R&D administrative procedures in a sample of countries

Country	Costing documentation required	Scientific documentation required	Filing requirements	Audit procedures
Canada	Claims must be filed and complete within 12 months of the deadline for income tax filing. All claimed projects must be documented in the correct format, including a project description of technical eligibility: advance, obstacles, work done in the year, answering specific questions, and a summary of the expenditures claimed in some of the cost categories relating to that project. Other financial schedules are also required.	Claims must be filed and complete within 12 months of the deadline for income tax filing. All claimed projects must be documented in the correct format, including a project description of technical eligibility: advance, obstacles, work done in the year, answering specific questions, and a summary of the expenditures claimed in some of the cost categories relating to that project. Other financial schedules are also required.	Claims must be filed and complete within 12 months of the deadline for income tax filing. All claimed projects must be documented in the correct format, including a project description of technical eligibility: advance, obstacles, work done in the year, answering specific questions, and a summary of the expenditures claimed in some of the cost categories relating to that project. Other financial schedules are also required.	These incentives are considered something taxpayers should be taking advantage of, such that the tax authorities play a helpful role in the claiming and audit process. The incentives are treated the same as any other tax rules, as they are strictly enforced and audited like other expenses; however, there is variability amongst individual reviewers in terms of how the program is administered. The tax authorities do audit the expenditures incurred and the eligibility of the activities undertaken.
France	In order to benefit from the French R&D tax incentives, a company must fulfill the claim on the appropriate administrative form (No. 2069 formular). It typically requires less than one hour to fill out the form, but it requires that the eligible R&D projects have been identified in advance and the relevant expenses tracked.	<p>There is no legal requirement to provide any scientific justification that expenditure qualifies for the R&D tax incentives available. In case of an inspection, companies should look to support the amount of the tax credit with appropriate scientific documentation to convince the regulatory authorities that the claim is robust.</p> <p>Very often, the documentation is done on a yearly basis and is kept by the company to be produced in case of an inspection.</p>	The taxpayer is not required to seek government pre-approval in order to benefit from the incentives. The authorities can be notified that a company wishes to submit a claim and have a four-month delay to transmit its authorization. A non-response stands for an approval.	The incentives are considered something taxpayers should be taking advantage of. The tax authorities may engage in an inspection at any time. They may audit the expenditures incurred on the R&D programs and audit the eligibility of the activities undertaken in the R&D programs (sub-phase by sub-phase).

Country	Costing documentation required	Scientific documentation required	Filing requirements	Audit procedures
Italy	In order to benefit from the Italian R&D tax incentives, a company has to file a form (FRS form), which is required to document the amount of tax incentive being claimed.	There is no legal requirement to submit any documentary evidence that the work undertaken is eligible. However, a company must keep documentary evidence in case of inquiry, aimed at demonstrating the nature of the projects undertaken, as well as the nature and the amount of qualifying expenditure associated with each project. The expenditures incurred should be certified by an accounting auditor or other accounting professional.	The availability of the credit is subject to approval from the Italian Revenue Agency. It is largely dependent upon public budgets. An initial budget for the credit was exhausted further to the "Click Day" in May 2009, where companies were required to submit a claim via the internet through the FRS form and public funding ran out within a few minutes. Additional public funding, available for 2010 and 2011, was introduced in Budget Law 2010. Under Budget Law 2010, a regulatory decree should also be issued by the Italian Ministry of Finance, which should assess how the aforesaid funding could be used and may also determine the eligible entities and projects, as well as the criteria for its utilization. As the decree has not been issued yet, the aforesaid aspects are still uncertain and significant changes to the former rules may be expected.	The incentives available are treated the same as any other tax rules - they are strictly enforced and audited like other expenses. The tax authorities can audit the expenditures and the eligibility of the activities incurred and undertaken. In auditing the incentives, the tax authorities may also make use of the support of technicians from the Italian Ministry of Economic Development, if necessary.
Luxembourg	In order to benefit from the R&D tax and innovation incentives, a company has to file an information form together with the formal state aid request. The information form constitutes various different categories: general information, description of the project, the company's engagements and a signed agreement/statement of truth regarding the integrity of the claim. The company is also required to produce a list of the suggested qualifying projects and the corresponding estimated project expenditure, a balance sheet in relation to the most recent financial year, current legal organizational structure, banking identity and the company by-laws.	The company may be requested to produce further documentation relating to the scientific activities undertaken.	In order to qualify for the relief, a request must be submitted prior to expenditure being incurred. It must be noted that the beneficiary loses the right to the incentives granted if the project or program is abandoned or sold before the end of the timeframe agreed with the Government, or before the expiry of a five-year period following the granting of the cash allowance. If the corporation or organization does not utilize the investments realized for the foreseen purposes or it does not use them at all, the beneficiary also loses the right to make a claim. In such cases, the beneficiary will have to reimburse the incentives received.	The responsible authority for the evaluation of the funding request is defined by the government.

Country	Costing documentation required	Scientific documentation required	Filing requirements	Audit procedures
Spain	In order to benefit from the Spanish R&D tax incentives, a company must include the enhanced deduction in their corporation tax return (Form 200/201) for the relevant period. There is no legal requirement to include any more detailed or granular costing documentation within the claim.	In order for expenditure to be eligible for R&D tax relief, it must relate to a qualifying R&D project, which must satisfy the definition of R&D for tax, and the work undertaken must be documented.	Companies can obtain a binding certification issued by the Ministry of Science and Technology, or any other appointed organization, in order for activity to qualify for R&D and IT regime, but this is not compulsory. The certification is legally binding with regard to the Spanish tax authorities. A company can also request binding consultation from the tax authorities regarding expenditure to qualify as incurred on R&D or IT projects.	Allowances are strictly enforced and audited like other expenses. The tax authorities audit the expenditures incurred and the eligibility of the activities undertaken.
United Kingdom	In order to benefit from the UK R&D tax incentives, a company must include the amount of qualifying expenditure and corresponding enhanced deduction in their corporation tax return (CT600) for the relevant period. There is no requirement to include detailed or granular costing documentation within the claim. The company may however be requested by Her Majesty's Revenue & Customs (HMRC) to provide costing schedules that detail how the eligible expenditure qualifies within the eligible costing categories and that the legislative requirements have been adhered to. Some companies provide this documentation to HMRC proactively.	As is the case with costing, there is no requirement to provide specific scientific justification that expenditure qualifies for the R&D tax incentives available. The company may be requested by HMRC to produce documentation showing that the expenditure and qualifying projects claimed satisfied the definition of R&D for tax purposes. Some companies produce reports to substantiate their claim in a proactive manner.	The claim must be filed within the company's CT600, up to two years after the end of the accounting period to which it relates. As a company's actual CT600 is due one year after the end of the accounting period to which it relates, an R&D claim filed after this date must be filed within an amended CT600.	Tax authorities play a role in the claiming and audit process. The incentives are treated the same as any other tax rules; they are strictly enforced and audited like other expenses. The tax authorities audit the expenditures incurred and the eligibility of the activities undertaken.

Managing your submission framework

The timing of data preparation and submission for claim purposes is also important. Companies should consider both the legal requirements and practical implications of when data should be collected to ensure that an effective R&D claim is possible.

Prior to undertaking an R&D tax claim, companies may wish to consider the level of R&D tax relief that is available and how this would be carried out. In some countries, particularly emerging economies, there are requirements to declare and agree the eligibility in advance of making R&D claims. Even when this is not the case, many regimes require evidence of some level of R&D planning.

It is recommended that companies undertake contemporaneous data capture for financial and scientific aspects of projects that may be eligible for relief. This ensures that sufficient accuracy and detail can be captured. Frameworks and systems can be built on existing business processes, implemented to facilitate data capture and in turn reduce the overhead it entails. Using such frameworks, a repeatable process can be employed to support claims in future years.

If data capture is left until the year end, data quality may be compromised. This may be due to forgotten detail, employees leaving the company or the resource impact of retrospectively collecting, reviewing and reformatting the data. In this case, the likelihood of tax authorities inquiring into the claim is increased, significantly increasing the costs involved. Tax authorities in some countries take the view that documentation compiled at the end of the year is neither sufficient nor adequately robust to support a claim.

Careful consideration needed

The topics discussed above highlight the need to carefully consider the prospect of making R&D claims at the earliest opportunity. Appropriate consideration of the documentation requirements in advance will reduce the overhead they generate and increase the ability to increase the level of benefit. Developing robust, repeatable frameworks and methodologies has been proven to reduce this burden, and having been successfully agreed with tax authorities across many markets, can help to further increase the benefit of making an R&D claim.

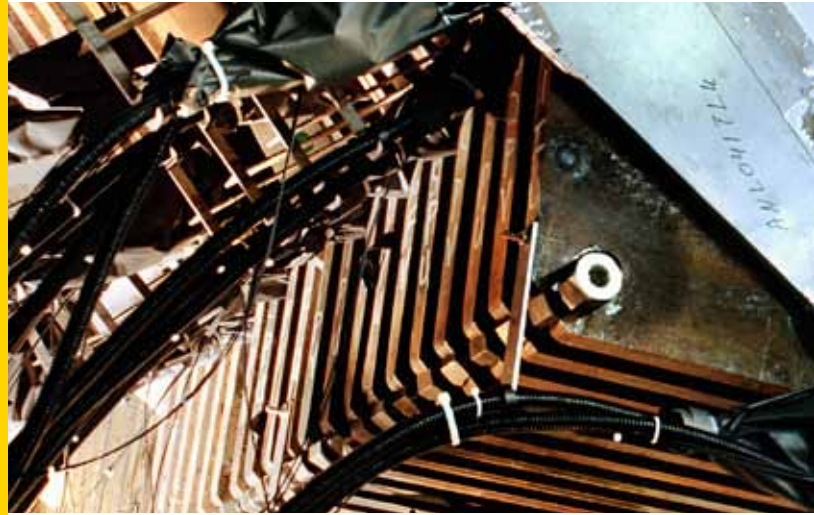
"A great deal of our research takes place in a number of specialist R&D hubs around the world, with the output of this research being made available to all parts of the global business on a cost-sharing basis, but in addition to this centralized work, individual centers across the world also carry out independent R&D activities. This wide spread of activity makes getting my arms around the global research efforts more complex, and monitoring what activities are occurring and where they are being undertaken, takes some effort! But for us, if we can meet this challenge to ensure we can derive the most benefit from all of the R&D activities from a tax perspective, it can really offer our business significant value.

In fact, with our global R&D efforts in mind, we are just starting a pretty major project to help us to identify, monitor, capture and process all of the available R&D activities

in the most efficient and manageable way. As part of this project, we are looking to build in robust processes and put in place frameworks to capture the right data, at the right time, to support our claims. The broad range of technical activity in the oil and gas industry makes centrally mapping the R&D efforts a real challenge, and it becomes very important for us in the tax function to work with our engineers and technicians to raise their awareness that their work has valuable, commercial benefits to the wider business from a tax as well as an engineering perspective. Due to the nature and spread of the business, this is not always straightforward, but it's something we think is really worth our effort, particularly as by engaging with the technical teams, we can make sure our processes are really robust and we are making fair and accurate claims."

Tax manager, major multinational oil and gas company

Incentives enforcement on the rise worldwide



The global financial crisis has put a strain on corporate profits, reducing tax revenues around the world. Together with the cost of fiscal stimulus measures, the downturn has resulted in historic budget deficits in many countries. Governments around the world now need to balance their books and, as a result, enforcement and resulting tax controversy is on the rise across virtually every tax type.

The impact has been keenly felt in the area of incentive mechanisms. As an example, non-refundable credits only have value to entities that are profitable and taxable whereas refundable credits benefit all R&D performers. As companies around the world now start to emerge from the crisis and generate profit, there is an increase in the overall volume of applications for these credits. Companies, however, are finding the world to be a very different place from how it was before; claims that were previously signed off by tax administrations and governmental bodies are now rejected for a multitude of reasons.

Common themes emerge

In China, a significant rise in enforcement across the range of incentives mechanisms has been visible in just the last few quarters; whether on issues of process, documentation or interpretation, an R&D deduction is becoming increasingly difficult to obtain. In addition to the difficulty in obtaining approval in the first place, SAT (the Chinese Tax Authority) is increasingly auditing prior applications in this area. Both current applications and examination of prior applications are being seen across the super deduction and, increasingly, in the high technology sector where enhanced relief is available for companies that meet the requirements to become a “high technology enterprise.” In the Guangdong Province, for example, an initial wave of the cross-examination that are by the tax authority has resulted in more than 30 companies being disallowed of this new technology enterprise status.

United States – a largely consistent message

In the United States, meanwhile, the message is largely consistent, although with some significant differences. Many companies, for example, are expressing that there is a disconnect between what the R&D incentives legislation was intended to do – to encourage innovation and be taxpayer friendly – and the enforcement efforts that are being taken by the IRS. A number of years ago research credit claims filed were made a “Tier 1” process in the United States. This was largely due to a concern about claims filed by way of amended returns late in the audit cycle with different degrees of documentation.



In response to claims in this area becoming a Tier 1 issue, companies are now finding that the enforcement tools and information requests used to audit the claims are being used for research credits claimed on the original returns. There are also concerns about increased documentation requirements by the tax authorities beyond regular business practice, and for which standards do not exist. The result is a disallowance of the credit, not based on the facts, but based on perceived lack of documentation. Challenges arise when documents and people involved in the research may not be available, and this is particularly problematic if the IRS is examining many years in arrears. The result is an equation where companies are challenged by not having a clear picture of the requirements and the tax administrator is not issuing clear internal or external guidance on other issues, creating a vicious circle that is undermining the overall R&D policy of the United States. The problem is compounded by the fact that the research credit is a temporary credit that is continuously being extended, so part of the challenge for companies is that putting in systems to identify all of the qualified research expenses for all of their activities is very expensive, and it is difficult to justify if there is no assurance that the program will continue for at least the next 10 years.

With the recent announcement of five-year net operating loss carryback provisions from 2009, many more companies are now wishing to take advantage of the credit in order to leverage the appropriate credit. This will result in an increased strain on a system that is already struggling to manage currently capacity.

United Kingdom

The experiences of companies in these examples certainly resonate with companies that are making claims in the United Kingdom, where the last 18 months or so has seen a significant shift in emphasis by HMRC. Significantly more resources in relation to R&D claims have been put in place, which has meant that companies are now being faced with more regular audit challenges around claims.

The UK system operates on a self-assessment process, where claims are automatically paid with HMRC reserving the right to audit the claim. Reflecting advice that is consistent around the world, companies are finding the highest levels of success in making claims when they engage with HMRC upfront and

agree to a methodology, processes and documentation that are relevant for the particular company well in advance of the claim being made.

A silver lining

While heightened enforcement may initially be perceived as a negative, it does, in fact, help ensure that the correct funds are targeted at the correct projects. This, coupled with the way in which it encourages companies to develop robust, repeatable frameworks means that there is a silver lining.

Although the rising enforcement and tax controversy in the incentives arena is different in each local market, the strategy and tactics that can be used to try and reduce the possibility of controversy occurring are largely consistent irrespective of where claims are being made.

- ▶ It is imperative that when planning data collection, full consideration of the specific review and audit processes that may be required under different jurisdictions is made. Local guidance around R&D incentives continues to shift and staying up-to-date with local frameworks is important.
- ▶ The quality, volume and timing of data preparation and submission for claim purposes is of key importance. Companies should consider both the legal requirements and practical implications of when data should be collected to ensure that the appropriate amount of research credit is possible.
- ▶ As tax authorities around the world search for certainty and efficiencies in much the same way as companies do, they are creating more and more pre-filing resolution processes. Staying up-to-date and leveraging these processes wherever possible is a key method of reducing controversy risk. Whether “whole return” processes, such as Annual Compliance Agreements in Australia and Horizontal Monitoring in the Netherlands or rulings, define and manage single issues such as Pre-filing Agreements in the United States, the appropriate amount of research credit can be agreed to before the return is filed. These pre-filing processes will play a bigger and bigger role as enforcement trends continue to strengthen around the world.

What questions are global companies asking themselves?



Where is the best place to put my R&D now?

Companies that are reviewing decisions to locate R&D generally look at a hierarchy of factors:

The right resources and environment

- ▶ Talent pool
- ▶ Political and economic stability
- ▶ Quality of infrastructure – telecoms, transport, etc.

The lowest cost

- ▶ All-in, after-tax cost

What does this mean to a company when selecting a jurisdiction?

One of the top three concerns for finding a location for an R&D center is selecting a location with the right resources. The “right resources” generally means educated and capable people in a stable and supported environment. Much can be determined through a review of the post-secondary educational institutions in a country and the success of their students. Once this is assured the choice between short-listed jurisdictions becomes the best return on investment (ROI) and lowest all-in, after-tax cost.

Of all my options, which is the lowest cost?

To a company looking to position R&D in a country, the all-in, after-tax cost generally includes labor, facilities, overheads, taxes, R&D incentives, other tax and non-tax incentives, and tax holidays (which may in themselves affect labor costs). The incentives offered by governments and municipalities are many, and as well as adding up benefits, they also make calculating the reliable and potential after-tax dollar more complicated.

To simplify these complexities, using overall criteria to narrow the options will help to reduce the number of countries and regions requiring the detailed analysis of after-tax cost, with a projection typically made across a five-year timespan.

Will this still be the right place for us in five years time?

Adding the impacts of a country strategy and long-term investment plan to a location analysis can help position a venture where it will benefit from the spin-off of the country's other investments, such as university and research institutions, or communities of interest, as well as benefit from the other incentives. This also helps to position the company in a country where the company's activities may align well to activities the government is currently supporting; making it more likely to continue to be the right location for several years to come.

Similarly, some companies locate their development in communities where they can benefit from the infrastructure for their technology; for example, Silicon Valley in the United States. For longer term plans, it is helpful to consider if your R&D is in one area or technology, and what the likelihood is that it may change and broaden. For example: across the last few years, telecom convergence has moved away from wires, phones and analogue voice towards fiber and light, microwaves, computers and digital video. In some cases, identifying a particular alignment with a country or regional priority may make talking directly to the governments beneficial.

Looking more deeply, the analysis is improved when the policy and choices in “picking spots” or “broad-based incentives” is studied, as this will also reflect the overall government direction and policy and is reflective of fundamental investment and thus after-tax cost over time.

- ▶ Knowing the physical investment that a government has made confirms direction; for example, if a country has recently invested in a particle accelerator, they are planning to maintain that R&D focus for the life of the investment (16 to 20 years).
- ▶ A government's focus on small companies and creating “communities of interest” or “zones” may

fit well with locating start-ups, or businesses with a model that benefits from teaming with start-ups.

- ▶ The types of mechanisms used to incent R&D will reflect the longevity of the commitment the government has made to the policy direction.
- ▶ Understanding the exclusions from R&D incentive programs can be an indicator.



“At Intel, just like other big companies, we don’t idly put an R&D facility in one place, then receive another fabulous offer elsewhere in the next year and move on. Typically, when we have sited a facility, it’s the beginning of a long-term relationship. Assuming all of the usual factors – personnel, rule of law, security, infrastructure and so on – are such that it’s advantageous for us to be there, we will want to continue to be there. We spend a lot of time and effort with these countries trying to help them develop mutually beneficial rules designed to attract that next tranche of R&D development. We don’t want an incentive program which entices you to be there on day one only. You want to make sure that the program operates in such a way that if you want to do another R&D project or increase your R&D facility, there’s some sort of incentive or help to make sure that that next tranche makes sense and will be rewarded.”

*Nancy Palmintere –
Director of Global Tax and Trade,
Fortune 500 technology company*

The rise of patent boxes appears to be focused on making a difference to the overall development and product lifecycle costs, encouraging the future of R&D (commercialization/manufacturing) to occur in the region.

How should we organize our R&D globally?

Many global companies undertake R&D globally; that is to say their R&D is undertaken in multiple jurisdictions. These companies have organized their R&D globally, and continually re-organize globally, bringing into focus the comparison of different countries or regions for different people strengths, types of R&D work, expenditures and synergies for different technology directions. Understanding the nature of the R&D, the regions and the governmental directions, policies and incentives helps remove the guess work from organizing globally.

How do I make sure I’m getting the best return on investment on my R&D?

For companies with existing R&D groups where R&D is a part of normal business activities and continuous improvement, there are opportunities to reduce your costs through existing and new incentives.

The incentive map is generally not simple, with governmental portfolios of both tax and non-tax incentives often overlapping across a business project, affording a company the opportunity to choose the best incentive, the easiest incentive or possibly stack the incentives to improve the overall benefit received. Some incentives are forward-looking and require pre-approval; most tax incentives are backward-looking and have time limits. A review of available incentives, what they are incentivizing and the processes for obtaining them can be very helpful in mapping incentives’ value to your ongoing or potential projects.

Many companies (as well as some governments) have realized the complexity and the difficulty of mapping incentives to a business’ activities. With the investment in stimulus, climate change and R&D, there is certainly value in investing the resources to estimate the impact on your business. This includes knowing that the significant opportunities are being taken advantage of.

Remembering that different countries are incentivizing slightly different behaviors and outcomes, there is of course a global opportunity to carry out a review of incentives. For some companies, where the impact is large, there are opportunities in organizing or re-organizing existing global R&D or development projects, and it is possible that only minor shifts in elements of work across countries can make sure that the work in countries is eligible for that country’s incentives, or that eligible work in one country can easily be relocated into a second country with a more appropriate, favorable R&D and incentive regime.

As a second step, when the payback is large and the incentive is enshrined in law, it will likely make sense to invest in “doing it right” by enhancing existing business systems to ease the application and defense process.

Conclusion

The impact on business

Our survey results would seem to indicate that governments around the world are very aware of the changes and challenges facing them in such an uncertain macro environment, and almost without exception, they are revisiting their structures and support mechanisms to enhance their domestic R&D growth engines. In the vast majority of cases they are broadening and enriching overall incentives and indeed this includes, the United States where, alongside a wide range of other significant tax policy shifts, the spotlight is starting to focus more tightly on what might be done to bring the US Research Credit regime more into line with new and innovative regimes available elsewhere in the world.

Broadly speaking, we are seeing that the more sophisticated a country's economic development model, the more (and more innovative) mechanisms they have for incenting R&D. Most countries now include both a broad based program of super-deductions or tax incentives based on the nature of the work being performed, and grants and incentives designed to focus funds into more targeted areas where the country can control the region, industry, and technology. Considering that up to half of economic growth has been tied to the creation of new products and new technologies, most countries have taken the position that differentially investing in new technologies – particularly broad-based technologies – makes sense, even in the current economic climate. Many of these investments have been borne out by stimulus measures, where countries proactively targeted stimulus funds at particular sub sectors and company types, including governments as diverse as South Africa, Ireland and Germany.

Commonalities of approach aside, a review of data illustrates just how fluid the trends of R&D investments really are; whether due to globalization generally or frustration with traditional regimes, some two-thirds of R&D spend now occurs outside of North America and an increasing percentage is occurring in emerging markets – estimated to be up to 20% of \$1.2 trillion annually. Within this phenomenon, the “early adopters” of R&D incentives are now widely seen as being out of touch, because of their non-permanent, typically incremental and heavily enforcement oriented regimes. In contrast, we now see countries exhibiting behaviors which clearly invite industries much more into the fabric of their economy for the long term, as opposed to focusing only on short term, monetary/cost reduction needs. Companies, for their part, continue to say that a wide range of selection criteria needs to be considered when determining a location for significant R&D investments. In response, many countries are increasingly shaping their incentives in such a way that emphasize a broad and long-term focus of supporting cost efficiency needs as well as infrastructure, education, security, intellectual property and other needs of the companies they want to see make a home within their borders.

At the same time that these incentives are being made available in a highly targeted nature, we are also seeing that enforcement by taxing administrations is also becoming heightened. The general perception is that far from wishing to scale back overall levels of R&D support, these heightened enforcement levels have at their core a desire to ensure that limited funds are targeted at the right development projects in order to support future economic growth. None-the-less, these enforcement trends do translate into a need for increased rigour and robustness of internal frameworks for managing innovation incentives within a corporation.

The globalization of R&D

- ▶ The top 5 countries, all of which are G7 members – United States, Japan, Germany, United Kingdom and France – accounted for 66% of global R&D spend in 2007
- ▶ The United States share of 2007 R&D fell to 33% from 37% four years earlier
- ▶ The percentage of R&D activities carried out in non-OECD countries is now close to 20%, more than double the 1995 percentage
- ▶ 22% of scientific research articles are now multi-country collaborations, three times more than in 1985

With all the competition for R&D spend between countries and regions, it does make decisions for placing new facilities or relocating existing facilities increasingly complicated. Remembering that the general definition of R&D goes beyond the white lab coat work that most people think of, R&D incentives can have a significant impact on where and how facilities are invested in and also whether those facilities are increased in size over time. In common with the shifting flows of capital from West to East and from North to South, there are many new players with worthwhile offerings who are keen to attract – and keep – global companies to their shores. While policy shifts in this area seem to remain highly fluid, it underscores the need to understand not only what the current incentives and enticements are, but also their strategic direction in these countries.

When looking to build new facilities or relocate existing ones, we suggest that companies should work very closely with their internal and external teams to look more broadly, plan for the longer term, and reach out to understand the direction governments are taking and the impact that will have on their investment decisions. Where decisions between regions remain, companies should undertake a holistic analysis to compare the true after tax costs.

Where facilities already exist, with all the current changes we are seeing in the R&D incentives arena, the timing is right to allocate appropriate resources to review the opportunities to further reduce the after-tax cost of product development, engineering improvement initiatives, climate-change initiatives, and also to protect grants and claims with efficient enhancements to existing systems. Trends in R&D are shifting at an increased speed, and staying up to date with tax policy and tax administration processes is key, not to mention managing the challenges of maintaining a beady eye on internal developments as your company executes on a rapidly-shifting business agenda.

Contacts

Jim Hunter

jim.hunter@uk.ey.com
+44 (0)20 7980 0989

Global Director –
Business Tax Services

Frank Buffone

fbuffone@uk.ey.com
+44 20 7951 1991

Europe, Middle East,
India and Africa

Katsuko Shioya

katsuko.shioya@jp.ey.com
+81 3 3506 2411

Japan

Anthony Mondoro

anthony.mondoro@ey.com
+1 732 516 4274

Americas and Global
R&D Leader

Robin Parsons

robin.parsons@au.ey.com
+61 8 9429 2251

Asia Pacific

About Ernst & Young

Ernst & Young is a global leader in assurance, tax, transaction and advisory services. Worldwide, our 144,000 people are united by our shared values and an unwavering commitment to quality. We make a difference by helping our people, our clients and our wider communities achieve their potential.

Ernst & Young refers to the global organization of member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. For more information about our organization, please visit www.ey.com.

© 2010 EYGM Limited.
All Rights Reserved.

EYG No. DL0298

This publication contains information in summary form and is therefore intended for general guidance only. It is not intended to be a substitute for detailed research or the exercise of professional judgment. Neither EYGM Limited nor any other member of the global Ernst & Young organization can accept any responsibility for loss occasioned to any person acting or refraining from action as a result of any material in this publication. On any specific matter, reference should be made to the appropriate advisor.

About Ernst & Young's Quantitative services (QS)

Ernst & Young's Quantitative services (QS) practice offers a scalable set of services to assist clients with a formalized and systematic approach to analyzing tax opportunities typically related to large data sets. We help clients analyze the specific facts of their business operations on a global basis, identify various tax regulations and realize the potential benefits that can be attained. Our well-informed practical advice can include, but is not limited to, assistance with:

- ▶ Accounting methods and inventory – advising on the application of tax rules and regulations related to income and expense recognition. Primary areas include: capital assets, revenue recognition and inventory among other items.
- ▶ Research incentives – identifying tax incentives associated with a company's qualifying research activities, including national and regional credits and enhanced deductions for research expenses.
- ▶ Flow-through – where required, we offer tax advice related to partnerships, joint ventures and other tax flow-through legal entities.
- ▶ Capital assets and incentives – our technological capabilities help to streamline fixed asset analysis and identify tax deductions.

Our tax planning offerings can help clients improve cash tax flow, where appropriate, create refund opportunities and help plan for cash tax and effective tax rates in future years. By helping to streamline clients' tax compliance on a local and global level, we use our experience and our technology tools to help develop an efficient and effective approach to making claims in a manner acceptable to tax authorities. It's how Ernst & Young makes a difference.