

# SUBMISSION TO SENATE STANDING COMMITTEE INQUIRY INTO THE TREASURY LAWS AMENDMENT (RESEARCH AND DEVELOPMENT TAX INCENTIVE) BILL 2019 [PROVISIONS]

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## About Per Capita

Per Capita is an independent public policy think tank, dedicated to fighting inequality in Australia. We work to build a new vision for Australia based on fairness, shared prosperity, community and social justice. Our research is rigorous, evidence-based and long-term in its outlook.

We consider the national challenges of the next decade rather than the next election cycle. We ask original questions and offer fresh solutions, drawing on new thinking in social science, economics and public policy.

## About the authors

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## Executive Summary

Australia has seen a significant decline in research and development (R&D) spending for over a decade. While most other advanced and middle-income economies are seeking ways to capture gains from the current technological wave by increasing R&D spending, Australia has seen a year on year decline in R&D intensity since 2008. R&D intensity, measured by gross expenditure on R&D as a % of GDP, currently stands at nearly 25% below the OECD average; 1.789% compared to 2.367%.<sup>1</sup>

We are failing to keep up with our global peers, to such an extent that Treasury Deputy Secretary Meghan Quinn in a speech last year warned that Australian industries were slipping behind in the adoption of new digital technologies and superior management skills: "Australian firms have fallen behind firms at the global productivity frontier over recent years".<sup>2</sup>

It is within this context that the government has, over the last two budgets, cut more than \$4 billion from R&D tax incentive scheme in the budget. The Treasury Laws Amendment (Research and Development Tax Incentive) Bill 2019 (the Bill) will reduce spending by another \$1.3 billion.

Per Capita believes, alongside the almost uniform response from academia and business representatives, that the Bill is corrosive to our economic position. Such reductions in our R&D assistance schemes are at odds with current trends in other countries, anathema to firms looking to make high value R&D investments, and detrimental to finding a solution to the ongoing productivity slump. The rapidity with which changes are made to R&D funding schemes is particularly challenging for those wishing to invest.

### **As such Per Capita recommends against passing The Bill.**

If Australia is to capture the gains of the ongoing technological revolution and translate those gains into high quality jobs and equitable economic prosperity, we believe a systematic and broad rethink of R&D schemes is required. We go further, making a range of recommendations regarding a broader range of R&D issues.

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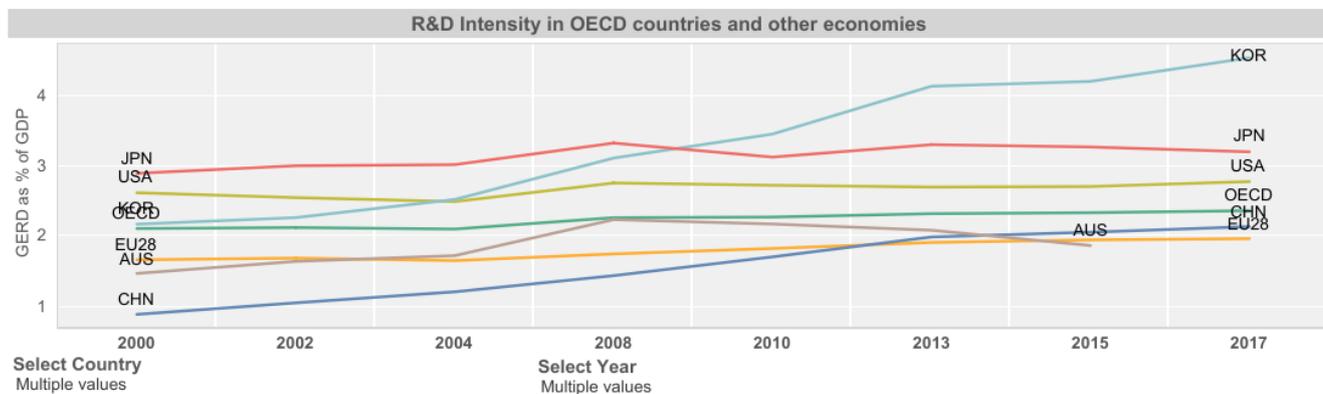
<sup>1</sup> OECD (2020), Gross domestic spending on R&D (indicator). doi: 10.1787/d8b068b4-en (Accessed on 03 March 2020)

<sup>2</sup> <https://www.afr.com/technology/wages-hurt-by-low-tech-adoption-and-less-job-switching-20190619-p51zbc>

## Australian R&D support in context

Our country lags well behind much of the industrialised world when it comes to investing in R&D, both through state funding and private capital investment. As a result, Australia ranks just 22nd in the world on the Global Innovation Index – and we’re going backwards.<sup>3</sup>

As Figure 1 shows, Gross expenditure on R&D (GERD) in Australia has diverged from the global trend and is rapidly falling behind the most innovative and competitive economies of the OECD. Indeed, while the average is now close to 2.5%, many countries with innovative economies, such as Austria, Germany, Japan and Korea have increased their GERD ratio to well above 3% of GDP.



Source: OECD estimates based on OECD Main Science and Technology Indicators Database, August 2019.

Figure 1. Comparative R&D Intensity.

Australia, by comparison, has seen a declining investment in R&D since 2008. Over this time, the governmental commitment to R&D has fallen by almost a quarter, from around 2.25% in 2008 to just 1.79% in 2017.

Similarly, where and how that declining share of Australia’s research investment is spent has been changing (Figure 2). Applied STEM fields such as IT (33.99%), Engineering (25.12%), and Medical Sciences (11.88%), receive almost three quarters of all research funding, whereas pure fields like Mathematics (0.84%), Physical Sciences (1.13%) are mostly ignored. Most concerningly, given the growing dangers of climate change, Environmental Sciences receive less than 2% of all R&D funding.

<sup>3</sup> <https://www.globalinnovationindex.org/userfiles/file/reportpdf/gii-full-report-2019.pdf>

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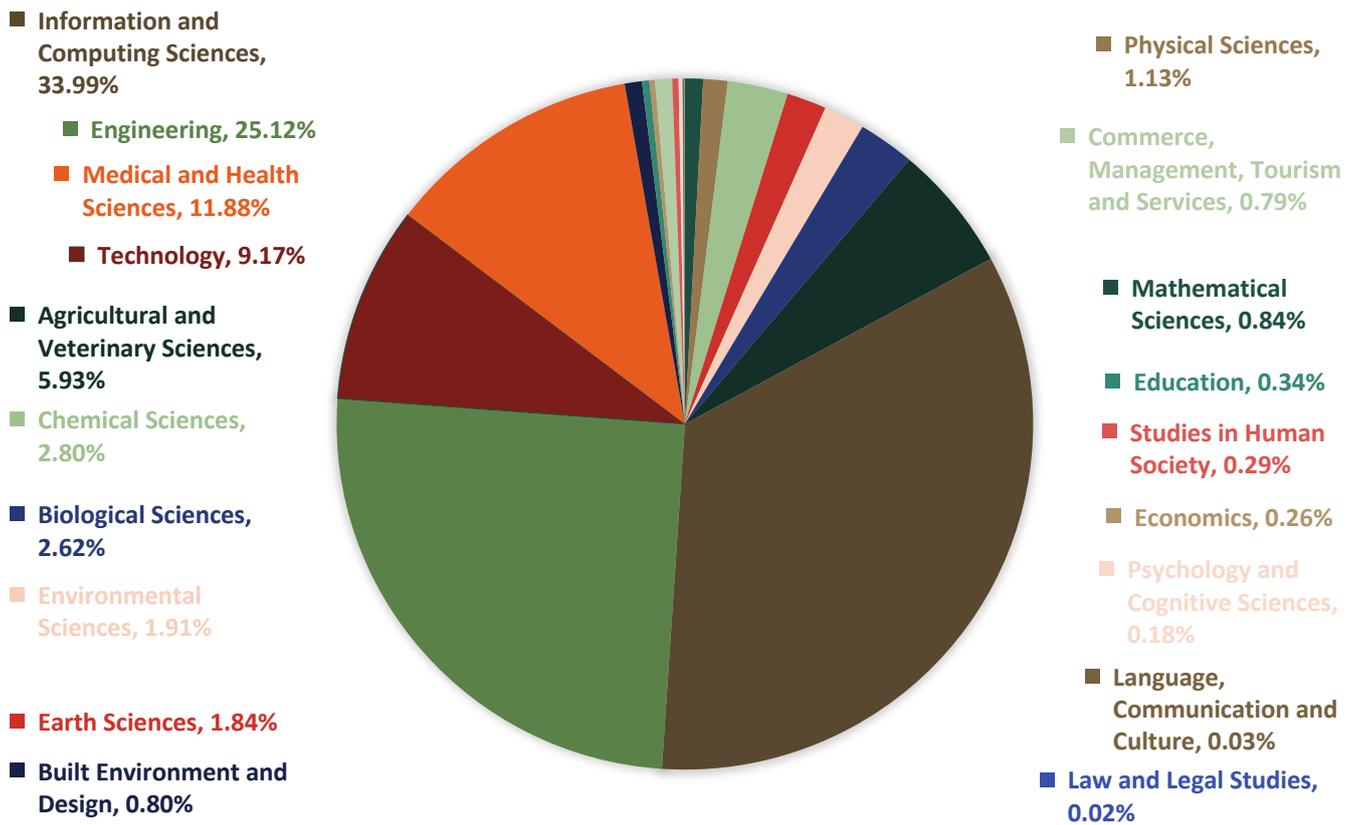


Figure 2. Total R&D Distribution, by Field of Research. Source: ABS 8104.0

Further, KPMG's chief economist, Brendan Rynne, calculated that real spending on R&D declined 0.7% in just the 2018-2019 period. "As a driver of innovation, the reduction in R&D investment is not a good sign for an economy already struggling for productivity growth," he said.

The Productivity Commission also recently identified the lack of R&D investment as one of the reasons for sluggish productivity rates. In the year 2018-2019 multifactor productivity dropped below the 5-year average to just 0.4%, while labour productivity fell to -0.2%.<sup>4</sup>

Indeed, while public discussions of innovation policy and practice are ramping up, the portfolio is being abandoned. Government budget allocations to R&D, while historically rising in line with broader trends, have actually been essentially static or declining since 2009. Overall government spending on R&D has dropped over 5% in real terms between 2011 and 2018.<sup>5</sup>

<sup>4</sup> PC Productivity Insights: Recent Productivity Trends, February 2020

<sup>5</sup> [https://stats.oecd.org/Index.aspx?DataSetCode=GBARD\\_NABS2007#](https://stats.oecd.org/Index.aspx?DataSetCode=GBARD_NABS2007#)

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The latest budget was relatively sparse on scientific investment, with the total spend on the industry, innovation and science portfolio projected to be just over \$45 million over the next three years, front-loaded with almost \$31 million to be spent in the 2019-20 financial year.

The 2018-2019 federal budget made specific reductions to R&D. These include the abolition of the \$3.9 billion Education Investment Fund; nearly \$50 million removed from entrepreneurship and industry research programs; and \$389 million worth of cuts to future allocations for university research, the CSIRO, and research grant programs.

The Australian Academy of Sciences responded to the budget by highlighting the “counterintuitive” desire to reach a budget surplus, while at the same time making “damaging cuts to Australia’s research programs.”<sup>6</sup> Despite the overwhelming hostility to the RDTI amendments in the Bill, the Australian Government appears to prefer chasing the chimera of a budget surplus, at the cost of our future economic position.

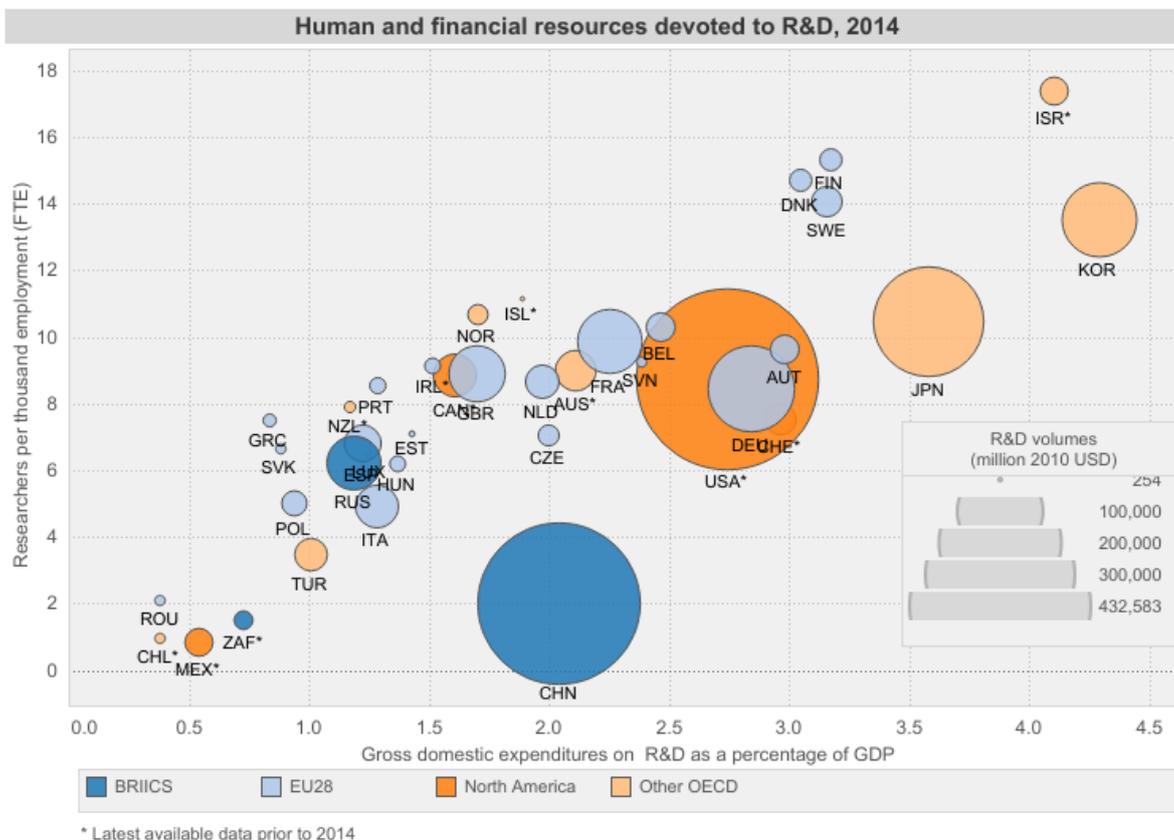


Figure 3. Comparative R&D Resources. Source: OECDStat.

<sup>6</sup> <https://www.science.org.au/news-and-events/news-and-media-releases/mixed-news-science-2019-20-budget>

Governments the world over are seeking new ways to capture the gains of next generation technology, and many advanced economies see this as a means to reverse the trend of slowing productivity.

Several countries have established innovation funds for disruptive technology firms. France for example, has established a US\$13 billion Disruptive Innovation Fund to increase the number of start-ups pushing the technological frontier in firms operating in France. This will increase the annual spend by government on tech start-ups from US\$170 million to over US\$530 million.

Ireland similarly has allocated hundreds of millions in their Disruptive Technologies Innovation Fund. The EU is planning to spend EURO100 billion on R&D in the "Horizon Europe" project, focusing on disruptive technology. Their forecasting suggests that for every EURO100 invested they will return EURO850 to the European economy within the decade.<sup>7</sup>

We believe that it is essential that such programmes be studied in detail to assess their applicability for the Australian context.

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<sup>7</sup> <https://euraxess.ec.europa.eu/worldwide/india/european-commission-proposes-100-billion-eur-research-innovation-budget-2021>

## The Research and Development Tax Incentive (RDTI)

The R&D Tax Incentive is the central plank of the government's private sector R&D assistance programme. Nearly all government support for firm-level R&D comes through the R&D Tax Incentive (RDTI); currently it accounts for 89.5% of all government support to the private sector R&D.<sup>8</sup> Roughly two thirds of the RDTI goes to companies with turnover lower than \$20 million, making it the single biggest support scheme to support Australian start-ups.<sup>9</sup> This is why it is so critical to get this support mechanism right.

The RDTI is the successor to the R&D Tax Concession, which was originally established as an uncapped program providing a 150% tax deduction for eligible expenditure on R&D from 1985. Originally introduced as a temporary measure, in the 1992-93 Budget the then-Labor Government announced that it would be continued indefinitely. In 1996, the 150% deduction was lowered to 125 % and the eligibility criteria were tightened.

In 2011, the RDTI was introduced, with a rate for small and large entities of 45% and 40% respectively. In 2016 entitlements under the scheme were reduced by 1.5%.

Under the current RDTI, entities engaged in R&D are currently eligible for:

1. a 43.5% refundable tax offset for eligible entities with an aggregated turnover of less than \$20 million per annum, provided they are not controlled by income tax exempt entities
2. a 38.5% non-refundable tax offset for all other eligible entities (entities may be able to carry forward unused offset amounts to future income years).

### Rate changes

Small firms will see a reduction to 41% total refundable tax offset. Under the proposals in the Bill, entities with aggregate turnover of less than \$20 million can claim equivalent of the corporate tax rate (currently 27.5% for small businesses) plus a 13.5% incentive component. This will be refundable up to a cap of \$4 million (excluding clinical trial costs).

<sup>8</sup> <http://www.oecd.org/sti/rd-tax-stats.htm>

<sup>9</sup> <https://crossroads.startupaus.org/analysis/regulatory-trade/r-and-d-tax-incentive>

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Entities with aggregate turnover greater than \$20 million will be eligible for a non-refundable incentive at the 30% corporate tax rate, plus a tiered incentive component applied incrementally as shown below.

R&D expenditure as a percentage of total business expenditure	Incentive component
0-4%	4.5%
4-9%	8.5%
>9%	12.5%

This means that companies on the 30% corporate tax rate, with R&D expenditure over 9%, will receive a 42.5% offset. This is an improvement over the 38.5% currently available, but it only applies to a very small number of firms. In effect it punishes lower levels of R&D spending: for companies with R&D expenditure below 4%, the tax incentive will drop a full 4% to 34.5%.

## The effect of the Bill

### Small firms

R&D tax incentive specialist, Daniel Ronai, has calculated that the impact on both small and large firms will be significant. He points out that the new changes mean that smaller companies will see an “an effective reduction of just over 15% in their benefits”.

For smaller firms, the reduced refundable component is could be the difference between viability or failure. StartupAus, the industry group for start-up and companies in Australia argued that “there is a serious risk that a depleted RDTI could begin to cripple Australia’s burgeoning start-up sector at a critical time.”<sup>10</sup> They report that the uncertainty in long term support for R&D creates a further association of R&D with risk, which is leading firms to “self-censor” R&D funding.

Industry, Science and Technology Minister Karen Andrews, and Treasurer Josh Frydenberg have both been criticised by firms and the press for telling companies that they should “back themselves” by investing more in R&D,<sup>11,12</sup> rather than rely on government support. These comments were particularly galling for start-ups and small businesses for whom capital constraints are often particularly challenging.

### Large firms

Two thirds of large companies using the scheme fall into the 4% group according to industry analysts, meaning a significant effective shrinking of the scheme. R&D tax incentive specialist, Daniel Ronai puts it succinctly; “An applicant in the 4% or lower R&D intensity would have been spending \$1 million previously and received \$85,000, but now that same applicant with the same expenses would receive \$45,000”.<sup>13</sup>

<sup>10</sup> <https://crossroads.startupaus.org/analysis/regulatory-trade/r-and-d-tax-incentive>

<sup>11</sup> <https://www.afr.com/technology/government-defends-r-and-d-law-changes-20191209-p53i4h>

<sup>12</sup> <https://www.smh.com.au/politics/federal/not-a-good-sign-australia-s-r-and-d-investment-slips-against-developed-peers-20190826-p52kvd.html>

<sup>13</sup> <https://www.aumanufacturing.com.au/rd-tax-disincentive-counting-the-cost-of-last-weeks-proposed-changes>

While the principle of the tiered system may have been to encourage greater spending, it is a blunt tool in this regard. Some businesses simply cannot intensify their R&D spending by nature of their products and production methods. For those companies the Bill can only represent a cut in assistance.

The tiered arrangement also makes planning more challenging as it is difficult to precisely calculate at the time of investment, the ultimate tax benefit. This can only be calculated by carrying out of end-of-year financial calculations. As such the new arrangement may even retard long-term R&D investment, putting off firms for whom the uncertainty is either too great a risk, or for MNCs who can carry out research in more conducive tax regimes overseas.

BDO Partner Nicola Purser has suggested that the tiered design appears to be a deliberate attempt to reduce the uptake of the scheme: "It can only be assumed that the measures will disincentivise Australia's miners, manufacturers and agribusinesses from accessing the program, and therefore are not targeted at increasing R&D but are purely a cost-saving measure."<sup>14</sup>

### Retrospectivity

Another significant problem with the Bill is the approach of retrospectivity. If enacted, the Bill will take effect for income years commencing on or after 1 July 2019. An unknown number of companies will have made investments into ongoing R&D projects based on the previous level of support. Retrospectivity in this case treats companies punitively for investing in R&D.

*Box 1: Commentary from StartupAus on the impact of the bill on start-ups<sup>15</sup>*

The (RDTI) program has become a vital piece of infrastructure in the start-up landscape.

Reduced access for start-ups is likely to result in:

- A reduction in working capital for high growth technology start-ups
- Lower growth rates for affected companies
- Lower hiring rates for software development firms
- Decreased R&D output as support diminishes
- Failure of some companies, including particularly R&D intensive businesses counting on a reliable source of R&D support
- A reduction in Australia-based R&D by global companies
- A contraction in the number and quality of Australia's new technology businesses

<sup>14</sup> <https://www.afr.com/policy/tax-and-super/astounding-r-and-d-tax-changes-slammed-again-20191205-p53hco>

<sup>15</sup> <https://crossroads.startupaus.org/analysis/regulatory-trade/r-and-d-tax-incentive>

Export diversity

Another specific concern over the lack of governmental R&D support is in our shallow export profile which relies heavily on primary goods such as unprocessed minerals and agricultural goods.

In light of the changes to the RDTI, Monash University economist Jakob Madsen said R&D was a critical part of moving the economy away from the mining sector, which has led productivity gains and dominated exports, while crowding out investment in globally competitive firms in technologically advanced industries: "The Australian economy is far too undiversified; deriving a large part of its foreign income from a few minerals and agricultural products."<sup>16</sup>

This great need to invest in greater export diversity becomes strikingly clear in Figure 4 and Figure 5, which contrast the export profiles of Australia and Canada. Australian exports are dominated by simple mineral and agricultural goods with low levels of processing. Minerals, processed and unprocessed metals and unprocessed agricultural products account for roughly two thirds of the total exports.

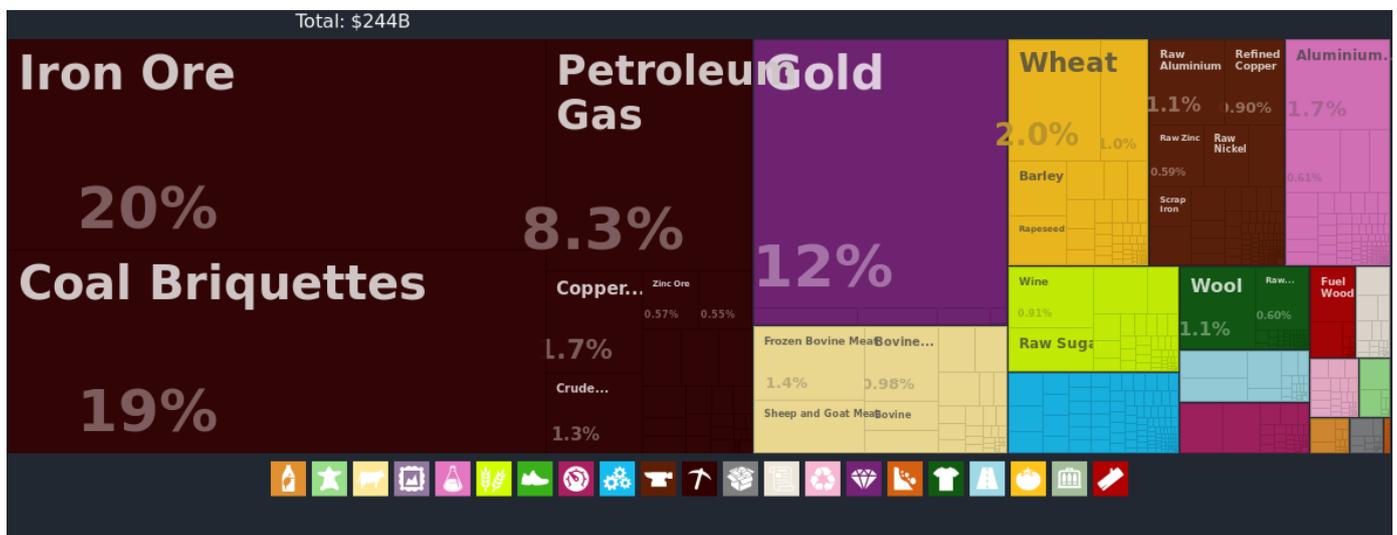


Figure 4. Australian Export Profile.

Canada by contrast has a far more sophisticated export profile, with only one third accounted by basic materials and the majority being complex machinery such as turbines, automotive and aerospace components, complete cars and aeroplanes, computers and many others.

<sup>16</sup> <https://www.smh.com.au/politics/federal/not-a-good-sign-australia-s-r-and-d-investment-slips-against-developed-peers-20190826-p52kvd.html>

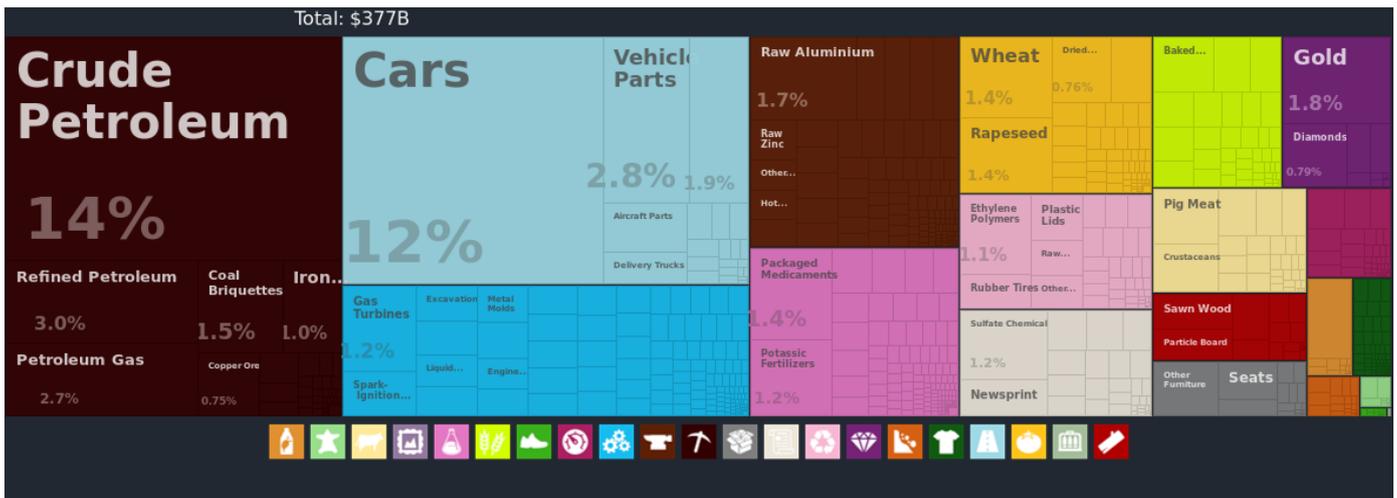


Figure 5. Canadian Export Profile.

### Ignoring expert advice

Finally, and perhaps most concerning, this Bill runs against the recommendations of the Senate Economics Legislation Committee, which said in its 2019 report on tax amendments:

*"On examination of the proposed \$4 million cap on the refundable tax offset, the committee believes that it would benefit from some finessing to ensure that R&D entities that have already made investment commitments are not impeded unintentionally."*<sup>17</sup>

Indeed, despite the committee's expressed reservations that the Bill in its current form would merely reward those who were already investing in R&D, instead of encouraging and stimulating further investment into innovative R&D programs, the Bill remains unchanged.

<sup>17</sup>[https://www.aph.gov.au/Parliamentary\\_Business/Committees/Senate/Economics/TLABMultinationalsTax/~/\\_media/Committees/economics\\_ctte/TLABMultinationalsTax/report.pdf](https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Economics/TLABMultinationalsTax/~/_media/Committees/economics_ctte/TLABMultinationalsTax/report.pdf)

## Recommendations

**We propose that the Bill not be passed and that the RDTI be frozen pending a review of R&D support programmes.**

Failing this, we support the following measures:

1. Disassociate the rebate from the corporate tax rate. Reinstating previous model of 45% for small entities and 43.5% for large entities. This will allow more long-term certainty for companies looking to project R&D spending into the future regardless of changes in tax rates of the government of the day; and
2. Remove the tiered incentive component.

However, this Bill fails in its primary object to increase investment in R&D programs that can support a diversification of our export profile and stimulate our economy. We believe that given the persistent low levels of R&D investment from both government and business, the government should immediately instigate a comprehensive review of R&D funding. Such a review would need to take into account direct and indirect funding in both public and private, academic, and business contexts. We also recommend that the government establishes a bi-partisan task force to explore the potential of for an Australian disruptive technology fund.

Additionally, we recommend that the government increases funding streams specifically for start-ups. While the Early Stage Venture Capital Limited Partnership (EVCLP) programme does improve conditions for firms seeking early investment, it is inadequate for making Australia an attractive location for start-ups. We believe that that targeted R&D direct assistance presents an opportunity for the government to assist in the transition high quality jobs in the post-carbon economy.

Similarly, we must reinvest in university research budgets. Government spending on R&D is at an all-time low of 0.5%, following the A\$328 million reduction in university research budgets to fund regional education. This compares to an R&D spending high of 0.75% in the early 1990s.<sup>18</sup>

Furthermore, in so far as direct government R&D is concerned, we believe that the imperative to commercialise research should be reduced. During the major economic restructuring required during the transition to a post-carbon economy, it is important to recognise the difficulty of commercialising research. New solutions and innovations may not be incremental but require long-range exploration and thus long-term timelines.

Finally, the government should immediately remove the staffing cap on the CSIRO and substantially increase funding across the board, in order to stimulate and expand the productive capabilities of our premier scientific research institution.

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<sup>18</sup> <https://www.afr.com/policy/health-and-education/what-australia-can-learn-from-france-on-higher-education-20190227-h1bsc7>