Article: R&D Tax Incentives: Which Work?

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Draft: 1

We all know the intention behind R&D tax incentives: to drive real innovation, which will lead to new inventions and technological breakthroughs that will drive the economy and benefit mankind. A noble aim, but is it always the result?

The Different Types of Incentives

Let’s start by breaking down the different kinds of research and development incentives currently available.

Patent boxes

These are reductions to tax rates applying profits on intellectual property, software, copyrights, and other intangibles assets. The rates on these profits may be reduced to 50% statutory tax rates, sometimes less.

Tax credits

These are reductions to tax liability on spending for qualifying research and development activities. The point of these credits are to incentivize discovery and innovation. Examples of qualifying activities include research and experimentation relating to new or improved function, performance, reliability, or quality. (Source= https://www.irs.gov/pub/irs-pdf/i6765.pdf)

Special deductions

Sometimes known as “super deductions”, these are special reductions to a company’s tax liability for R&D expenses, and they allow companies to deduct more than the value of their R&D costs when calculating taxable profits.

Government grants and loans

These are amounts of money given by the government to fund R&D activities. The loans need eventually need to be paid back, either partially or in full, while the grants do not. However, recipients of federal grants will likely be audited to ensure the company is meeting the agreement of the grant awarded.

Differences in Application and Distribution

Like most legislation, tax credit qualification, amounts, and distribution all differ greatly from country to country. In Canada, for example, a company may be awarded an immediate full deduction in the year in which the R&D costs were incurred, and a one-year carryforward for unused deductible expenses. The attractive quality here being the immediacy of the asset, as opposed to an amortization, such as the one the US may adopt, which would mandate spreading the the deduction out over years.

Australia has arguably the most generous R&D tax credit of all 18 OECD countries that have one. For companies with less than AUD $20 million total revenue, there’s a 43.5% refundable tax credit for eligible expenses. For company’s above AUD $20 million in revenue, it’s a still quite decent 38.5% non-refundable tax credit applicable to max of AUD $100 million. A refundable credit, to distinguish, is one which can produce a refund even when a taxpayer does not have a tax liability, while a non-refundable credit can only take the tax liability to zero.

The definitions for what counts as eligible expenses, and how the tax credits may be used, also varies worldwide. Some countries, like Germany, apply their tax credit only to salary and wages of workers engaging in certain qualified activities. Ireland gives company’s the option of directly reimbursing the employees engaged in qualified work, but do not allow a corporation to offset the amount against their tax liability.

Five countries in the OECD – Czech Republic, Mexico, Portugal, Spain, and the United States – aim to incentivize long term investment in R&D by targeting incremental expenses, rather than allowing a full volume credit to the year in which the expenses were tallied.

BEPS

If the aim of R&D credits is truly to fuel innovation, then recent research done by economists does not bode well for this goal.

The economist Bodo Knoll and coauthors (<https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3484384> ) found that companies that increase their R&D activity in response to incentives in one country actually offset that activity with reductions in other countries by affiliates of the same MNE group. “Globally,” they found, “forms hardly respond to changed R&D tax incentives. Similarly, economist Rachel Griffith and her coauthors (<https://www.sciencedirect.com/science/article/pii/S0047272714000103?via%3Dihub>) found that patent boxes lead companies to shift patents to jurisdictions with lower tax rates.

Enter BEPS, the Base Erosion and Profit Shifting initiative, proposed by the OECD. This series of fifteen “action items” is aimed at discouraging companies from potentially taking advantage of lower taxed nations, and (legally, for the most part) avoiding paying taxes in which they are truly operating.

The OECD’s Modified Nexus Approach demands that companies benefitting from patent boxes, for example, must have R&D activities in the same jurisdictions in which their IP and intangibles are owned. There is now the fear that companies may wholesales move their R&D to the low-taxed jurisdictions to comply, while still essentially operating from high-tax areas.

The Curious Cases of Estonia and Sweden

Two nations have bucked the trend entirely and grant no special deductions nor tax credits at all. Estonia and Sweden rely more on government and public funding to directly invest in R&D. In 2017, for example, the Swedish government doubled the percentage of GDP invested by other OECD nations by funneling .113% of it into business R&D spending. They also ditched the time limitations on carryforwards for NOLs, or net operating losses.

For Estonia’s part, they have a 0% corporate tax, giving it the misattributed reputation as a tax haven. Instead, they slap a 20% tax on profits when they’re distributed to the shareholders. They follow Sweden’s lead on removing the limits on loss carryforwards too.

Give to Get Back

Another obstacle to fulfilling the R&D dream of pumping up innovation is the fact that it can require tremendous resources to fund the qualifying activities in the first place. Patents cost money, and additional employees must be hired and paid to document the activities and monitor them. Between 2017-18 in the UK, 90% of the R&D relief was claimed by large companies.

A report by Pamela Sommers, professional services senior manager with Thomson Reuters, indicates it’s, “not uncommon for a company to leave 10% to 30% of its credit unclaimed due to the expense and difficulty of effectively documenting it.”

Advancements in software, including AI technology, may level the playing field somewhat. AI can do in moments what may take tax professionals weeks. Less resources invested in manpower, less hours of labor demanded from employees, the relative ease of documentation using these programs, may lower this barrier of entry to even attempting to claim R&D credits, no matter how they’re ultimately used.

Which Incentives Work?

If the answer were clear, this article would’ve been much shorter. Unfortunately, detailing the challenges to pinpointing some statistics of “authentic” R&D tax incentive reinvestment is, to say the least, elusive. The resources required to even apply are significant, and while software is beginning to level the playing field and remove some barriers of entry, the monitoring and documenting of qualifying activities is daunting enough to prevent many companies from even trying to claim them. It goes without saying that discouraging businesses from applying is itself absolutely a factor in measuring their efficacy in terms of innovation.

Measures to discourage companies using R&D incentives mostly or solely to decrease tax liability and increase revenue, though obviously always at play in claiming them, including the OECD’s Modified Nexus and BEPS initiative, seem to contribute to more innovation-oriented investment. However, simply focusing on the punitive steps taken against companies concerned with reducing their tax liability does not speak directly to the strength of R&D incentives to catalyze new R&D.

Studies have been done which indicate that yes, simply put, R&D tax incentives have a real effect on R&D spending. According to Vox EU, “Across [20 OECD countries], industries and firm of different size, 1 unit of R&D tax support is associated on average with around 1.4 units of R&D investment,” ([Effectiveness of R&D tax incentives in OECD economies | VOX, CEPR Policy Portal (voxeu.org)](https://voxeu.org/article/effectiveness-rd-tax-incentives-oecd-economies)) with the impact greater for smaller firms than larger ones. Breaking it down further, the report indicates, “R&D tax incentives stimulate current R&D expenditure – R&D labor costs and consumables – only in the case of small and medium-sized firms, while they induce more capital R&D expenditure and outsourced R&D for firms of all sizes.”

“I would say the R and D tax credit is probably the most powerful,” says Daniel Bunn of the Tax Foundation. But, he makes clear, this isn’t the end of the conversation. “There are plenty of other tools policy makers can lean for enhanced innovation,” he says. Most notably, ensuring students are being prepared adequately, and that they’re encouraged to pursue STEM degrees. He also warns that recent US proposals to amortize R&D credits would be “running the opposite direction” of the intent of the incentives.

Bunn has also added his voice to those calling for the US to adopt a more neutral tax system, like Estonia’s. By removing carryforward limits on losses, for example, companies will not worry about their incentives expiring before they may see the benefit of the extra expenditure. Further, more direct investment by the government, as is done in Estonia and Sweden, may show good faith support in R&D, and inspire more and new R&D work.

In short, if the goal of supercharging the economy through technological breakthroughs and discovery is the aim of these incentives, while we have glimpsed the potential in the current incentive programs around the world to achieve these ends, there remains significant room for improvement. Remove limitations on benefits, reduce barriers to application, simplify the system, and we might very well reach those lofty goals to which so many proponents of R&D pay lip service.