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Why the Research and Development Tax Credit Needs Fixing

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WHY THE RESEARCH & DEVELOPMENT TAX CREDIT NEEDS FIXING

Timothy V. Addison*

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ABSTRACT

On October 3, 2008, President Bush signed H.R. 1424 into law, thereby retroactively renewing the Research and Development Tax Credit and extending it through December 31, 2009. This marked the thirteenth time Congress renewed this provision of the Internal Revenue Code. In recent months, President Obama has proposed that this tax credit should be made permanent, evidenced by his 2010 fiscal year budget.¹ Supporters of this tax credit tout this provision as being integral to promoting a vibrant economy and fostering research and development investment activities. The Congressional Budget Office also believes that the technologies generated through the research and development tax credit will impact other fields of industry.²

Yet, this credit does not effectively accomplish these admirable goals. Instead, it creates taxation inequality among private firms and needlessly subsidizes research and development activities that, because they were already economically viable, would have been pursued anyway. It also creates a trial of paperwork and accounting calculations that can date back more than twenty-five years. This tax credit promotes aggressive accounting tactics, huge legal and consulting fees for private firms, and astronomical litigation fees in defending the claimed credits. Simply stated, this credit does not work as Congress had intended.

INTRODUCTION

The R&D tax credit is claimed by over 15,000 firms operating in every state and in every industry.³ In 2007, the R&D tax credit reduced total tax revenue by 4.6 billion dollars. In 2008, it is expected to cost roughly 5.9 billion dollars.⁴ It is also estimated that it will cost approximately 75 billion dollars to make this credit permanent.⁵

¹ J.D. 2009, Indiana University – Maurer School of Law; B.A., 2006, University of Michigan, Ann Arbor.
² CONGRESSIONAL BUDGET OFFICE, FEDERAL SUPPORT FOR RESEARCH AND DEVELOPMENT, at vii, (2007) [Hereinafter CBO].
⁴ Id.
Yet, in 2007, the R&D tax credit accounted for less than 4 percent of the government’s total appropriations of R&D expenditures.6 Private industry spending on R&D activities was 199 billion dollars in 2004 – almost more than double what the federal government spent on R&D.7 Following, the federal government annually supports less than 2 percent of all private industry R&D with the tax credit.8

Part I of this paper will discuss the history of the R&D tax credit. Specifically, this section will discuss the reasons for the creation of the credit and the theoretical benefits of this credit on the economy as a whole (the spillover effect). This section will then conclude with an analysis of the effects the tax credit has on R&D spending.

Part II of this paper will examine R&D tax credits in foreign countries, detailing the types of tax incentives in other countries and their net effects on increasing aggregate R&D activities.

Part III of this paper will summarize various sources and past contentions that this credit is inefficient and ineffective. Further, this paper will contend that the U.S. Government should repeal the R&D tax credit and replace it with a system of grants that are aligned with public policy goals. Because the government already issues many research grants, including the type of research and development grant proposed above, there is considerable evidence that this approach would be more effective than the current tax credit. This section will then acknowledge that, due to political pressures, it is not feasible to actually repeal the R&D tax credit. Accordingly, this section will argue that the statutory language of Section 41 should be re-drafted to narrow the scope and applicability of the credit. In doing so, the R&D tax credit

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6. In 2007, the federal government appropriated 137 billion dollars to research and development activities. CBO, supra note 2, at 6.
7. Id. at 3.
will become less of an afterthought, and instead will do what it is actually intended to do: 
increase the total aggregate research and development activities in the United States.

I. THE RESEARCH AND DEVELOPMENT TAX CREDIT AND THE SPILLOVER EFFECT

In 1981, President Reagan signed into law the first tax credit that specifically was 
designed to promote research and development activities. While the initial language of this bill 
has been modified many times over the past three decades, the concept upon which the bill was 
based – the idea that investment in research and development in one economic sector encourages 
the growth of technology in other sectors – remains intact. This phenomenon is often referred to 
as the *spillover effect*.

A. The Spillover Effect

The spillover effect asserts that society benefits from greater research and development 
activities. “The private rate of return for R&D often is substantially lower than the total return.”
9 Simply stated, “The knowledge it produces may be useful not only to researchers in other fields, 
but also to business seeking to develop new products and production process.”10 And likewise, 
“Both publicly supported and privately funded R&D produces ideas and information about new 
materials or compounds, about new ways of arranging or using them, and about new ways of 
designing new goods or services for the satisfaction of potential wants of consumers and

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10. CBO, supra note 2, at vii.
The newly discovered information and ideas lead to the development of new products and technologies which would not exist otherwise.

The R&D tax credit was designed to exploit the spillover effect, thereby exponentially increasing the overall growth in the economy. Some studies have even evidenced that for every dollar of tax credit received on account of the research and development credit, firms spend in excess of one additional dollar of their own on research and development activities. Admittedly, if the tax credit is effectively utilized and incorporated into a firm’s strategic behavior, more tax revenue could be collected because of the additional growth in the economy. The possibility exists that the spillover effect may actually make the R&D tax credit not only socially beneficial, but also a self-sustaining tax expenditure that actually funds itself. President Obama even stated that the credit “returns $2 to the economy for every $1 we spend.”

While these spillover effects are very difficult to measure, “there have been a significant number of reasonably well done studies all pointing in the same direction: R&D spillovers are present, their magnitudes may be quite large, and social rates of return remain significantly above private rates.” Yet, the spillover effect varies widely from industry to industry.

**B. The Research and Development Tax Credit as Currently Written**

Section 41 of the Internal Revenue Code provides for an incremental tax credit for increasing research and development activities. The credit can be calculated by using one of

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12. See President Barack Obama, *supra* note 1. This phenomenon seems unlikely when past presidents and congressional budgets stated that this tax credit costs tax dollars – instead projecting that this legislation generates additional tax revenue. In other words, this tax credit has all the characteristics of a tax cut, and not a tax generating piece of legislation.
13. *Id.* at $43.
14. See *id.* at S38-S43
three methods. The first method to calculate the credit is referred to as the “Regular” credit method. Using this method, the credit is determined by a percentage of a firm’s qualified research expenses above a base amount, which is calculated by using the average of the prior four years gross receipts multiplied by the fixed base percentage. The base amount is “the percentage which the aggregate qualified research expenses of the taxpayer for taxable years beginning after December 31, 1983, and before January 1, 1989, is of the aggregate gross receipts of the taxpayer for such taxable years.”\textsuperscript{15} The maximum credit permitted is 6.5\% of all qualified expenses.

The second method, the “alternative incremental credit”, does not incorporate a base year. This is advantageous because it eliminates the need to collect and sort through 25 years of financial statements, wages, and any and all other available records that help in the process of reconstructing the company’s fixed base years. This credit, however, also has several major drawbacks. Unlike the “regular” credit, the maximum credit is 3.2\% of qualified expenses, and it phases out to zero when expenses to gross receipts fall below 1\%.\textsuperscript{16} Further, this method still requires the preparer to reconstruct the previous four years of qualified expenses and gross receipts, and apply that calculation to a tier system using three different rates. Once this method is selected, consent must be sought from the IRS to switch to one of the two other methods used to calculate the credit.\textsuperscript{17} This credit must be timely filed on the original return for that particular tax year.\textsuperscript{18}

The “alternative simplified credit” is the final method available to calculate the tax credit. The credit is equal to 7.8\% of all qualified expenses that exceed 50\% of the average of the prior

\textsuperscript{16} Id. § 41(c)(4)(A)(a)(i).
\textsuperscript{17} Treas. Reg. § 1.41-8(b)(3) (2008).
\textsuperscript{18} Id. § 1.41-8(b)(2).
three years expenses. This method, therefore, only requires the taxpayer to look back three years.” This credit was first available for the 2007 taxable year.

While the above explanation is simplified, the underlying principal is evident. Congress wanted to motivate firms to increase R&D activities beyond their privately optimal levels. Congress therefore tied the R&D tax credit to a firm’s past R&D activity level.

When calculating the base year, and subsequently the credit, Congress attempted to narrow the eligibility of all R&D activities by using the term “qualified research.” Qualified research includes any research undertaken for the purpose of discovering information which is technological in nature and directly related to a new or improved product or process intended to enhance its quality, reliability, performance, or function. The term technological in nature refers to principals relying upon physical sciences, biological sciences, computer sciences, and all aspects of engineering.

Eligible research should involve a process of experimentation that is designed to determine the best way to meet the specific goals of a project, and specifically eliminate all technological uncertainties. The firm must experiment with multiple methods to evaluate the alternate methods and determine which is most suitable to achieve the desired result. If uncertainties exist at the beginning of the research and development activities, the “process of experimentation” requirement is satisfied even if there is no uncertainty regarding the capability or method of achieving the desired result. In an attempt to limit it to only research and development activities with large spillover effects, Section 41 requires that the process of experimentation must rely upon the principles of the physical or biological sciences, engineering,

20. Id. § 41(c).
21. Id. § 41(d).
22. Id. § 41 (c)(3)(A).
24. Id.
or computer science. Further, Section 41 and the Treasury Regulations lists 14 activities that specifically do not qualify for the R&D tax credit.

C. A Critique of the Research and Development Tax Credit

There are four major problems with the R&D tax credit. First, the R&D tax credit is very difficult to calculate. Because the credit is designed to be incremental, firms must first calculate their base year periods. Under the “regular” credit, the original base year calculations are becoming increasingly outdated. This creates taxation inequalities between older and newer firms taking the credit, regardless of which method is used. Additionally, both firm conditions and overall economic conditions may have substantially changed in the past twenty-five years. Therefore, applicable base year calculations may be arbitrary for older firms using their overall R&D activities between 1983 and 1988 to calculate their base year percentage. While the two other alternative methods help mitigate this problem, firm conditions can dramatically change in less than a year, and most certainly in three or five years. Should economic conditions change, the incremental math is skewed even further. Simply stated, both new and old firms may experience similar calculation problems resulting from base year calculations dependent upon antiquated numbers, or derived from drastically different firm conditions or outside economic conditions, or worse, inaccurate, R&D calculations.

25. Id.
26. Research done outside the United States, Puerto Rico, or any possession of the United State. I.R.C. § 41(d). Research in the social sciences, arts, or humanities. Treas. Reg. 1.174-2(a)(1). Market and consumer research, advertising corporation expenses, management studies and efficiency surveys, research to find and evaluate mineral deposits, including gas and oil, acquisition or improvement of land or of certain depreciable or depletable property used in research, acquisition of another person’s patent, model, production, or process, research funded by another person, or any governmental entity, by means of a grant or contract, research conducted after commercial production, research for the adaptation of existing business components, research for the duplication of an existing business component, research with respect to internal used software. Treas. Reg. § 1.174-2(a)(1), Treas. Reg. § 1.41-4(c)(6). I.R.C. § 174(c) (2008), (d), I.R.C. § 41(d)(4) (2008).
Further, many research and development projects are drawn out over many years, thus it is not always easy to determine whether or not a project even qualifies for the tax credit. This has led to a situation in which “firms have an incentive to classify as many expenses as possible as credit-eligible research, even if those expenses are not associated with new R&D activities.”\(^{27}\) Thus, this relabeling problem may have caused the credit’s overall effectiveness to be overstated.\(^{28}\)

Second, the credit is too broad and applies equally to all R&D activities. While Section 41 does disqualify certain R&D activities, the credit must further discriminate based upon what industry the R&D is being performed for and the magnitude of the spillover effect.

Third, the R&D tax credit is a temporary provision in the Code. Because there is no guarantee that the credit will be renewed, let alone that it will be renewed without modifications, firms have a difficult time incorporating this credit into the planning and budget projections.

Finally, firms wishing to claim this credit must spend astronomical amounts of money in accounting fees, consulting fees, and recording keep to ensure that they receive the credit. Even after spending hundreds of thousands to millions of dollars in calculation the tax credit, the IRS often challenges the credit, causing the firm to once again allocate massive amounts of money toward legal fees simply to defend the claimed credit.

1. Horizontal Tax Inequities Amongst Firms

A horizontal tax inequality occurs when two firms of comparable size and profit pay different tax rates or receive different tax credits for roughly the same activity. That is, two

\(^{27}\) CBO, supra note 2, at viii.
\(^{28}\) Id. at xi.
identical firms receive different tax treatment. Horizontal tax inequities occur frequently under the current R&D tax credit provision.

This happens because a firm’s ability to qualify for the credit and the amount of the credit is determined largely by tax positioning and by previous R&D activities. A properly designed tax credit would equally apply to two firms who are increasing their R&D activity by undertaking an identical project. Yet, depending on base year calculations, these two hypothetical firms would be treated differently and in the most extreme case, one firm may not qualify for the credit at all, while the other would receive the credit to its full benefit.

Further, because the credit is incremental and calculated using a base year calculation, “As R&D spending increases in most years for the typical firm, the resulting ‘base creep’ reduced the potential value of the credit with expanding R&D investment.” That is, as firms increase R&D expenditures, a firm must have greater expenditures in R&D activities in the following year to be eligible for the R&D tax credit. “This method can be especially severe for small, fast-growing R&D-intensive firms who are realizing rapidly increasing sales from previously successful innovations.” Firms that invest large sums of money in a single year because of the nature of their business make claiming the credit in sequential years less valuable and more difficult. Further, less diverse, small research and development intensive firms may experience unpredictable spikes in R&D activities from year to year, and consequently these firms may not be able to qualify for the R&D tax credit because qualified research expenditures are limited to 200 percent of the calculated base amount.

30. Id.
31. Id.
Because the current credit is dependent upon base years and not relative to economic and market conditions. That is, the current credit assumes that firms have a set optimal level of R&D expenditures each year, and therefore the credit uses a base year to calculate this. This is especially problematic during times of economic downturn, when many firms might naturally cut back on research activities. When this happens, these firms stand to lose the R&D tax credit, even though the tax credit is most beneficial during economic downturns.

To overcome this problem, the tax credit should be redesigned to not operate on an incremental method, and specifically should not incorporate a base year calculation. “The effect of incremental schemes with a moving average base . . . greatly reduces the incentive effect of the credit.”

2. The Credit Does Not Maximize the Spillover Effect

The spillover effect is very dependent upon both the nature of the research, that is basic or developmental research, and the industry in which the research is applicable. Studies have found that basic research activities usually have a much larger spillover effect than applied or developmental research activities. Basic research seeks to expand general scientific knowledge. In contrast to this, the purpose of applied research is to connect scientific knowledge to some practical purpose. Finally, development research applies scientific

32. OTA, supra note 9, at 49.
33. CBO, supra note 2, at 11.
34. Id. at 10.
35. Id.
knowledge to the creation of specific marketable products.\textsuperscript{36} The industry to which the research is applicable also affects the magnitude of the spillover effect.\textsuperscript{37}

To illustrate, R&D expenditures in computer processors may have a very significant spillover effect, as many businesses will eventually use the new computer technologies that are spawned from this research. Conversely, an R&D activity in the manufacturing industry that seeks to modify a stamping machine for a very limited product that will not be used by other manufactures is unlikely to create a spillover effect. Accordingly, because Section 41 applies equally to all areas of R&D activities, regardless of what industry the firm undertaking the R&D activity is classified in, the credit does not maximize the potential spillover effect. Further, different industries also respond differently to R&D tax incentives.\textsuperscript{38} Therefore, industries that may have a large spillover effect but do not have a large response to tax incentives should not be given a tax credit, for it would have little overall effect on total aggregate R&D activities in that industry. Simply stated, if there is a set optimal amount of R&D in a given industry, and that industry currently is at the optimal amount of R&D, then giving tax credits will not affect the total R&D activities. Thus, an R&D tax credit to such an industry would only act as a tax cut, and not increase R&D or spur greater economic growth, the two reasons originally touted for enacting and subsequently renewing Section 41.

3. The Credit Is Not Permanent and Is Frequently Modified

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\textsuperscript{36} Id.
\textsuperscript{37} See generally Griliches, supra note 11.
\textsuperscript{38} Nick Bloom, Rachel Giffith, and John Van Reenen, Do R&D tax credits work? Evidence from a panel of countries 1979-1997, 85 J. PUB. ECON. 1, 21 (2002).
The R&D tax credit must be periodically renewed by Congress. October 2008 marked the thirteenth time the R&D tax credit was renewed. While normally incorporating sunset provisions into legislative drafting mandates that the law is continually reviewed and debated, which should in theory prevent it from becoming outdated and ineffective, a sunset provision in a research and development tax provision can be counterproductive.

Research and development activities typically spans years, not simply months. Firms may have difficulties proving that the project meets Section 41’s definition of qualified research activity. That is, key parts of the project may have yet to be performed, and a firm may not be able to evidence that all the requirements of the credit are met. Much more problematically, for firms to accurately price out and budget R&D projects that may span more than one year, firms must be able to rely upon the credit in the future years. Without absolute certainty, firms may be reluctant to rely upon the tax credit in future periods. It is likely, however, that the sunset provision has had only a small deterrence effect upon firms wishing to incorporate the R&D tax credit into their overall R&D strategy because the credit has been renewed thirteen times.

While the firm may be relatively sure the tax credit will be renewed, firms cannot predict what changes both Congress and the Courts will make to the credit. That is, firms cannot accurately predict what the size of the credit will be, what documentation a court will require if the credit is challenged, or even what activities will qualify for the credit. If a firm cannot predict the future monetary value of the credit, a firm cannot fully rely upon R&D cost projects and will be very reluctant to rely upon the credit. Second, if the reporting requirements become more stringent, firms may be forced to expend large amounts of money in complying with the new requirements, which may entail effectively re-documenting the entire project thereby dramatically increasing costs of apply the credit. Third, if Congress decided that certain R&D
activities were no longer beneficial, and therefore disqualified them, firms that relied upon the
credit to make the R&D activity profitable, would be, for a lack of a better phrase, out of luck.
The bottom line is that because the R&D tax credit is not permanent and constantly undergoing
change, firms are reluctant to incorporate the tax credits into their overall budget.

4. Complex and Unnecessarily Complicated Rules Create Large Administrative Costs for the
Government and Firms Claiming the Credit

Firms expend large sums of money on private tax consultants, accounting firms, law
firms, and other professionals to determine if they qualify for the credit, and then to properly
formulate a document retention program to properly document and characterize all the expenses
of the R&D activity. Thus, only part of the claimed credit actually goes toward the R&D
activity, which accordingly reduces its overall impact on spurring R&D activities. More
problematically, in the event of an audit, firms spend additional funds on defending their claim
credit. And because the credit may ultimately be denied, the benefit-to-cost ratio is further
skewed. The Internal Revenue Service has estimated that nearly 20 percent of all R&D tax
credits are ultimately denied, or readjusted. 39

As an example, a firm wishing to claim the credit must properly plan from the onset of all
R&D activities. If the firm does not properly document these expenses, then when the firm does
qualify to claim the credit, they must reexamine their past R&D expenditures to calculate the
base year. This activity does not produce any goods or services, yet has substantial costs.
Therefore, as already argued, the credit must not be tied to any previous R&D expenditures.
Simply stated, the credit must not be based upon historical data, but instead should be forward
looking, that is, calculated on current R&D expenditures.

The government also incurs substantial costs with administering the tax credit. The Internal Revenue Service has estimated that a quarter of its audit is assigned to auditing R&D tax credit claims taken by small and midsize business. These IRS agents could be assigned to far more productive tasks that generate higher tax collection rates if the R&D tax credit were less complicated and easy to calculate. To better illustrate, in March of 2009 the United States Tax Court issued what is now the infamous Union Carbide decision.

a. An Outrageous Example: Union Carbide v. Commissioner

This controversy spanned nearly a decade and climaxed in a decision just shy of 300 pages, thereby illustrating the confusion and difficulty arising from the R&D tax credit. Here, Union Carbide claimed qualifying R&D expenditures arising from the undertaking of 106 projects. Union Carbide claimed that these projects entitled it to claim approximately $200 million in R&D tax credits. To simplify the court proceedings, the court examined Union Carbide’s five largest projects totaling approximately $55 million of the claimed tax credit. After nearly a decade of litigation, no doubt millions of dollars in legal fees, the court ruled that Union Carbide was only entitled to $1,045 research and development tax credit for the disputed years. It arrived at this figure by readjusting Union Carbide’s base year calculations by nearly $135 million because it found that Union Carbide could not accurately estimate what part of the $135 was spent on R&D activities as opposed to production run costs. While the court arrived

40. Bloom, supra note 38, at 22.
41. Tassey, supra note 29, at 607.
43. Id. at 1-2.
44. See generally id.
45. Id. at 1.
46. See generally id.
at this calculation because it refused to rely upon certain estimations and allocation between production costs and research costs, this case did provide future guidance on record keeping requirements. For the first time, the court specifically stated that taxpayers were not required to have similar records for its base year calculations as to its claim years. Further, the taxpayer could rely upon informal records, employee responses to R&D activity relating back over fifteen years, and other various estimates.\footnote{Id.}

\textit{D. Associated Costs of the Research and Development Tax Credit}

Unfortunately, no studies exist that examine the actual costs incurred through the administration of the R&D tax credit.\footnote{See generally CBO, \textit{supra} note 2.} Therefore no quantitative analysis can be performed that compares administrative costs to amount of tax revenue generated from the credit, if any. Yet, some research does indirectly and non-quantitatively indicate that the costs are substantial. One GAO study estimated that 74 percent of the firms claiming the R&D tax credit were audited.\footnote{U.S. GEN. ACCOUNTING OFFICE, \textit{The Research Tax Credit Has Stimulated Some Additional Research Spending}, GAO/GGD-89-114 (1989), available at \url{http://archive.gao.gov/d26t7/139607.pdf}.} A later source estimated that a quarter of the small and midsize business division of the IRS was allocated to examining claims of the R&D tax credit.\footnote{Tassey, \textit{supra} note 29, at 607.} While the average cost to the IRS for each R&D tax credit audit is not available, even if only half of the R&D tax credit claims are audited, overall auditing expenses of R&D tax credits would be quite large on account of thousands of firms claiming the credit. Further, if the opportunity cost of the auditing the R&D tax credit and not a different taxpayer’s return were calculated, the overall cost would once again increase dramatically.

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47. Id.
48. See generally CBO, supra note 2.
50. Tassey, \textit{supra} note 29, at 607.
The IRS has no recent or empirical data on the number of R&D tax credit claims that are eventually audited, on the cost of these audits, or on the opportunity cost of conducting R&D audits instead of other tax audits. “The extensive rule writing and constant audits of claims for the credit necessary to enforce compliance for such a targeted tax incentive have created a substantial time and cost burden on the Treasury.”\textsuperscript{51} For that reason, this paper simply suggests that the cost is substantial and must be accounted for when examining the overall cost of the R&D tax credit.

II. R&D Tax Credits in Other Countries

A. Research & Development Tax Credits in Other Countries

While there are various tax incentives governments employ to increase R&D activity, the most common strategies include using a base amount to calculate incremental R&D expenditures, using a flat rate on all R&D expenditures, creating tax holidays for a limited number of years for certain R&D intensive firms, and allowing tax deductions in excess of 100 percent for R&D expenditures.\textsuperscript{52}

There are over seventeen industrialized countries that employ R&D tax credits.\textsuperscript{53} Of these seventeen countries, five use a combination of two or more of the above tax incentives. Four countries use only flat rate or a flat rate in conjunction with an incremental tax incentive. Seven permit large deductions or a large deduction in conjunction with an incremental tax incentive.

\textsuperscript{51} Tassey, supra note 29, at 607.
\textsuperscript{52} See generally Bronwyn Hall and John Van Reenen, How effective are fiscal incentives for R&D? A review of the evidence. 29 Research Policy 449 (2000).
\textsuperscript{53} Ross Gittell, Are research and development tax credits effective? The economic impacts of a R&D tax credit in New Hampshire, 8 PUBLIC FINANCE AND MANAGEMENT 1 (2008); see also Hall, supra note 52, at 452-453.
incentive.\textsuperscript{54} Two countries use tax holidays, one tax holiday is directed at foreign income earned on R\&D activities, and the other is directed toward high-technology companies. Only six of these other countries use an incremental method similar to one used by the United States.\textsuperscript{55}

Yet, despite many countries employing R\&D tax incentives, there is not always a correlation between R\&D tax credits and an increase R\&D activities. Between 1981 and 2001, Finland and Sweden, two countries which did not even employ R\&D tax credit, boasted the second and third highest growth rates for industry funded R\&D activity.\textsuperscript{56} The country with the largest growth rate, Australia, which recorded a 733.9 percent change during these years, achieved it using a 125 percent super deduction plus a 175 percent incremental deduction.\textsuperscript{57} Canada, using only a 20 percent flat rate tax credit, was ranked fourth in growth, and the United States, using the incremental credit system to achieve a 201.4 percent growth, was ranked fifth.\textsuperscript{58}

Statistics such as those above raise an important question: How could less than three percent\textsuperscript{59} of the total amount of industry funded research and development in the United States possibly prove crucial to spurring economic growth? While no studies have examined the correlation between economic growth and an increase in R\&D activities, it seems highly probably that this overall economic growth is much more significantly important than an R\&D tax credit when increasing R\&D activities. Below are two tables. The first table details the percent change in R\&D in nine countries. The second table lists nineteen 19 industrialized countries and their R\&D tax incentives.

\textsuperscript{54} \textit{Id.} at table A1.
\textsuperscript{55} Hall, \textit{supra} note 52, at 452-453.
\textsuperscript{56} Tassey, \textit{supra} note 29, at 609.
\textsuperscript{57} \textit{Id.}
\textsuperscript{58} \textit{Id.}
\textsuperscript{59} CBO, \textit{supra} note 2, at 23.
Table 1:60

<table>
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<tr>
<th>Country</th>
<th>Percent change</th>
<th>R&amp;D tax incentive</th>
</tr>
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<tbody>
<tr>
<td>Australia</td>
<td>733.9</td>
<td>Yes</td>
</tr>
<tr>
<td>Finland</td>
<td>510.8</td>
<td>No</td>
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Table 2:61

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<tr>
<td>Australia</td>
<td>125% deduction for R&amp;D expenses, plus a 175% deduction for R&amp;D expenditures exceeding a base amount of prior year spending.</td>
</tr>
<tr>
<td>Austria</td>
<td>R&amp;D expenditures are deductible at a rate of 125% if it is an amount below the three year previous average and 135% if it is above. 11,500 Euro exemption for staff members conducting scientific research. This amount is increased to 23,590 Euros if the individual is highly qualified (10 years of experience and a doctorate degree).</td>
</tr>
<tr>
<td>Belgium</td>
<td>No incentive. 11,500 Euro exemption for staff members conducting scientific research. This amount is increased to 23,590 Euros if the individual is highly qualified (10 years of experience and a doctorate degree).</td>
</tr>
<tr>
<td>Canada</td>
<td>No incentive.</td>
</tr>
<tr>
<td>China</td>
<td>Offers foreign investment enterprises a 150% deduction for R&amp;D expenditures, provided that the R&amp;D spending has increased by 10% from the prior year.</td>
</tr>
<tr>
<td>France</td>
<td>A 50% R&amp;D credit, comprised of a 10% flat credit and a 40% credit for R&amp;D expenditures exceeding the prior year's average.</td>
</tr>
<tr>
<td>Germany</td>
<td>No incentive.</td>
</tr>
<tr>
<td>India</td>
<td>R&amp;D expenditures receive a 100% deduction of profits for 10 years. In addition, the automobile industry is entitled to a 150% deduction for in-house R&amp;D expenditures on facilities.</td>
</tr>
<tr>
<td>Ireland</td>
<td>A 20% R&amp;D tax credit, plus a full deduction.</td>
</tr>
<tr>
<td>Japan</td>
<td>A flat 10% R&amp;D tax credit for large companies; a 15% flat credit for small companies.</td>
</tr>
<tr>
<td>Korea</td>
<td>Tax holidays, up to 7 years, for high-technology businesses. Other various tax credits are provided for R&amp;D expenditures.</td>
</tr>
<tr>
<td>Mexico</td>
<td>An incremental 20% tax credit based on an increase of R&amp;D expenditures over the prior three years.</td>
</tr>
<tr>
<td>Portugal</td>
<td>Companies can deduct between 108-130 percent of their R&amp;D expenditures from taxable profits.</td>
</tr>
<tr>
<td>Singapore</td>
<td>Offers U.S. companies a 5 year tax holiday for foreign income earned with respect to Singapore-based R&amp;D activities.</td>
</tr>
<tr>
<td>Spain</td>
<td>A 15% tax credit on intangibles and 30% tax credit on new fixed assets used in R&amp;D.</td>
</tr>
<tr>
<td>Sweden</td>
<td>No incentive.</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>A 125% deduction for R&amp;D expenses, plus a 175% deduction for R&amp;D expenditures exceeding a prior year base amount on R&amp;D expenditures.</td>
</tr>
</tbody>
</table>

60. Tassey, supra note 29, at 609.
B. A More Thorough Examination of R&D Tax Credit Policies in Other Countries

As previously stated, the top five countries that experienced the largest percentage growth in R&D activities were, in respective order, Australia, Finland, Sweden, Canada, and the United States. Since the U.S. R&D tax credit has already been examined, and neither Finland nor Sweden has any R&D tax incentives, this section will examine the tax incentives used in Australia and Canada.

1. Canada

Business is business, and Canada’s R&D tax credit operates on that premise. The Canadian government has even advertised in the *Wall Street Journal* and other various publications claiming that their R&D tax credit is the most business friendly and easiest to calculate R&D tax incentives employed by any country. And in comparison to Section 41, these claims are true.

The Canadian R&D credit utilizes the flat rate approach. The tax credit is 20 percent of all R&D expenditures. Small firms are eligible for an additional 35 percent tax credit on their first 2 million dollars of R&D expenditures. The most advantageous feature of this credit arises from the fact that a firm does not have to calculate any base years, or rely upon any historical data to be eligible. More importantly, unlike the U.S. R&D tax credit, a Canadian firm may claim the R&D tax credit in its first year of operation.

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61. See Hall, *supra* note 52, at 452-453.
When a firm intends to claim an R&D tax credit, the firm notifies Canada’s tax collection authority prior to the start of the activity. The firm may then request that a science advisor from Revenue Canada visit the firm’s office to discuss the requirements of the tax credit and the documentation that is needed. After determining its eligibility, the firm is then able to easily account for R&D credit in its budget. In administering the credit in this fashion, firms are able to accurately predict the total cost associated with all R&D activities, and are therefore able to more accurately prepare bottom line profit calculations.

Because Canada Revenue is more heavily involved with a firm’s R&D tax credit preparation from the initial undertaking, instead of auditing the credit after it is claimed, the administrative cost associated with the Canadian R&D tax incentive is much lower than the administrative cost associated with the U.S. tax credit. “Making the system taxpayer friendly encourages more taxpayers to take advantage of the R&D tax incentives, thus increasing spending on research and development.” And by enabling a firm to incorporate this tax credit into its long term strategic plan, the credit is permanently enacted.

2. Australia

Like Canada’s tax incentive, Australia’s basic R&D tax credit is simple to calculate. To calculate, it is simply a 125 percent deduction on all qualifying expenses arising from R&D activities. Unlike Section 41 of the Code, Australia’s deduction has no upper-limit. Also, firms that increase their R&D expenditure to a level above the average of the previous three

64. Id. at 361.
65. Id.
66. Id.
68. Id.
years may take a 175 percent deduction of up to 20,000 dollars.\textsuperscript{69} Additionally, Australia targets
foreign and multinational corporations with the following deductions: a 175 percent premium for
companies that increased their international R&D, a 175 percent deduction for foreign grouped
companies that raised their R&D over the average of the last 3 years\textsuperscript{70}, and a 100 percent
deduction for a foreign grouped or multinational company for R&D done in Australia.\textsuperscript{71} Small
businesses are eligible for an additional 30 percent tax credit for all qualifying R&D
expenditures.\textsuperscript{72}

Unlike the U.S. R&D tax credit, the Australian tax incentive utilizes deductions, which
already must be calculated for the preparation of basic accounting statements. Thus, preparation
expenses are much lower than in the United States. While the total R&D expenses must still be
separated into qualifying and non-qualifying expenses, this is not as complicated as calculating a
base year as required by Section 41. Likewise, in both Australia and the United States, R&D
expenses must be categorized according to the type of expense. In Australia, there are five
categories of R&D expenses: contracted expenditures, salaries, plant leasing, feedstock
expenditures, activities directly related to R&D.\textsuperscript{73}

Firms wishing to claim the 175 percent deduction using an incremental tax incentive
would almost certainly have claimed the 125 percent deduction from previous years, so the
additional cost associated with calculating the prior year’s deductions should be fairly small.
While in the United States, because the credit is very complicated, many firms do not initially
incorporate the tax credit into their overall tax strategy. These firms must then hire professional
staff to recreate and calculate their past R&D activities to determine their base year calculations.

\textsuperscript{69} \textit{Id.}
\textsuperscript{70} R&D Credit Coalition: Invest in America’s Future, \textit{International R&D Tax Incentive}, available at
\textsuperscript{71} \textit{Id.}
\textsuperscript{72} \textit{Id.}
\textsuperscript{73} SciTax, \textit{supra} note 67.
Another significant feature of the Australian tax incentive is the absence of a sunset provision, meaning that the tax credit cannot simply expire as it can in the United States.\textsuperscript{74} This gives the Australian R&D tax credit a sense of permanence that its American counterpart does not have, for in Australia, the tax credit can only be changed through an official amendment, whereas in the United States, the tax credit must be renewed every few years.

Australia’s tax incentive is considered one of the most generous tax incentives.\textsuperscript{75} Because the tax incentive relies solely upon basic accounting principles (i.e. deductions), it is one of the easier tax incentives to calculate and claim. And to qualify for the tax incentive, the company wishing to claim the deduction must register with the proper governmental authorities. By forcing firms to register, firms must properly plan, and therefore may be more inclined to incorporate the tax incentive into their long-term business strategy.\textsuperscript{76}

\textit{C. Lessons To Be Learned From the Australian and Canadian R&D Tax Incentives}

The Australian and Canadian R&D tax incentives share three main components. The first commonality is that both the Canadian and Austrian R&D tax incentives lack a sunset provision. This allows firms to rely upon R&D tax incentives. Second, both tax incentives rely upon readily accessible information that must already be complied for various accounting purposes. Third, any company wishing to be eligible for the tax incentive must register with the proper governmental authorities. Canada has actual consultants who assist firms in determining what R&D activities qualify for the tax incentives and help firms determine what documentation must

\begin{footnotesize}
\textsuperscript{74} Scitax, \textit{supra} note 67.
\textsuperscript{75} Tassey, \textit{supra} note 29, at 610.
\end{footnotesize}
be retained and prepared prior to the undertaking of the project. In Australia, companies must make and lodge an R&D plan prior to undertaking. This plan must be in accordance with all requirements of the tax incentive. While to Canada’s governmental R&D consultants to assist with planning the R&D activity, Australia’s plan relies upon the private sector to provide proper consultation to plan prior to undertaking the R&D activity. The end result, however, should be very similar.

Accordingly, if Congress wishes to renew the R&D tax credit past December 31, 2009, these three aspects of the Canadian and Australian R&D tax incentives should be incorporated into Section 41. Ideally, the R&D tax credit would be redesigned and enacted soon. This would allow American companies ample time to incorporate the new changes into their business strategies and to find and retain all necessary documents. By acting soon, the government could minimize the transaction cost associated with implementing the new requirements and maximize the redesigned R&D tax credit’s effectiveness in its first year.

III. How To Fix It

A. Repeal the Tax Credit

As argued, the R&D tax credit has not successfully accomplished its goal of promoting additional R&D. Evidencing such, a 1996 Industrial Research Institute R&D spending survey reported that 55 percent of all responding companies indicated that the credit was “not at all” influential when determining the optimal level of R&D activity. A report issued by the Office

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78. Tassey, supra note 29, at 612.
of Technology Assessment even stated that “technology offices and R&D strategists almost uniformly regarded the tax credit as irrelevant to their planning (indeed, one chief technology officer told OTA that he would be very concerned about the health of any firm that based its R&D decisions on tax considerations).”

The report then stated that “the overall magnitude and scope of the credit indicates that it is a marginal to insignificant determinant of aggregate R&D spending levels by firms in the U.S. economy.”

Even more convincing, several prominent scholars have stated that “it is not obvious in a world of international spillovers that a country would not be better off free-riding on the R&D efforts of other countries rather than attempting to subsidize innovation itself.”

Yet, the credit has been renewed thirteen times. And numerous Congressman, Senators, and even the current President of the United States have publically supported the credit. With over 300 large companies, comprised of many fortune 500 companies, publicly supporting the tax credit, politicians are very reluctant to voice any opposition to their constituents and most likely large campaign contributors.

B. Alter the Credit To Make It More Functional

Because of lobbyist and possible political fallout to congressman that oppose the R&D tax credit, it is unlikely that the R&D tax credit will ever truly go away. There will always be some form of a tax incentive. Yet, as observed with the Tax Reform Act of 1986 (a complete overhaul of the tax code), drastic changes are possible, and the current form of the R&D tax

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79. OTA, supra note 9, at 42.
80. Id. at 43.
81. Bloom, supra note 38, at 22.
82. This is evidenced by the fact the bill continually is renewed, and various Whitehouse press statements.
credit can be altered if enough political will exists. If this were to occur, the following changes should be made to Section 41:

1. *Maximize the Spillover Effect*

   The Occupational Safety and Health Administration created a two, three, and four digit industry classification system, called the “Standard Industry Classification.” The first two digits assigned are very broad and group industries into ten divisions, called “Major Groups.” The classification system further divides each division into “Industry Groups” by adding a third digit. And then finally, a fourth digit is used to specify a specific industry within the group.

   Since this classification already exists and is easy to understand, the R&D tax credit should incorporate this industry classification system to better maximize the spillover effect. “The social benefit of the credit is greater to the extent that the credit targets research with larger spillover effects.” In doing so, industries with very little spill from R&D activities would receive a very minimal tax credit, or possibly none at all. Conversely, industries with a very large spillover effect would receive larger and more substantial R&D credits. To do this, the tax credit ranges would be determined based upon a three or four digit classification number. Depending on how Section 41 incorporated the “Standard Industry Classification”, each firm would determine what classification number its R&D activity should be classified as, and therefore apply the applicable tax credit rate.

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This system, however, would not determine if the R&D activity qualified for the tax credit. This classification system would simply determine the amount of the tax credit if the project were to qualify for the tax credit. Accordingly, the project qualification provisions present in Section 41 could help to simplify the legislative process and ensure that the professionals currently helping firms claim the credit are familiar with the current requirements.

If this classification were utilized, Section 41 could better foster R&D research by directly targeting industries with the large spillover effects and industries that are most responsive to R&D tax incentives. 86 However, this change may be considered too drastic and not currently feasibly. While current technologies exists that should make the organization of this information readily accessible for tax professionals, Congress may have severe difficulties when deciding how to determine the proper tax credits for various R&D activities. That is, because of politically motivated factors, any differing treatment of R&D activities that would be derived from this feature may arise not because of the estimated “spillover effect”, but instead from politicians volleying for their state’s best interest. Further, even if this were not a problem, and statistical data could easily be applied to determine which industries to favor, common disagreements would most likely arise over interpretation of the data sets. Thus, while this feature may provide some simplification and enhanced “spillover effect,” it may be too complicated to accurately determine or simply enact.

Regardless, however, the R&D credit should be more narrowly tailored and directed at specific industries, and require that the information gained from the research and development activity posses some spillover effect to other activities. As Congress has already demonstrated,

86. Bloom, supra note 38, at 21.
certain credits have been specifically directed toward certain activities, and there is no reason to assume a general level of specificity cannot be accomplished for R&D tax credits.\textsuperscript{87}

2. \textit{Make the Credit Permanent and Advance Give Notice of Any Pending Changes}

The credit must be made permanent. Research and development activities often span years, but unfortunately, a business can only claim the R&D tax credit upon completion of a project. Accordingly, in order for a business to utilize the tax credit, the business must be able to plan and forecast all costs of an R&D project. This, of course, would include all eligible tax credits. Thus, to factor the tax credit into their planning, the business must be assured that the tax credit will still exist in its current form.

3. \textit{Make the R&D Cheaper to Evidence and Accordingly Claim}

While it is possible to qualify for the credit prior to completion of the project, some companies choose not to do so, and instead wait until total eligible credit greatly offsets the substantial administrative and outside consultant costs of determining and properly documenting the credit. Simply stated, the firm may wish to build up the credit for three years before undertaking the necessary work to determine the total credit.

Further, if a firm were to apply for the credit and be audited, a project may not qualify for the credit because the taxpayer may not have performed a reasonable investigation of the existing level of knowledge in the particular field of science or engineering in order to determine the

\textsuperscript{87} For example, in 2005 Congress enacted §179D. This section specifically provided incentives to design energy efficient buildings. \textit{See} I.R.C. § 179D (2008).
existing level of knowledge among skilled professionals, even though the firm may have expended large amounts in readying and preparing the project.\textsuperscript{88} Further, the project may still be in the experimental phase, and without actually completing this phase of the project, it would be very difficult to have all the proper documentation evidencing that the R&D project is eligible for the credit.\textsuperscript{89} As the credit is currently enacted, it is far easier to evidence that an already completed R&D project qualifies for the credit than it is to evidence an ongoing and incomplete project.

To remedy this problem, Section 41 should be amended to allow a research proposal and a business plan to function as evidence to qualify an R&D project for the credit. Thus, if the R&D project has not yet met the requirements of the credit, but will in the future, there is no reason that the expenses accumulated to date should not be taken. If done, the credit would become more attractive for planning because it would permit long-term R&D projects to more easily qualify for the credit in the first year of the project, thereby reducing the total cost of the project, and thus encouraging firms to undertake additional R&D tax credit qualifying activities.

4. \textit{Advance Approval of Qualifying R&D Projects}

To ensure that the R&D project will qualify for the tax credit, thereby allowing firms to better incorporate the credit into their budget forecasting, the IRS should give advance approval of projects that will qualify for the credit. To do so, a company would simply apply for conditional R&D tax credit approval, and the IRS would issue a brief letter stating an opinion as to whether or not the project will qualify as currently proposed. While it may be argued that this

\begin{footnotesize}
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\item \textsuperscript{88} Treas. Reg. § 1.41-4(a)(3)(ii) (2008).
\item \textsuperscript{89} \textit{Id.} § 1.41-4(a)(5)(ii). I.R.C. §41(d)(1)(C) (2008).
\end{itemize}
\end{footnotesize}
will ultimately increase overall administrative costs of the credit and also increase the aggregate amount of R&D tax credits claimed, such arguments ignore current practices at the IRS. First, as already stated, the IRS already expends vast resources on auditing the tax credit to ensure compliance. Why not simply ensure compliance prior to a firm’s undertaking of the project, thereby reducing the overall audit rate of firms claiming the tax credit? To ensure that firms do not then manipulate the tax credit by seeking approval for a project then substantially changing the objectives of the project, Congress would have to invoke very harsh penalties for firms that knowingly disregard the IRS’s conditional approval and substantially alter the project. This would help ensure compliance and may actually cut down on compliance costs for both the IRS and firms claiming the credit. Simply put, Canada does this, why can’t we?

If the tax credit and the IRS operated in this manner, business would be able to claim the credit with certainty that it will not be adjusted or changed. Currently, over 76 percent of all returns claiming the credits are audited, with an average net adjustment downward of about 20 percent of the credits claimed. Because of such high audit and adjustment rates, business cannot accurately rely upon including full credit estimates into budget calculations. Yet, if the IRS were involved from the onset, this problem would be significantly mitigated.

If additional credits were claimed because of the ease of this, the total amount of tax credits would increase, thus increasing the cost of the tax credit. Yet, the purpose of the credit is to increase total R&D activity in the United States. This goal is reflected in the assumption Congress made when drafting the credit. An assumption that an increase in the number of R&D credits claimed demonstrates that the R&D credit has been effective in increasing the total aggregate amount of R&D activity in the United States. Therefore, increased R&D tax credits

90. Hall, supra note 52, 457-58.
should be a positive force on our economy if the R&D tax credit is actually effective, like companies, politicians, and some scholars claim.

5. Eliminate the Incremental Credit, and Replace with a Flat Rate Credit

The credit should be a flat rate of total qualifying R&D expenditures. By disregarding the current base year calculations, a firm no longer incurs additional cost when calculating its base year, which is complicated and may not be truly accurate. A flat rate tax credit would also permit a firm to claim the credit in its first year of operation, instead of only becoming eligible after a sufficient period of time has passed that permits the firm to calculate its base year. In doing so, this would encourage formation of small R&D intensive firms because their overall expenses would be reduced.

A flat rate credit would also eliminate the problem of base creep, unrealistic base year calculations that are distorted from unusually high R&D spending, the incentive to improperly classify R&D projects as non-qualifying projects to lower a firm’s base year calculation, and the incentive to reduce R&D activities in one year to increase the size of the credit claimed in the following years.

6. Increase Tax Incentives to Firms Undertaking Joint Venture Qualifying R&D Activities

The spillover effect exists because certain R&D activities have social benefits that are much higher than the internal benefits. Simply put, a faster processor design benefits not only the company that designed it, but any company that uses computers. Thus, if two firms are
undertaking the same R&D project, there will be minimal spillover from the duplicative project. Further, if both projects equally qualify for the tax credit, the government is effectively burning cash by subsidizing two identical projects. Thus, to reduce duplicative R&D projects undertaken by different firms, a firm should have to enter their R&D activity into a database that has all R&D activities that have been and are currently being undertaken in the United States. Thus, if a firm realized that the project they were about to undertake was already being done, the firm could possibly enter into a joint venture with the other firm, thereby splitting the burden of development cost between two parties. To further encourage this, the tax credit could even be structured in such a fashion to permit both firms to take 90 percent of the credit. This would ultimately reduce the total cost of the credit to the government, and also provide greater incentives to expand R&D activities as well as promote unique R&D projects with large spillovers.

While it may be argued that by encouraging joint ventures firms will ultimately be in a position to collude and monopolize the market, we currently have anti-trust laws that prevent this. Further, in this ever increasing global economy, a firm is not only competing with firms in the same region, but firms all over the world. Therefore, it is highly unlikely that promoting joint ventures on R&D would promote collusion and monopolization. Moreover, the United States already, through lax regulations, promotes joint venture operations and R&D.

CONCLUSION

The sole purpose of a tax credit is to promote additional R&D activity in the United States. While this goal is laudable, all additional R&D activity does not necessarily have large
spillover effects, which is an underlying reason for enacting the R&D tax credit. Accordingly, public coffers may fund too many private R&D activities through the tax credit that may do nothing to further public policy or contribute to social welfare; and consequently, the alleged impact of the R&D tax credit is questionable. Simply put, as currently written the R&D tax credit is an after-the-fact consideration by companies, and is not used by many companies when deciding how much R&D activities to undertake. Moreover, the IRS frequently denies the credit, which makes firms very reluctant to rely upon and fully incorporate the tax credit into bottom line profit calculations.

Adding to the many reasons why a firm should not incorporate the R&D tax credit into their budget calculations, these activities often takes years to complete. And problematically, there is the possibility that the R&D credit will either expire without being renewed or will be renewed, but with significant changes. If Congress failed to renew the credit, firms would simply lose the investments they have already made in the bureaucracy pertaining to the tax credit – i.e. the considerable fees paid to their tax consultants, accountants, and attorneys. Similarly, if the credit were drastically altered, the definition of qualifying R&D projects might change, which might suddenly disqualify many projects that companies had assumed were eligible for the credit.

Adding to the deadweight costs of the credit, the uncertainty surrounding the requirements of the tax credit has caused many companies to employ additional accountants and tax consultants to analyze cost, determine eligibility for the research, prepare documentation arguing eligibility for the credit, and to prepare a legal defense of their accounting procedures pertaining to the credit in case of a tax audit. These factors often make the cost of pursuing the R&D credit astronomical. This can lead to a Catch-22 as companies use R&D tax credit money
to argue their case for receiving R&D tax credit money, rather than use the money on the research and development for which the credit is intended.

Simply stated, the current R&D tax credit is inefficient and promotes certain investment activities that are either already economically viable, or worse, that are of limited scope and purpose, and do not possess a large spillover effect. If Congress truly wishes to increase the total aggregate R&D investment activity, the credit must be drastically altered so that firms can actually incorporate the tax credit into their overall business strategies, instead of merely using the credit as a post factum consideration by private firms when considering R&D investment activities.

As an alternative to maintaining the R&D tax credit, the use of government grants and subsidies should be expanded to promote more of the specific R&D activities that possess the largest spillover potential. By eliminating the R&D tax credit entirely, the saved tax expenditures could be used to promote R&D activities that are not economically viable. And in doing so, there would be little effect on the aggregate amount of industry funded R&D activity.

If however the R&D tax credit is to be continued, Congress should simplify and narrow the eligibility of the tax credit. Doing this would create large benefits. The credit should also be redesigned to prevent flagrant abuses and to direct governmental subsidization toward research and development activities that simply do not generate enough positive externalities to compensate for the subsidization. To do so, statutory language of the provision should first divide potentially qualifying research and development activities by industry and type, using empirical data from studies examining the spillover effect. In doing so, the credit’s target may be narrowed and its overall effectiveness would be enhanced. Further, different credits could be employed for different industry groups; this would be determined using empirical data from
studies examining the spillover effect. More importantly, each industry area could potentially have different standards for meeting the qualification of the tax credit.

Further, the R&D tax credit should not incorporate an incremental calculation structure, as such structures tend to complicate and confuse otherwise straightforward credit calculations. Although the incremental calculation structure was intended as an incentive for firms to increase R&D activities from previous years, or base years, it may actually create a perverse incentive to decrease R&D in some years in order to receive larger credits in following years. In all, by making the credit permanent, simplifying the R&D tax credit requirements, and removing the incremental structure, companies wishing to utilize this credit could more easily identify industry areas that would qualify for the tax credit.