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## Tax Reform Revitalized the Credit for Increasing Research Activities, but Who Benefits?

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## I. Introduction

The Credit for Increasing Research Activities, known colloquially as the R&D Tax Credit, has lost its way. This conclusion is apparent in light of the undeniable divergence between the original fundamental aims of the Credit and its practical use today. A liberalized framework for computing the Credit and the contemporary tax regime have transformed the Credit's utility in such a way that it no longer fosters the very purpose it was designed to encourage. To be sure, the Credit's initial objective rested on sound policy which supplies the appropriate standard of reference for the analysis. Our inquiry is focused on business entities that generate R&D Tax Credits in excess of income and the reasons that surplus Credits are becoming more likely. A primary contention of this note is that a stockpile of R&D Credits increases the likelihood of exploitation and threatens the intended benefit to society.

The Credit was first introduced under the Economic Recovery Tax Act of 1981.<sup>1</sup> The stated purpose of the Credit was to foster investment in innovation because such activity was deemed essential to U.S. economic progress.<sup>2</sup> At the time, there was concern that American investment in onshore research and development was inadequate and declining.<sup>3</sup> Because research was considered essential to economic progress and competitiveness, corrective action was necessary.<sup>4</sup> In light of the Credit's impetus, two evaluative measures we will employ are economic progress and innovation.

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<sup>1</sup> See Economic Recovery Tax Act of 1981, Pub. L. No. 97-34, § 221(d)(1), 95 Stat. 172, 221 (1981). As originally enacted, the credit was contained in subsection 44(F). *Id.* In 1984, the sections of various tax credits in the Code were renumbered, and the R&D credit was reassigned to section 30. The Tax Reform Act of 1984, Pub. L. No. 98-369, § 30, 98 Stat. 494 (1984). In 1986, the R&D credit was again moved within the Code to section 41. The Tax Reform Act of 1986, Pub. L. No. 99-514, § 41, 100 Stat. 2085 (1986). Section 41 is where the R&D Tax Credit is contained today. 26 U.S.C. § 41 (2018). The proposed regulations with respect to the R&D credit were issued when the credit was originally at section 44(F), but the final credit regulations were promulgated under section 41. See T.D. 8251, 54 Fed. Reg. 21, 203 (May 17, 1989).

<sup>2</sup> See H. R. REP. NO. 100-1104, 88 (1988).

<sup>3</sup> See S. REP. NO. 97-144, at 76-7 (1981); H. R. REP. NO. 97-201, 111 (1981).

<sup>4</sup> See H. R. REPT. NO. 100-1104, 88 (1988).

Congress concluded that a substantial tax credit for incremental research and experimental expenditure was needed to overcome the reluctance of many companies to initiate and expand research programs in light of the significant attendant costs.<sup>5</sup> Its salutary objective was to stimulate innovation and encourage onshore investment in technological advancement.<sup>6</sup> The Credit aimed to incentivize companies to invest in obtaining new knowledge through the scientific process of experimentation.<sup>7</sup> Congress expressed a desire that the Credit not apply too broadly but also not so narrowly such that only major advances in science and technology were eligible.<sup>8</sup> A fundamental goal of the R&D Tax Credit was to encourage research activity that otherwise would not otherwise be conducted, hence its “incremental” parlance.<sup>9</sup> Examining the Credit’s objective supplies two additional criteria for evaluation: experimentation and incremental research.

The Credit, which in essence functions as a government subsidy, was designed to ameliorate dwindling investment in research by providing a means for companies to offset income tax liability as a function of their investment in research made through qualified expenditures.<sup>10</sup> The Credit then is a form of subsidy because the Federal Government is choosing to forego tax revenue it is otherwise entitled to collect and channel it instead as an investment to stimulate certain research activities.<sup>11</sup> Thus, companies that made qualifying research expenditures (“QREs”) were entitled to claim a nonrefundable tax credit that could be used to offset regular

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<sup>5</sup> STAFF OF THE JOINT COMM. ON TAX'N, *General Explanation of the Economic Recovery Tax Act of 1981*, 120 (1981) [hereinafter *ERTA Explanation*].

<sup>6</sup> See *ERTA Explanation supra* note 5, at 120. See also Prop. Reg. 1.41-1(a) (1998) (stating that the research credit "is intended to encourage business firms to perform the technological research necessary to increase innovative qualities and efficiency of the U.S. economy.").

<sup>7</sup> See *ERTA Explanation supra* note 5, at 120.

<sup>8</sup> David L. Cameron, *Research Tax Credit: Statutory Construction, Regulatory Interpretation and Policy Incoherence*, 9 COMP. L. REV. & TECH. J. 63, 69 (2004).

<sup>9</sup> See 135 CONG. REC. S13114, S13125 (daily ed. Oct. 12, 1989).

<sup>10</sup> See H. R. REP. NO. 97-201 at 111.

<sup>11</sup> *Id.*

income tax liability for the year the credits were generated.<sup>12</sup> A sunset provision automatically ending the credit's effect absent further action was included in the 1981 Act, effectively making the Credit a temporary provision.<sup>13</sup> The main reason for the temporary designation was due to concern over the revenue cost of making the credit permanent.<sup>14</sup> Indeed, a primary challenge is how to reasonably guarantee federal revenue foregone in the form of tax credits dollars is actually being used to perpetuate technological advancement.<sup>15</sup> Further, the R&D Tax Credit's original objective does not contemplate continuing tax relief for research that has already concluded or halted because Credits was required to be applied to income in the year they were generated.<sup>16</sup> Considering the choice of a tax credit to achieve the stated purpose and reasons for its temporary nature, we then must look to revenue costs as yet another evaluative measure.

Distributing tax credits also has a societal cost.<sup>17</sup> The social welfare cost of the tax credit depends on the nature of the tax used to collect funds to pay for the Credit itself.<sup>18</sup> Ideally, the value of the Credit should equal the expected value of the research to the inventor and the expected value of the research to society.<sup>19</sup> Even if a given research objective does not result in a commercial success, innovative knowledge may still be obtained that has utility in some other endeavor.<sup>20</sup> Such a positive externality is known as a "spillover effect."<sup>21</sup> At some point

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<sup>12</sup> *Id.*

<sup>13</sup> See Economic Recovery Tax Act of 1981 § 221(d)(1); S. REP. NO. 97-144 (1981); H. R. REP. NO. 97-201 (1981).

<sup>14</sup> Stephen E. Shay et. al., *R&D Tax Incentives: Growth Panacea or Budget Trojan Horse?*, 69 TAX L. REV. 419, 434 (2016).

<sup>15</sup> See generally Shay *supra* note 14, at 442 (discussing policy justifications for subsidizing R&D).

<sup>16</sup> See ERTA Explanation *supra* note 6, at 120.

<sup>17</sup> Shaun P. Mahaffy, *The case for Tax: A Comparative Approach to Innovation Policy*, 123 YALE L. J. 812, 826 (2013).

<sup>18</sup> See Mahaffy *supra* note 17, at 826.

<sup>19</sup> See Mahaffy *supra* note 17, at 826.

<sup>20</sup> Shay *supra* note 14, at 427.

<sup>21</sup> Evan Wamsley, *The Definition of Qualified Research Under the Section 41 Research and Development Tax Credit: Its Impact on the Credit's Effectiveness*, 87 VA. L. REV. 165, 185 (2001).

though, the cost to society can outweigh the benefit of the subsidy for a particular endeavor.<sup>22</sup> Spillovers aside, the subsidy was intended to redound to the benefit of society, writ large.<sup>23</sup> Absent a benefit to society, the Credit's utility is vitiating.<sup>24</sup> Thus, the benefit to society must be considered as a final evaluative measure.

The R&D Tax Credit has been assumed by some authorities to induce two dollars of spending for every one credit dollar realized.<sup>25</sup> In 2013, it was estimated that businesses received approximately \$11 billion dollars in research credits across all sectors.<sup>26</sup> According to recent estimates, U.S. companies will receive more than \$25 billion dollars of R&D incentives in 2019 and 2020.<sup>27</sup> The majority of this figure will comprise self-reported R&D Tax Credits claimed on company tax returns.<sup>28</sup> Such an expenditure by the federal government demands careful scrutiny. The trick is to ensure this money is being deployed in the spirit of the original intent.

The R&D Tax Credit appears somewhat stable in isolation today, but contemporary tax policy has led to significant changes in the way it can be used. The credit was renewed fifteen times until it was ultimately made a permanent via the Protecting Americans from Tax Hikes ("PATH") Act of 2015.<sup>29</sup> With permanency, businesses could reasonably rely on the Credit's availability and incorporate its benefits into their overall tax planning strategy. In addition to making the Credit permanent, the PATH Act made two key modifications to how the Credit

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<sup>22</sup> See Wamsley *supra* note 21, at 186; Shay *supra* note 14, at 443 (noting a distinction between basic research, applied research, and experimental development, indicating developmental R&D has a reduced societal return)

<sup>23</sup> See Wamsley *supra* note 21, at 187 (suggesting that ideally the Credit would be structured such that an entity will receive a sufficient payoff so that it carries out the same projects that society as a whole would choose to undertake).

<sup>24</sup> See Wamsley *supra* note 21, at 186 (noting that for the Credit to be effective, the benefits of the research must outweigh the costs to society).

<sup>25</sup> See Martin A. Sullivan, *Putting the Research tax Credit to the Test*, 142 TAX NOTES 1223, 1223 (2014).

<sup>26</sup> See Tax Stats *supra* note 181, at Table 1. (revealing an \$11.29 Billion credit award across all business sectors in tax year 2013).

<sup>27</sup> Israel Klein, *Contemptuous Tax Reporting*, 2019 WIS. L. REV. 1161, 1161 (2019).

<sup>28</sup> *Id.*

<sup>29</sup> Protecting Americans from Tax Hikes Act of 2015, Pub. L. No. 114-113, Div. Q, § 121, 129 Stat. 2242 (2015).

could be utilized.<sup>30</sup> The first modification allowed eligible small businesses (“ESBs”) to apply R&D Tax Credits toward their corporate Alternative Minimum Tax (“AMT”) liability.<sup>31</sup> In general, AMT establishes a tax liability floor that functions to limit the extent to which deductions and credits can be utilized by a taxpayer in a given year.<sup>32</sup> To determine AMT liability, the standard income tax is first calculated to which regular tax breaks and marginal rates apply.<sup>33</sup> This result is then compared to an AMT threshold, which is typically computed at a lower tax rate with most deductions and credits omitted.<sup>34</sup> The taxpayer must pay the AMT figure if the standard calculation results in a lower tax liability.<sup>35</sup> Prior to the PATH Act, corporate taxpayers were subject to a twenty-percent AMT that could not be offset with the R&D Tax Credit.<sup>36</sup> The PATH Act represented a policy paradigm shift that removed this bar for ESBs.<sup>37</sup> For the first time, certain taxpayers could utilize R&D Tax Credits to offset their AMT burden.<sup>38</sup> Thus, after the PATH ACT, ESBs were potentially able to generate enough credits to eliminate or exceed all of their tax liability for a given year.

The second PATH Act modification to the R&D Tax Credit allowed qualified small businesses (“QSBs”)<sup>39</sup> to elect to claim the R&D Tax Credit as a payroll tax credit that can be applied to offset required employer contributions to Old Age, Survivors and Disability Insurance (“OASDI”).<sup>40</sup> The OASDI program is administered by the Social Security Administration (“SSA”) and provides benefits to qualified retired and disabled workers, their dependents, and to

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<sup>30</sup> *See id.*

<sup>31</sup> *Id.* § 121(b). *See* I.R.C. § 41(h)(3)(A); *id.* at § 38(c)(4)(B)(ii).

<sup>32</sup> Klein *supra* note 27, at 1162.

<sup>33</sup> *Id.*

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

<sup>36</sup> *See* Protecting Americans from Tax Hikes Act of 2015, § 121(b).

<sup>37</sup> *See id.*

<sup>38</sup> *Id.*

<sup>39</sup> *See* I.R.C. § 41(h)(3)(A) (defining qualified small businesses, not to be confused with eligible small businesses under § 38(c)(5)(C)).

<sup>40</sup> *See* Protecting Americans from Tax Hikes Act of 2015, Pub at § 121.

survivors of insured workers.<sup>41</sup> Almost all employers are must make OASDI contributions for their employees.<sup>42</sup> OASDI contributions represent the social security portion of every employer's payroll tax liability arising out of the Federal Insurance Contributions Act ("FICA").<sup>43</sup> The payroll tax credit option is of particular value to a QSB that has incurred losses or had no income tax liability because previously the Credit could only be used to offset regular income tax would therefore be unusable until income was generated.<sup>44</sup> Under this provision, the Credit can have immediate tax-offsetting effect for an entirely new category of taxpayer.<sup>45</sup> Because of the payroll tax credit election for QSBs, the Credit morphed into a pseudo-refundable variant because QSBs could realize a payroll tax offsetting benefit even if no income was generated; all other entities would be forced to carry the surplus to other tax years.

The Tax Cuts and Jobs Act ("TCJA") of 2017 enhanced the dollar-for-dollar potency of the R&D Tax Credit by lowering the maximum corporate income tax rate from thirty-five percent to twenty-one percent.<sup>46</sup> Reducing regular income tax rates plainly makes the Credit more powerful because each dollar has more force to eliminate preliminary tax liability. While the AMT remained intact for individual taxpayers, the TCJA removed the corporate AMT entirely.<sup>47</sup> Where PATH Act cracked the door by allowing only ESBs to offset AMT with the R&D Tax Credit, the TCJA opened the floodgates by removing the corporate AMT threshold altogether.<sup>48</sup> The resounding impact of the TCJA is that many businesses will be able to offset much more of

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<sup>41</sup> SOCIAL SECURITY ADMINISTRATION, *Annual Statistical Supplement to the Social Security Bulletin*, 9 (2018) [hereinafter *SSA Bulletin*] (providing an overview of the program's administration and utilization).

<sup>42</sup> *See id.*

<sup>43</sup> *See* Martin J. McMahon, Jr. et al., *Recent Developments in federal Income Taxation: the Year 2015*, 18 FLA. TAX. REV. 275, 308 (2016).

<sup>44</sup> I.R.C. § 41(h). *See also* I.R.C. § 38(c)(1) (allowing general business credits to be claimed to the extent to which they exceed twenty-five percent of the corporation's regular tax liability over \$25,000).

<sup>45</sup> *See* I.R.C. § 41(h).

<sup>46</sup> *See* Tax Cuts and Jobs Act of 2017, Pub. L. No. 115-97, § 12001(b)(1), 131 Stat. 2054 (2017) (amending I.R.C. § 38(c)(6)(E) (2012)) (lowering the corporate income tax rate).

<sup>47</sup> *Id.*

<sup>48</sup> *See id.*

their income tax liability, increasing the likelihood of a surplus.<sup>49</sup> This note endeavors to explore the how increased force of the Credit creates an incentive for exploitation and has the potential to forestall the Credit's very objective. Does a large Credit stockpile is generated that may exceed income tax liability for decades incentive new research?

In addition to tax reform, contemporary jurisprudence and the Treasury Regulations have liberalized key rules for computing QREs<sup>50</sup> and taxpayer reporting.<sup>51</sup> The Code sets forth a four-part test to identify eligible research expenditures.<sup>52</sup> The elements of this inquiry are summarized as the "Section 174 test," the "technological in nature test," the "business component test," and "process of experimentation test."<sup>53</sup> While the Code provides initial guidance, classifying an activity and related expenditures as R&D in nature is a much more "creative" endeavor than appears at first blush.<sup>54</sup> This is largely because the Treasury Regulations and case law have evinced a liberal framework.<sup>55</sup> QREs are now understood to broadly include employee wages, supply expenses, and contract expenses.<sup>56</sup> Moreover, once stringent contemporaneous record keeping requirements have been relaxed.<sup>57</sup> This is largely the

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<sup>49</sup> See *id.* See also I.R.C. § 38(c)(1) (allowing general business credits to be claimed to the extent to which they exceed twenty-five percent of the corporation's regular tax liability over \$25,000

<sup>50</sup> See Shane T. Frank, et. al., *Courts Give Green Light to Claiming R&D Credit for Supplies*, 84 PRAC. TAX STRATEGIES 260, 261 (2010).

<sup>51</sup> See Klein, *supra* note 27, at 1165. See e.g. THOMSON REUTERS, *The Impact of Union Carbide on Research Credit Claims*, 110 J. TAX'N 271 (2009) (discussing how the court's interpretation Qualifying Research Expenditures under Section 41 leads to favorable taxpayer treatment).

<sup>52</sup> I.R.C. § 41(d).

<sup>53</sup> Wamsley *supra* note 21, at 169.

<sup>54</sup> Shay *supra* note 14, at 426.

<sup>55</sup> See e.g. Treas. Reg. § 1.41-2); *id.* at § 1.74-2); Union Carbide Corp. & Subsidiaries v. Comm'r, 97 T.C.M. 1207 (T.C. 2009), *aff'd*, 697 F.3d 104 (2d Cir. 2012) (discussing the section 174 test and asserting its interpretation based on various sources); TG Missouri Corp. v. Comm'r, 133 T.C.M. 278 (T. C. 2009) (discussing costs related to process development); Trinity Industries, Inc. v. United States 691 F.Supp.2d 688 (N. D. Tex. 2010) (discussing costs related to product development).

<sup>56</sup> See William R. Swindle, *Recent Cases Provide Relief for Substantiating Research Tax Credit Claims*, 84 PRAC. TAX STRATEGIES 316, 317 (2010).

<sup>57</sup> *Id.* at 319.

result of generous statutory interpretation by the courts.<sup>58</sup> The current construct has come to permit self-reporting and assessment of QREs that makes it possible to report tax positions that are subject to virtually no administrative oversight and that may not conform to the Tax Code and prevailing doctrinal principles.<sup>59</sup> The liberalized rules for categorizing QREs, and relaxed reporting requirements all function to create a powerful incentive to artificially inflate QREs.

This incentive is perhaps most irresistible because of the discretion afforded to the taxpayer. For instance, all entities that have not yet claimed the Credit may do so by filing amended returns for all open tax years.<sup>60</sup> Just as with most business tax credits, the dollar-for-dollar R&D Tax Credit may carryover if it exceeds tax liability in a given year.<sup>61</sup> Moreover, there is no mandatory requirement to deploy any tax savings to promote ongoing research.<sup>62</sup>

While the R&D Tax Credit's original purpose is venerable, contemporary tax policy and a liberalized administration threaten its integrity. An evaluative framework considering the original 1981 policy aims of economic progress, innovation, experimentation, incremental research, minimizing revenue costs, and promoting societal benefit will be used to analyze the Credit's current practical use. Part II sets forth additional background material on the R&D Tax Credit and the relevant tax policy that influences its practical application. Part III analyzes how evolving tax policy and liberalized interpretations encourage manipulation and have the potential to countermand the fundamental purpose of the R&D Tax Credit. As a means to halt this

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<sup>58</sup> See e.g. Treas. Reg. § 1.41; Union Carbide, 133 T.C. 278 (rejecting contemporaneous documentation requirement in favor of substantiation by credible oral testimony); U.S. v. McFerrin, 570 F3d 672 (5th Cir. 2009) (allowing taxpayer to use reasonable estimates to substantiate expenditures for the R&D Tax Credit).

<sup>59</sup> See Klein *supra* note 27, at 1161.

<sup>60</sup> MOSS-ADAMS, LLP, *Your Guide to Claiming the Federal R&D Tax Credit*, 3 (2016), [https://mossadams.com/getmedia/Moss-Adams\\_RnD-WhitePaper\\_rev111516.pdf](https://mossadams.com/getmedia/Moss-Adams_RnD-WhitePaper_rev111516.pdf) (noting that a longer retroactive application period may be possible if the company suffered certain losses and that companion state credits are also available).

<sup>61</sup> See I.R.C. § 39 (limiting the application somewhat in that the credit may be used in the carryover years only to the extent of the tax liability for that year attributable to the business that generated the credit).

<sup>62</sup> See generally I.R.C. § 41 (specifying no requirement for reinvestment).

undesirable result and restore the intended benefit to the American public, modest but effective revisions to the Treasury Regulations and the Code are offered for consideration. Specifically, a taxpayer's ability to claim the Credit for prior open tax years should be restricted and the Treasury Regulations need to be modified to more adequately control how businesses categorize and report research expenditures. Part IV concludes with a summary.

## **II. Background and Mechanics of the R&D Tax Credit**

The R&D Tax Credit has been modified since its inception in 1981.<sup>63</sup> Supporting sections of the sections of Internal Revenue Code, which impact Credit's administration, have also evolved.<sup>64</sup> Additionally, the Credit's practical operation has been shaped through jurisprudence and clarified in various legislative and official materials.<sup>65</sup> Due to the complex interoperation between these governing materials, it is necessary to supply background information that will be used as a foundation for analyzing the Credit. This section provides the backdrop against which our evaluative framework will be used to analyze the Credit in its current form.

### **A. Evolution of the R&D Tax Credit**

Since its inception, the credit has endured multiple iterations of tax reform. Only the most significant are recounted here. From 1986 to 2006, the administrative policy of the R&D credit shifted from restricting eligibility to providing simplified access and generous classifications. The Tax Reform Act of 1986 extended the R&D Tax Credit for another year, reduced its rate of computation, and restricted eligibility.<sup>66</sup> Specifically, the amount of the credit was reduced from

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<sup>63</sup> Compare Economic Recovery Tax Act of 1981 § 221(d)(1) (setting forth the original provisions of the credit), with I.R.C. § 41 (containing the credit in its current form).

<sup>64</sup> See, e.g. I.R.C. at § 41(d) (requiring research to be eligible for treatment as expenses as described by I.R.C. at § 174 as part of a conjunctive four-part test for eligibility).

<sup>65</sup> See, e.g. *Union Carbide*, 97 T.C.M. 1207 (discussing the section 174 test and asserting its interpretation based on various sources).

<sup>66</sup> See Tax Reform Act of 1986, Pub. L. No. 99-514, § 231(a), 100 Stat. 2085 (1986).

twenty-five percent of the total QREs to twenty percent.<sup>67</sup> The reduction in rate appears to have been an attempt to lower tax rates and broaden the income tax base rather than in response to an analysis of the Credit's prior effectiveness.<sup>68</sup> Restricting eligibility addressed mounting concern that taxpayers were too liberally interpreting the Credit so as to qualify more expenses connected to product development than initially contemplated.<sup>69</sup> The restriction was accomplished by clarifying the definition of qualified research so as to target only research undertaken to discover information that was technological in nature and pertaining to functional aspects of products.<sup>70</sup> The effect of these changes was to reduce the number of credits generated, thus minding revenue costs, and ensure the incremental research aim was being fostered.

The Omnibus Budget Reconciliation Act of 1989 then made basic changes to the way the Credit was calculated.<sup>71</sup> First, the notion of a "base amount" of QREs was introduced.<sup>72</sup> The base amount was defined as the product of a taxpayer's fixed-base percentage and the average amount of the taxpayer's gross receipts for the four years preceding the year for which the Credit is being computed.<sup>73</sup> The change was enacted to safeguard the incremental research aim. By defining a base amount, Congress sought to ensure that only QREs above this fixed baseline would be countable when computing the Credit. Special provisions were made for "start-up" companies.<sup>74</sup> The start-up provisions addressed how to compute the fixed-base percentage for companies having both gross receipts and QREs for fewer than three taxable years beginning after December 31, 1983, and before January, 1, 1989.<sup>75</sup> The start-up designation recognized

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<sup>67</sup> *Id.* at § 231(c).

<sup>68</sup> Xuan-Thao Nguyen & Jeffery A. Maine, *Attacking Innovation*, 99 B. U. L. REV. 1687, 1752 (2019).

<sup>69</sup> *See* S. Rept. 99-313, at 695-95 (1986); H. Rept. 99-426, at 117 (1986).

<sup>70</sup> *See* Tax Reform Act of 1986 at § 231(b).

<sup>71</sup> *See* Omnibus Budget Reconciliation Act of 1989, Pub. L. No. 101-239, § 7110 (1989).

<sup>72</sup> *Id.* at § 7110(b) (*amending* I.R.C. § 41(c)(1)).

<sup>73</sup> *Id.*

<sup>74</sup> *Id.* at § 7110(b)(1).

<sup>75</sup> *See id.* at § 7110(c)(3)(B).

that some companies may not have been engaged in research for a full four years if between the 1983 and 1989 window. This change expanded accessibility to the Credit, fostering the innovation and societal benefit aims, but perhaps at the expense of revenue cost.

The Small Business Job Protection Act of 1996 expanded the definition of a start-up company.<sup>76</sup> The revised definition included any firm so long as the first tax year with both gross receipts and qualified research expenditures occurred after 1983.<sup>77</sup> Because of these changes, any firm first incurring QREs after 1983 can technically be a start-up. A start-up designation means a streamlined method of computing the base amount and instantaneous access to the Credit once QREs are made. These changes further expanded access to the Credit and made it easier for companies to claim its benefit. This possibly promoted innovation and positive spillover effects by allowing more companies to claim the Credit, but at the expense of revenue due to an increased likelihood of subsidizing superficial research.

The Tax Relief and Health Care Act of 2006 introduced the Alternative Simplified Credit (“ASC”).<sup>78</sup> The ASC is discussed more completely in subsection C(3) *infra*, but it essentially allows a simple percentage-based computation of the Credit over a simplified baseline.<sup>79</sup> The ASC provided all taxpayers with a streamlined method to compute the Credit, but start-ups who lack legacy accounting records would find this method particularly useful. This change allowed more companies to access and generate credits. This may have promoted innovation but at the expense of revenue. It took thirty years, but the Credit has generally developed over its course of its renewals to tolerate expanded access—virtually any company who even remotely conducts research can qualify.

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<sup>76</sup> See Small Business Job Protection Act of 1996, Pub. L. No. 104–188, § 1204(b) (1996) (modifying Code section 41(c)(3)(B) of the 1996 Code).

<sup>77</sup> See *id.*

<sup>78</sup> See Tax Relief and Health Care Act of 2006, PL 109–432, § 104(c) (2006).

<sup>79</sup> See *id.*

## **B. Contemporary Tax Policy and its Influence on the R&D Tax Credit**

Contemporary tax policy has significantly altered both the way in which the R&D Tax Credit can be utilized and its tax-offsetting power. These modifications combine to increase the likelihood that surplus Credits will be generated and stockpiled. The two most prominent revisions to the Internal Revenue Code that contributed to this result were the Protecting Americans from Tax Hikes Act of 2015 and the Tax Cuts and Jobs Act of 2017. Section III discusses how and why a stockpile of Credits contravenes every element of our evaluative framework; specifically, economic progress, innovation, experimentation, incremental research, minimizing revenue costs, and maximizing societal benefit. This subsection explores the specific features of these Acts that affect the Credit and its use.

### **1. Effects of the Protecting Americans from Tax Hikes Act of 2015**

The PATH Act made three key changes that significantly impacted the R&D Tax Credit. The first major substantive reform was to make the R&D Tax Credit permanent.<sup>80</sup> This development is relevant because prior to 2015, the credit was essentially a temporary provision which required legislative action to extend.<sup>81</sup> Businesses often criticized the temporary nature of the Credit on the ground that attendant uncertainty hindered business and tax planning activities.<sup>82</sup> With permanency, however, businesses could reasonably rely on the Credit's availability. Making the Credit permanent was significant because it evidences a shift in policy in light of Congress's concern over revenue costs that kept the Credit temporary for over three decades.<sup>83</sup> Thus, this change potentially affects our evaluative measure of revenue costs.

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<sup>80</sup> Protecting Americans from Tax Hikes Act of 2015 § 121(a) (amending I.R.C. § 41 accordingly). *See e.g.* McMahon *supra* note 43, at 308.

<sup>81</sup> *See id.*

<sup>82</sup> Shay *supra* note 14, at 434. *See also* Michael D. Rashkin, *The Dysfunctional Research Credit Hampers Innovation*, 131 TAX NOTES 1057, 1059-60 (June 6, 2011).

<sup>83</sup> Shay *supra* note 14, at 434.

The second noteworthy modification was to enable the R&D Tax Credit to offset AMT for eligible small businesses (“ESBs”).<sup>84</sup> An ESB is a privately-held entity with less than \$50 million in average annual gross receipts within the prior three years.<sup>85</sup> To be sure, the Credit remained available for all businesses, but the ESB category received special treatment under the PATH Act. ESBs represent a large portion of the corporate landscape and associated tax implications are significant.<sup>86</sup> In fact, small businesses are estimated to account for as much as fifty percent of all entities claiming the Credit, though not necessarily fifty percent of the Credits claimed.<sup>87</sup> This is meaningful because the PATH Act enabled a significant number of ESB taxpayers to offset corporate AMT.<sup>88</sup> Corporate AMT is essentially a minimum tax liability that an entity is responsible for.<sup>89</sup> Generally, a taxpayer—individual or corporate—must calculate the regular tax using the standard schedules of marginal rates, deductions, and credits to determine liability and compare it with an AMT computation at a prescribed lower rate that omits most deductions and credits.<sup>90</sup> If the regular tax is lower than AMT, the taxpayer must pay the difference.<sup>91</sup> That incremental amount historically could not be offset with the R&D Tax Credit.<sup>92</sup>

After the PATH Act, ESBs could use the Credit to offset their corporate AMT.<sup>93</sup> As we will see in the next section C, liberalized rules encourage QRE’s to be artificially inflated, increasing the amount of credits generated. At least for ESBs, the PATH Act furthered an

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<sup>84</sup> *Id.* at § 121(b) (adding section 38(c)(4)(B)(ii) to the Tax Code).

<sup>85</sup> *See* I.R.C. § 38(c)(5)(C). This is not to be confused with I.R.C. § 41(h)(3)(A) (defining qualified small businesses (“QSBs”)).

<sup>86</sup> *See* Lerong He & Yuanlong He, *The R&D Tax Credit: What is in it for Small and Medium-Sized Businesses?*, 98 PRAC. TAX STRATEGIES 08 (2017) (quantifying the number of applicants in the small, medium, and large business sectors and presenting the claimed credit dollars for each).

<sup>87</sup> *Id.* at 3. Note though that in terms of claimed credit dollars, large corporations have dominated. *Id.*

<sup>88</sup> *Id.* (amending section 38(c)(5)(C) of the tax Code).

<sup>89</sup> *See* I.R.C. § 38(c)(5)(C).

<sup>90</sup> *E.g.* Klein *supra* note 27, at 1162.

<sup>91</sup> *Id.*

<sup>92</sup> *See* McMahon *supra* note 43, at 308.

<sup>93</sup> Protecting Americans from Tax Hikes Act of 2015 § 121(a).

incentive to inflate expenditures because all of their income tax liability was fair game for the Credit to offset. Artificial inflation of QREs increases revenue costs while decreases societal benefit and does nothing to promote additional experimentation, innovation or economic progress. Notably, the Tax Cuts and Jobs Act extended same the benefit to all corporate taxpayers.

A third provision of the PATH Act concerns qualified small businesses (“QSBs”).<sup>94</sup> Like ESBs, QSBs represent a special class of taxpayer that received special treatment under the PATH Act. Other taxpayers could still access the Credit as per usual. A QSB is a partnership, corporation or person with gross receipts of less than \$5 million for the current tax year and no gross receipts for any tax year preceding the five year tax period ending with the current tax year.<sup>95</sup> For the purpose of the R&D Tax Credit, QSBs represent a subset of the ESB category. Under the PATH Act, QSBs can elect to claim a certain amount of the R&D Tax Credit as a payroll tax credit that can be used to offset the employer portion of the Old Age, Survivors and Disability Insurance (“OASDI”) for up to five years.<sup>96</sup> OASDI contributions represent the social security portion of almost every employer’s payroll tax liability arising out of the Federal Insurance Contributions Act (“FICA”).<sup>97</sup> Virtually all employers are required to make OASDI contributions for their employees.<sup>98</sup>

The ability to utilize the R&D Tax Credit toward payroll tax liability is attractive to QSBs for two reasons. First, QSBs can claim and realize the benefit of a tax credit even when they have no income tax liability.<sup>99</sup> Second, a QSB has discretion to use the Credit to offset

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<sup>94</sup> See I.R.C. § 41(h)(3)(A).

<sup>95</sup> *Id.* (defining qualified small businesses, not to be confused with eligible small businesses under § 38(c)(5)(C)).

<sup>96</sup> See *id.*; I.R.C. § 3111(f). See e.g. McMahon *supra* note 43, at 308.

<sup>97</sup> See e.g. McMahon *supra* note 43, at 308.

<sup>98</sup> See SSA Bulletin *supra* note 41, at 9.

<sup>99</sup> See He *supra* note 86, at 9 (providing an example for how the payroll tax credit option works).

regular income tax liability if it should arise.<sup>100</sup> The Credit was thus transformed into a pseudo-refundable variant because QSBs have the option to realize a payroll tax offsetting benefit even if no income is generated; all other entities are forced to carry the surplus to other tax years. Under the PATH Act, QSBs were also given an incentive to artificially inflate QREs. Any surplus Credits generated could be stockpiled and deployed at the QSBs sole discretion. Artificial inflation of QREs increases revenue costs and offers no benefit to society. Such a maneuver also does nothing to promote experimentation, innovation, or economic progress.

## **2. Effects of the Tax Cuts and Jobs Act of 2017**

The TCJA of 2017 propagated the upside created by the PATH Act of 2015 by increasing the tax-offsetting power of the Credit. With the increased potency of the Credit, it became much more likely that a taxpayer would encounter a surplus, meaning generated Credits exceed tax liability. As section III will discuss, a stockpile of R&D Credits increases the likelihood of exploitation and threatens the intended benefit to society. This section explores how the TCJA functioned to increase the force of the Credit. Two modifications to the Code are largely responsible for this consequence.

The first major change engendered by the TCJA was the complete removal of corporate AMT.<sup>101</sup> This is significant because corporate tax payers are no longer required to compare their regular income tax liability—including deductions and credits—against a minimum threshold AMT value.<sup>102</sup> Under the TCJA, it is impossible for a corporation to discover that it must pay a higher AMT than its computed regular tax liability.<sup>103</sup> Instead, the opposite is true: Corporations simply have no AMT liability for the purpose of determining tax credit limitations, and the R&D

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<sup>100</sup> *Id.*

<sup>101</sup> *See* Tax Cuts and Jobs Act of 2017 § 12001(b)(1).

<sup>102</sup> *See id.*

<sup>103</sup> *See id.*

Tax Credit directly offsets regular income tax.<sup>104</sup> Utilization of the R&D Tax credit for corporations is not unfettered though because other provisions of the Code still operate to limit application.<sup>105</sup> For instance, corporations may only claim general business credits to the extent of twenty-five percent of the corporation's regular tax liability over \$25,000.<sup>106</sup> Nonetheless, corporations are no longer constrained by the AMT when offsetting income. Just as the PATH Act did for ESBs, the TCJA perpetuated an incentive to all corporations previously subject to AMT to inflate expenditures because now all of their income tax liability was fair game for the Credit to offset. Artificial inflation of QREs increases revenue costs while decreases societal benefit and does nothing to promote additional experimentation, innovation or economic progress.

The second critical modification by the TCJA was the overall reduction in the corporate income tax rate from thirty-five percent to twenty-one percent.<sup>107</sup> It follows that the dollar-for-dollar force of a tax credit is necessarily increased whenever marginal tax rates decrease. Tax credits generally function to reduce preliminary tax liability and the R&D Tax Credit is no different.<sup>108</sup> Preliminary tax liability is computed as the product of taxable income and the tax rate.<sup>109</sup> Thus, when the tax rate is reduced, a Credit whose value has not decreased will have more tax-reducing force. This is precisely how the TCJA works to increase the tax offsetting power of the R&D Tax Credit. Due to the increased potency of the Credit, it is possible that a corporation can generate more Credits than its income tax liability. This potentially compounds the incentive for corporations to inflate QREs due to the perceived value of a stockpile.

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<sup>104</sup> *See id.*

<sup>105</sup> *See* I.R.C. § 38(c) (specifying limitations of the application of tax credits to tax liability).

<sup>106</sup> *See id.* at § 38(c)(1)(B). Recall the R&D Tax Credit is still a general business credit *Id.* Previously, only ESBs enjoyed special designation under the PATH Act). Protecting Americans from Tax Hikes Act of 2015 § 121(a).

<sup>107</sup> Tax Cuts and Jobs Act of 2017 § 12001(b)(1) (amending Code section 11(b)).

<sup>108</sup> *See generally* JOINT COMM. ON TAX'N, *Overview of the Federal Tax System as in Effect for 2019 (JCX-9-19)* (2019) (providing an overview of the federal taxation system).

<sup>109</sup> *Id.*

Artificial inflation of QREs increases revenue costs while decreases societal benefit and does nothing to promote additional experimentation, innovation or economic progress.

Reducing the tax rate works a less obvious but equally compelling benefit for entities utilizing other Code sections in tandem with the R&D Tax Credit.<sup>110</sup> For instance, amortization of research and experimental expenditures is an available tax deduction under Code section 174.<sup>111</sup> Public policy disfavors a double tax benefit and would normally preclude a tax credit and a tax deduction for the same qualifying expenditure.<sup>112</sup> As workaroud, the taxpayer is permitted to elect to take a reduced R&D Tax Credit under Code section 280 so that she may claim both an R&D Tax Credit and an R&D Tax Deduction.<sup>113</sup> Here again, the Credit's benefit is a function of the corporate tax rate. Prior to the TCJA, section 280 reduced the Credit thirty-five percent, matching the maximum corporate tax rate at the time.<sup>114</sup> With a Code section 280(C)(c) election, taxpayers could then only apply sixty-five percent of a the computed R&D Tax Credit if they also wanted to take the R&D Deduction.<sup>115</sup>

Because the TCJA lowered the corporate income tax rate by fourteen percentage points, the adjusted Credit required by Code section 280(C)(c) was re-indexed to twenty-one percent.<sup>116</sup> Thus, under the TCJA, taxpayers making the same Code section 280(C)(c) election can now apply seventy-nine percent of the Credit when implementing both section 174 and 41 in tandem.<sup>117</sup> The net effect is a twenty-one and one half percent increase in Credit utilization

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<sup>110</sup> Yair Holtzman & Sharlene Sylvi, *Insight: 2017 Tax Law Changes Increase Value of R&D Credit*, BLOOMBERG L. NEWS (Jan. 23, 2019).

<sup>111</sup> See I.R.C. § 174 (specifying the requirements for amortizing research and experimental expenditures).

<sup>112</sup> See *Id.* § 280(C)(c)(1) (prohibiting a Code section 41 credit and Code section 174 deduction to operate in tandem unless election is made).

<sup>113</sup> *Id.* § 280(C)(c)(3) (permitting both a research expenditure credit and deduction if a reduced credit is elected).

<sup>114</sup> I.R.C. § 280(C)(c)(3)(B)(II) (2012) (*amended 2017*).

<sup>115</sup> *Id.* (subtracting the 35% reduction from the 100% gross credit amount).

<sup>116</sup> See Tax Cuts and Jobs Act of 2017 § 12001(b)(1) (amending Code section 11(b) and Code section 280(C)(c) of the Internal Revenue Code).

<sup>117</sup> See I.R.C. § 280(C)(c)(3)(B)(II).

capacity. The Credit is therefore more powerful when utilized to offset tax liability. This result also potentially compounds the incentive for corporations to inflate QREs. Artificial inflation of QREs has negative externalities that offend every element of our framework. Given the increased likelihood of a Credit surplus, the question becomes: At some point will a stockpile grow to exceed its practical value and cause a company to cease QREs altogether?

### **C. Determining QREs and Computing the Amount of R&D Tax Credits**

In addition to tax reform, contemporary jurisprudence and the Treasury Regulations have liberalized key rules for computing the Credit, classifying QREs,<sup>118</sup> and taxpayer reporting.<sup>119</sup> Certain tactical decisions within the province of the taxpayer can significantly influence the amount of Credit computed in a given year.<sup>120</sup> Section III will discuss how artificial inflation of QREs can lead to a stockpile of R&D Credits that threatens the very aims of our evaluative framework. The following subsections outline the dominant considerations and mechanisms that must be navigated and nuances that should be appreciated when computing and claiming the R&D Tax Credit.

#### **1. Methods to Compute the Credit**

There are two primary procedures available to compute the R&D Tax Credit: the Traditional (or Regular) method and the Alternative Simplified Credit (“ASC”) method.<sup>121</sup> The regular computation method generally provides a tax credit equal to twenty percent of the tax

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<sup>118</sup> See Frank *supra* note 50, at 261.

<sup>119</sup> See Klein, *supra* note 27, at 1165. See e.g. THOMSON REUTERS, *The Impact of Union Carbide on Research Credit Claims*, 110 J. TAX’N 271 (2009) (discussing how the court’s interpretation Qualifying Research Expenditures under Section 41 leads to favorable taxpayer treatment).

<sup>120</sup> See Klein *supra* note 27, at 1196 (explaining various ways in which companies report qualified expenditures).

<sup>121</sup> See I.R.C. at § 41(a)(1) (specifying the traditional method); *id.* at § 41(c)(4)(A) (specifying the alternative simplified method). The so-called basic research credit method also exists, but it is limited to corporations, and it essentially modifies the recognized base period amount. See *id.* at § 41(e)(7)(E). The details of this method are not discussed at length herein. Some commentators also cite the so-called reduced credit method. See He *supra* note 86, at 1196. This method was explained *supra* in subsection II(B)(2) and arises when a taxpayer makes the Code section 280(c)(C) election and utilizes the R&D Tax Credit and R&D Tax Deduction in tandem. *Id.*

payer's qualified research expenditures (QREs) over a base amount for that year.<sup>122</sup> The base amount is defined as the product of the so-called fixed-base percentage and the average annual gross receipts of the taxpayer in the four preceding tax years.<sup>123</sup> The taxpayer's base amount cannot be less than fifty percent of its QREs for the year in which the credit is assessed.<sup>124</sup> The term fixed-base percentage refers to the proportion of aggregate QREs to aggregate gross receipts the taxpayer incurred based on historical tax years, starting after December 31, 1983 and ending before January 1, 1989.<sup>125</sup> The fixed-base percentage cannot exceed sixteen percent.<sup>126</sup> If a company is classified as a start-up, the fixed base percentage is computed differently.<sup>127</sup> The fixed base percentage for a start-up is calculated as three percent of QREs for the first five years where QREs manifest and then as a scaled average of QREs for successive years.<sup>128</sup> Importantly, this does not necessarily mean that a start-up company, as regarded by the Code, is a nascent business.<sup>129</sup> Given the Credit's framework, a company can be in business many years and still be considered a start-up company for the purpose of assessing its research activities.<sup>130</sup>

As an alternate to the traditional method, the ASC provides a streamlined approach to computation. The ASC value is equal to fourteen percent of the portion of QREs in excess of fifty percent of the average QREs for the preceding three tax years.<sup>131</sup> If a taxpayer has no QREs in any of the preceding three tax years, the credit is simply computed as six percent of QREs

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<sup>122</sup> *Id.* at § 41(a)(1)(B).

<sup>123</sup> *Id.* at § 41(c)(1).

<sup>124</sup> *Id.* at § 41(c)(2).

<sup>125</sup> I.R.C. § 41(c)(2).

<sup>126</sup> *Id.* at § 41(c)(3)(C).

<sup>127</sup> *See id.* at §41(c)(3)(B) (defining start-up companies as having both gross receipts and QREs beginning after Dec. 31 1983 or any company that has fewer than three tax years between Dec. 31, 1983, and Jan. 1 1989, with both gross receipts and QREs).

<sup>128</sup> *See id.* at §41(c)(3)(B)(ii).

<sup>129</sup> Kreig D. Mitchell, *The R&D Tax Credit for Start-Up Companies*, 88 PRAC. TAX STRATEGIES 52, 53 (2012).

<sup>130</sup> *Id.*

<sup>131</sup> I.R.C. at § 41(c)(4)(A).

made in the current year.<sup>132</sup> Electing to use the ASC method can only be revoked with IRS consent, and it applies to all subsequent tax years.<sup>133</sup> While the ASC method contemplates a reduced credit award when compared to the traditional method, it can be the less burdensome option for a taxpayer if historic data is unreliable or unavailable. Importantly, a taxpayer is permitted to make an ASC election for a tax year on an amended return within the timeframe for filing such a return.<sup>134</sup> This option is available for all taxpayers and it can be elected even when claiming the Credit retroactively for open tax years.<sup>135</sup>

## 2. Qualifying Research Activities and Expenditures

Identifying and reporting eligible expenditures are perhaps the most significant factors affecting the amount of a claimed R&D Credit.<sup>136</sup> Recall, U.S. companies stand to receive more than \$25 billion dollars of R&D incentives in 2019 and 2020.<sup>137</sup> The majority of this figure will comprise self-reported R&D Tax Credits claimed on company tax returns.<sup>138</sup> An improper classification or apportionment of expenses, either during everyday accounting or when preparing either IRS Form 6765 (income tax credit) or Form 8974 (payroll tax credit), can severely impact the credit computation or prevent eligibility altogether.<sup>139</sup> The procedure for classifying QREs is codified by statute, and the rules promulgated by the Treasury Regulations and interpreted further by case law.<sup>140</sup>

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<sup>132</sup> *Id.* at §41(c)(4)(B).

<sup>133</sup> *See id.* at §41(c)(4)(C).

<sup>134</sup> *See* Treas. Reg. § 1.41-9(b)(2) (2018).

<sup>135</sup> *See id.*

<sup>136</sup> *See* Wamsley *supra* note 21, at 191 (discussing the cost implications with varying definitions of QREs).

<sup>137</sup> Klein *supra* note 27, at 1161.

<sup>138</sup> *Id.*

<sup>139</sup> *See* Siemer Milling Co. v. Comm'r of Internal Revenue, 117 T.C.M. 1196 (T.C. 2019) (holding applicant failed to demonstrate that expenses for which it claimed research credits were qualified research expenses and denying credits).

<sup>140</sup> *See e.g.* I.R.C. § 41(b) (announcing the test for QREs); Treas. Reg. § 1.41-(2) (adding additional detail and considerations to the statutory test); Union Carbide Corp. 97 T.C.M. at 1277 (synthesizing the four-part test for QREs).

In order for expenditures to qualify for the Credit, certain statutory criteria must be met.<sup>141</sup> As a preliminary matter, some activities are expressly disqualified as QREs.<sup>142</sup> Disallowed activities include research after commercial production, adaptation of existing business component, duplicating an existing business component, surveys and studies, non-sanctioned computer software development, foreign research, research involving social sciences, and funded research.<sup>143</sup> The TCJA has amended this section such that expenditures for the development of any software will be expressly considered as QREs after December 31, 2021.<sup>144</sup> This is a noteworthy modification as qualifying research activity connected to software is currently limited and has been throughout the Credit's history.<sup>145</sup> While historically not qualified, there is no reason to conclude companies are underinvesting in software in general—quite the contrary.<sup>146</sup> While data is not currently available, it is likely that this change will increase revenue costs significantly.

QREs are broadly defined as the sum of in-house research expenses and contract research expenses.<sup>147</sup> In-house research expenses include wages paid to employees engaging in qualified research.<sup>148</sup> Notably, qualifying research activity includes the direct supervision or support of others engaging in research.<sup>149</sup> In-house qualifying expenditures also include amounts paid for supplies, characterized as any tangible property other than land or depreciable property used in

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<sup>141</sup> See I.R.C. § 41(b).

<sup>142</sup> *Id.* at § 41(d)(4).

<sup>143</sup> See *id.*

<sup>144</sup> *Id.* at § 174(c)(3) (as amended by the Tax Cuts and Jobs Act of 2017 § 13206).

<sup>145</sup> See Sara J. O'Connell, *No Research and Development Tax Credit for Commercial Software Developers: Tax Accounting Software Corp. V. United States*, 57 TAX LAW. 273 (2003) (providing historical context for how certain software research expenses became qualified).

<sup>146</sup> See *id.*

<sup>147</sup> I.R.C. at § 41(b)(1).

<sup>148</sup> *Id.* at § 41(b)(2).

<sup>149</sup> *Id.*

the conduct of qualified research.<sup>150</sup> Finally, amounts paid to another person for the right to use computers while conducting research counts as a QRE, so long as the taxpayer is not reimbursed.<sup>151</sup> Eligible contract research expenses are defined as sixty-five percent of any amount paid or incurred by the taxpayer to any person other than an employee for qualified research.<sup>152</sup> A three-prong test further qualifies contract research expenses.<sup>153</sup> This requires the contractor to enter into an agreement with the taxpayer prior to performing qualified research, the research must be conducted on behalf of the taxpayer or the “Rights test,” the taxpayer must bear the expense of the research even if unsuccessful or “At-Risk test.”<sup>154</sup>

Code section 41 prescribes a four-part test that must be satisfied for research activity to qualify for the Credit: the Section 174 Test, the Technological Information Test, the Process of Experimentation Test, and the Business Component Test.<sup>155</sup> The Section 174 test mandates that expenditures be eligible for treatment as expenses under Code section 174 for R&D Tax Deductions.<sup>156</sup> This essentially means research or experimental expenditures incurred in connection with the taxpayer's trade or business representing research and development costs in the experimental or laboratory sense.<sup>157</sup>

The second element requires the research to be undertaken for the purpose of discovering eligible information.<sup>158</sup> Such information must be technological in nature, the application of which is intended to be useful in the development of a new or improved business component for

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<sup>150</sup> *Id.*

<sup>151</sup> *Id.*

<sup>152</sup> *Id.* at § 41(b)(3).

<sup>153</sup> See Treas. Reg. § 1.41-2(e)(2) (establishing a three-prong test for contract research expenses necessitating: (1) an agreement entered into prior to the performance of the qualified research; (2) requires the taxpayer to bear the expense, even if unsuccessful (the “At-Risk test”); and (3) provides that the research be performed on behalf of the taxpayer (the “Rights test”).

<sup>154</sup> See e.g. *id.*; Cameron *supra* note 8, at 147 (discussing Lockheed Martin Corp. v. United States, 210 F.3d 1366 (Fed. Cir. 2000)).

<sup>155</sup> See I.R.C. § 41(d).

<sup>156</sup> *Id.* at § 41(d)(1)(A).

<sup>157</sup> Treas. Reg. § 1.174-2(a)(1).

<sup>158</sup> I.R.C. § 41(d)(1)(B)(i).

the taxpayer.<sup>159</sup> There is a discovery requirement which is satisfied if the research is intended to eliminate uncertainty concerning the development or improvement of a business component.<sup>160</sup> Moreover, the credit is available regardless of whether the taxpayer succeeds or fails in achieving her objective.<sup>161</sup>

The third element requires substantially all of the research activities to constitute indicia of a process of experimentation.<sup>162</sup> Four core requirements sufficiently demonstrate satisfaction of the third element: (1) identifying uncertainty in the development or improvement of a business component; (2) implementing one or more alternatives intended to eliminate said uncertainty; (3) specifying a process to evaluate the alternatives; and (4) conducting an evaluative process through, modeling, simulation, or systematic trial and error.<sup>163</sup> As a final point of distinction, the grant of a U.S. patent is neither a necessary nor sufficient condition to claim the R&D Credit.<sup>164</sup> A patent does work an advantage though because it serves as conclusive evidence that the elimination of uncertainty element has been satisfied.<sup>165</sup>

The fourth, and final, element requires the taxpayer to deliberately set out to discover information that will be useful in the development of a new or improved business component for the taxpayer.<sup>166</sup> Research satisfies the permitted purpose sub-test if the taxpayer attempts to improve the function, performance, reliability, or quality of a new or improved business

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<sup>159</sup> *Id.* at §41(d)(1)(B).

<sup>160</sup> Treas. Reg. § 1.41-4(a)(3)(i).

<sup>161</sup> *Id.* at §1.41-4(a)(3)(ii).

<sup>162</sup> I.R.C. § 41(d)(1)(C)(3).

<sup>163</sup> *See* Treas. Reg. § 1.41-4(a)(5).

<sup>164</sup> *See Mahaffy supra* note 17, at 825 (comparing the various costs of the patent and taxation channels to incentivize research).

<sup>165</sup> *Id.*

<sup>166</sup> I.R.C. §41(d)(1)(B)(ii).

component.<sup>167</sup> Thus, a process of experimentation is for a permitted purpose if it relates to a new or improved function, performance, reliability or quality of the business component.<sup>168</sup>

The issue of how taxpayers claiming the R&D Tax Credit should document and account for qualified research activities has presented a challenge since inception.<sup>169</sup> Prior to 2003, special recordkeeping requirements established high standards for substantiating expenditures.<sup>170</sup> For example contemporaneous documentation meant research activities needed to be accounted for in real time.<sup>171</sup> However, the burdens of contemporaneous recordkeeping have since been alleviated.<sup>172</sup> Interestingly, the latest regulations do not establish any special documentation requirements to claim the Credit.<sup>173</sup> Instead, taxpayers are directed to simply comply with the Code's general recordkeeping requirements.<sup>174</sup> Moreover, courts have relaxed the contemporaneous recordkeeping requirement by allowing reasonable estimates.<sup>175</sup> This liberalization has given rise to three typical methods of accounting used to document research activities and associated expenditures: the project, departmental, and hybrid methods.<sup>176</sup> While there are nuanced differences between the three methods, they all essentially rely on the principal of self-reporting.<sup>177</sup> Self-reporting means that taxpayers are not beholden to administrative

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<sup>167</sup> *Id.* at § 41(d)(3)(A).

<sup>168</sup> Treas. Reg. § 1.41-4(a)(5)(ii).

<sup>169</sup> *See e.g. Cameron supra* note 8, at 95 (discussing historic commentary on the subject and how the Treasury Regulations have evolved).

<sup>170</sup> *See Swindle supra* note 56, at 318 (discussing historic stringent recordkeeping requirements).

<sup>171</sup> *See id.*

<sup>172</sup> *See Mahaffy supra* note 17, at 831.

<sup>173</sup> *See* Treas. Reg. § 1.41-4(d).

<sup>174</sup> *See id.* (pointing to Treas. Reg. 1.6001-1).

<sup>175</sup> *See* *McFerrin*, 570 F.3d at 679 (approving the use of reasonable taxpayer estimates for claimed R&D Tax Credits); *Union Carbide*, 97 T.C.M. at 1268 (noting substantiation acceptable by creditable oral testimony).

<sup>176</sup> *Swindle supra* note 56, at 318.

<sup>177</sup> *See id.*

oversight.<sup>178</sup> With only the risk of ex-ante examination, the current recordkeeping construct creates fertile ground for abuse through over-allocation of expenditures to research activities.<sup>179</sup>

It is clear that various tests and guiding principles endeavor to control the kinds of activities and expenditures that qualify under the credit; however, it is also evident that the strictures have been relaxed over time. While the framework is salutary in its aim, it is largely unworkable and exploitable in practice. The process of identifying expenditures is reduced to blind reliance on corporate records and designations of spending by the very entity that stands to benefit. Indeed, it is fairly assumed that illicit conduct such as fraud is not a common enterprise; however, the undeniable incentive to inflate expenditures in light of the Credit's newfound potency cannot be ignored. Artificial inflation of QREs increases revenue costs while decreases societal benefit and does nothing to promote additional experimentation, innovation or economic progress.

### **III. Liberalized Rules Threaten the Integrity of the R&D Tax Credit**

In this section our evaluative measures of promoting economic progress, fostering innovation, encouraging experimentation, recognizing incremental research, minding federal revenue cost, and maximizing societal benefit are employed to analyze how the Credit has come to lose its way. While the R&D Tax Credit may appear stable in isolation, there are a number of ways in which its function in practice strays from its primary objective of increasing research activities that would not have otherwise been pursued.<sup>180</sup> Recall that businesses receive approximately \$11 billion dollars in research credits across all sectors in a given year.<sup>181</sup> A

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<sup>178</sup> See Klein *supra* note 27, at 1161.

<sup>179</sup> See *id.* (showing a significant positive correlation between R&D expenditures and contemptuous tax reporting).

<sup>180</sup> Sullivan, *supra* note 25.

<sup>181</sup> INTERNAL REVENUE SERVICE, SOI Tax Stats - Corporation Research Credit, Table 1, <https://www.irs.gov/statistics/soi-tax-stats-corporation-research-credit> [hereinafter *Tax Stats*] (revealing an \$11.29 Billion credit award across all business sectors in tax year 2013).

primary challenge is how to reasonably guarantee federal revenue foregone in the form of R&D Tax Credits is actually being used to perpetuate technological advancement.<sup>182</sup>

As we have seen, the tax environment in which the Credit operates has changed. The Credit itself has also evolved. The rules for qualifying expenditures and computing the Credit have been liberalized. It is now much more likely that entities will be able to generate Credits that exceed their regular income tax liability, resulting in a surplus. A primary question to address is whether a stockpile promotes any of the salutary aims the Credit was designed to achieve. We contend at some point a stockpile of Credits offends six evaluative measures of our framework. After discussing the incentives for creating a Credit stockpile and its deleterious effects, this section concludes with a suggested restructuring to reconcile the divergence between the R&D Credit's primary aims and its present utilization.

#### **A. Incentive to Artificially Inflate Qualifying Research Expenditures**

There has always been an incentive to make sure no eligible research expenses are overlooked because the possible R&D Tax Credit is directly proportional to the aggregate QREs.<sup>183</sup> The more QREs a company accumulates, the greater the amount of the computed R&D Tax Credit. Indeed, at a minimum, the four-part test must be satisfied to comply with the statute.<sup>184</sup> There are, however, numerous expense categories that can prove difficult to police in practice.<sup>185</sup> This is particularly true with the employee wage sub-category of in-house

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<sup>182</sup> See generally Shay *supra* note 14, at 442 (discussing policy justifications for subsidizing R&D).

<sup>183</sup> See I.R.C. § 41(a). This is true regardless of the credit computation methodology selected.

<sup>184</sup> *Id.* at § 41(d). See also *McFerrin*, 570 F.3d at 676 (“Qualified research” has four separate and independent requirements: (1) the expenses must be of the type deductible under I.R.C. § 174; (2) the research must be undertaken ‘for the purpose of discovering information ... which is technological in nature;’ (3) the application of that information must be ‘intended to be useful in the development of anew or improved business component of the taxpayer;’ and (4) substantially all of the research activities must ‘constitute elements of a process of experimentation.’).

<sup>185</sup> See *e.g.* Shay *supra* note 14, at 426-29 (discussing the difficulty with categorizing employee wages).

expenses.<sup>186</sup> Wages are defined to mean all remuneration for services performed by an employee for her employer, which is a construct adopted from elsewhere in the Code.<sup>187</sup> Applying the statutory four-part test then means if “substantially all” of the services rendered by an employee during a tax year is spent on research activities, then the entirety of that employee's wage becomes a QRE for the purposes of the R&D Credit.<sup>188</sup> The Treasury Regulations announce that the “substantially all” threshold is satisfied for a given employee if the time devoted to qualified research constitutes at least eighty percent of the total time.<sup>189</sup>

Recall that the recognized categories of employee service include direct research activity, direct supervision of the same, direct support, or any combination thereof.<sup>190</sup> Under the rules then, the entire wage paid to a given employee who has directly engaged in, supervised, supported, or otherwise contributed to any research activity is considered a QRE so long as eighty-percent of her time was dedicated in the effort.<sup>191</sup> Considering the self-reporting and relaxed recordkeeping requirements, it is not hard to imagine “creative accounting” tactics when assessing whether a given employee has conducted just enough direct, supervisory, or support activity such that the eighty percent threshold is crossed.<sup>192</sup> Administrative feasibility is indeed desirable, but perhaps the salary of an employee is too significant an expense to “guesstimate.”

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<sup>186</sup> See *id.* Compare *Shami v. Comm'r*, 741 F.3d 560, 564 (5th Cir. 2014) (noting that the salaries of the president and the cochairman of the board, neither of whom had “any formal education or training in chemistry or engineering,” amounted to eighty percent of the research expenditures claimed even though dozens of other employees were claimed to have been engaged), with *Suder v. Comm'r*, 108 T.C.M. 354 (T.C. 2014) (“During the years at issue Mr. Suder served as the chief executive officer (CEO) of ESI. However, he did not perform the typical duties of a CEO. He spent most of his time brainstorming ideas for new products and ways to improve existing products.”).

<sup>187</sup> See I.R.C. § 41(b)(2)(D) (indicating wages are identical to the Code section 3401(a) definition).

<sup>188</sup> See *id.* at § 41(b)(2)(B); Treas. Reg. § 1.41-2(d)(2).

<sup>189</sup> See Treas. Reg. § 1.41-2(b)(1).

<sup>190</sup> I.R.C. § 41(b)(2).

<sup>191</sup> Cameron *supra* note 8, at 147 (discussing wages and the interaction with the “substantially all” test).

<sup>192</sup> See U.S. GOV'T ACCOUNTABILITY OFF., *The Research Tax Credit's Design and Administration Can Be Improved (GAO-10-136)*, (Nov. 2009) [hereinafter *GAO Report*] (noting wages to be included in costs eligible for the R&D Credit are a source of dispute, particularly to what constitutes direct supervision or support of research).

The statute does not expressly require an investment in R&D to pay off. In fact, quantifiable success is not an essential element of the statutory four-part test.<sup>193</sup> The real question is how to properly determine the value of research efforts that cannot be deemed a conventional success. For instance, there may be a time delay between when the research activity was conducted and when a property right, product, or other benefit with a positive return materializes.<sup>194</sup> Research is inherently iterative and tentative in nature; the Code by its own terms requires uncertainty to be addressed via a process of experimentation.<sup>195</sup> Even if a given research objective does not result in a commercial success, innovative knowledge may still be obtained that has utility in some other endeavor.<sup>196</sup> Such a positive externality is referred to as a “spillover effect.”<sup>197</sup>

Spillover notwithstanding, the R&D Credit has real costs to society and its effectiveness must be objectively evaluated in the context of its aim of promoting economic progress.<sup>198</sup> Today, researchers need not be demonstrably efficient or effective in their efforts—pyrrhic victories are acceptable.<sup>199</sup> Some amount of “failure” should be tolerated as part of the process, but at some point the cost to society can outweigh the benefit of the subsidy for a particular endeavor.<sup>200</sup> The issue is that there is currently no mechanism to limit the duration or scope of any QRE that an entity may be incurring. Thus, the credit can virtually be claimed in perpetuity for a particularly persistent entity for even superficial research activity. A nefarious taxpayer may choose to

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<sup>193</sup> See I.R.C. § 41(d) (not specifying a test for employee competence or qualifications); Treas. Reg. at §1.41-4(a)(3)(ii) (allowing satisfaction of the four-part test even if experimental efforts are unsuccessful). See also Shay *supra* note 14 at, 427-28 (discussing difficulties in qualifying and assessing the value of unsuccessful research).

<sup>194</sup> Shay *supra* note 14 at, 427.

<sup>195</sup> See I.R.C. § 41(d).

<sup>196</sup> Shay *supra* note 14, at 427.

<sup>197</sup> Wamsley *supra* note 21, at 185.

<sup>198</sup> See *id.* at 184.

<sup>199</sup> Treas. Reg. §1.41-4(a)(3)(ii) (allowing satisfaction of the four-part test even if the efforts are unsuccessful).

<sup>200</sup> See Wamsley *supra* note 21, at 186; Shay *supra* note 14, at 443 (noting a distinction between basic research, applied research, and experimental development, indicating developmental R&D has a reduced societal return)

tenuously maintain what amounts to a sham research program such that the attractive tax benefit the Credit offers can be preserved. The Credit is ill-equipped to address such issues.

The regulation's "substantially all" interpretation as applied to employee wages seemingly offers more of an incentive for companies claim eighty percent of certain employee's time was research-related than it does to promote technological advancement through innovation and experimentation. It is not difficult to imagine a scenario where a business entity assigns gratuitous supervisory or support tasks to satisfy the statute and tip the balance over the critical threshold so the entire employee's wage is a countable QRE.<sup>201</sup> In fact, mere brainstorming activities have been held to satisfy the test.<sup>202</sup> Even with the most scrupulous accounting, it does not seem likely that eighty-one percent of an employee's time is tantamount to a one hundred percent commitment to research. It would seem plausible that nineteen percent more dedication would have an equally measureable benefit. Of course, if the eighty percent figure is arrived at using an overgenerous gloss the problem is exacerbated. This is especially troubling in light of the fact that wages make up the majority of QREs for most taxpayers.<sup>203</sup>

The resulting classification of salary as a QRE may redound to the benefit of offsetting an entity's tax bill, but society foots the bill when legitimate research commensurate with the wage allocation does not occur.<sup>204</sup> The aims of promoting innovation and economic progress are forestalled when a company's research investment is merely illusory. Unless genuine research is

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<sup>201</sup> See *Shami* 741 F.3d at 564 (finding an over allocation of eligible wages when a company claimed that dozens of its employees engaged in qualified research each year, and the bulk of its wage QREs came from the salaries of only the CEO and Cochairman of the Board, neither had formal training in chemistry or research).

<sup>202</sup> See *Suder v. Comm'r*, 108 T.C.M. at 354 (holding CEO's time brainstorming ideas for new products and ways to improve existing products was a QRE).

<sup>203</sup> *Mitchell supra* note 129, at 52.

<sup>204</sup> See *Wamsley supra* note 21, at 186 (noting societal benefits of the research activity encouraged must outweigh the social costs and that benefit is proportional to additional research generated).

conducted, no subsidy should be extended.<sup>205</sup> Moreover, extending a subsidy for no return in societal benefit patently offends the aim of minimizing costs to federal revenue.

There may also be a detrimental effect on employee upward mobility. For instance, consider a deserving employee whose promotion would mean her involvement in research activity would fall below the almighty eighty-percent threshold. In such a scenario, the employer may realize that said employee's wage is no longer completely eligible as a QRE, thereby increasing the out-of-pocket cost to the company. While undocumented, an unfortunate scenario can be imagined whereby eligibility for an anticipated tax credit may factor into the calculus of employee development and career trajectory. These problems are particularly evident in small businesses, such as an ESB, where employees are likely to assume multiple duties.<sup>206</sup> Overzealous estimates of employee time dedicated to research and tenuous classification of research activities is difficult to police in a small business environment, especially when relying on the self-reporting construct.<sup>207</sup>

### **B. The Current Tax Environment Threatens the R&D Tax Credit's Purpose**

The PATH Act and TCJA open the door for entities to exploit the Credit at a great cost the very society it is intended to benefit. Ideally, the Credits available would be assessed as the difference between the value of the research to the company and the value of the research to society.<sup>208</sup> The value of the research to the company is expected to be realized through the beneficial return in the form of profit. The contemplated benefit to society is new knowledge that leads to innovation and economic growth.<sup>209</sup> The cost of the societal benefit is federal

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<sup>205</sup> See Wamsley *supra* note 21, at 191 (noting that one risk of incentivizing research through tax credits is that it cannot be targeted and it can end up subsidizing research with little or no societal benefit).

<sup>206</sup> See Wamsley *supra* note 21, at 171.

<sup>207</sup> See generally Klein *supra* note 27 (noting elements contributing to contemptuous tax reporting).

<sup>208</sup> Mahaffy *supra* note 17, at 825.

<sup>209</sup> See Shay *supra* note 14, at 419.

revenue used to subsidize non-trivial research that would not otherwise have been conducted absent an incentive.<sup>210</sup> The issue is that the PATH Act and TCJA's provisions significantly altered the tax landscape but failed to rebalance costs. Specifically, the changes made were not offset by revenue increases or expenditure decreases.<sup>211</sup>

The TCJA threatens the integrity of the Credit. Inflating QREs in a given tax year maximizes the potential tax break because the Credit is directly proportional to QREs.<sup>212</sup> As previously discussed, the TCJA's elimination of AMT for corporations and its reduction in the corporate income tax rate significantly increases the dollar-for-dollar tax offsetting power of the Credit.<sup>213</sup> Since the Credit is directly applied to offset income, it becomes much more likely for a claimed Credit to exceed the taxpayer's entire liability, resulting in a surplus.<sup>214</sup> But what value does a stockpile actually have? There may be an erroneously perceived value of a Credit stockpile. A company may derive some form of comfort in knowing that the surplus may one day be used to offset unanticipated income tax liability. But the stockpile may grow to such an extent that it is virtually unusable. The increased potency of the Credit afforded by the TCJA and the incentive to overinflate QREs may very well lead to a surplus of this magnitude. If an entity realizes that its R&D Credit dollars have no utility to offset actual tax, it may simply cease to invest in research. If this occurs, the R&D Tax Credit has functioned contravene its purpose. It no longer creates an incentive to invest in incremental research, economic progress through research does not occur, innovation and its positive spill-over effects halt, and the overall benefit to society is no longer achieved.

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<sup>210</sup> See Shay *supra* note 14, at 419.

<sup>211</sup> See Shay *supra* note 14, at 419.

<sup>212</sup> See I.R.C. at § 41(f)(1)(A); Cameron *supra* note 8, at 144.

<sup>213</sup> See Tax Cuts and Jobs Act of 2017 § 12001(b)(1) (amending Code section 38(c)(6)(E)); Holtzman *supra* note 110.

<sup>214</sup> See Holtzman *supra* note 110.

As the Code typically allows, to the extent that business credit dollars exceed income tax liability they may be carried back (i.e. applied to previous open tax years) or carried forward (i.e. applied to future tax liability).<sup>215</sup> In fact, surplus Credit may be carried forward to each of next twenty years.<sup>216</sup> The carry back and carry forward provisions apply to all taxpayers, including: corporations, partnerships, and individuals.<sup>217</sup> The same kind of benefit is available to a taxpayer making the Code section 280(C)(c) election, allowing for a tandem R&D Tax Credit and Tax Deduction.<sup>218</sup> As we have seen, the likelihood for surplus is increased in that context as well due the Credit's tax offsetting potency afforded by the TCJA.

Due to carryover provisions, the Credit can continue to offset tax liability even long after the investment in research activity was made and recovered.<sup>219</sup> Recall the stated justification for the Credit was to foster investment in innovation because it was deemed essential to U.S. economic progress.<sup>220</sup> The subsidy was intended to redound to the benefit of society, writ large.<sup>221</sup> Absent a benefit to society, the Credit has no legitimate purpose.<sup>222</sup> The R&D Tax Credit's original objective does not contemplate continuing tax relief for research that has already concluded or halted.<sup>223</sup> Due to the liberalized construction of QREs and the implications of the TCJA, a Credit surplus is far more likely today than it was in 1986.<sup>224</sup> Where other operating provisions of the

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<sup>215</sup> I.R.C. § 39(a). The Taxpayer Relief Act of 1997, Pub. L. No. 105-34, 111 Stat 788 (1997) (amending § 39(a)(1) and changing the carry back and carry forward periods from 3 and 15 years to 1 and 20 years, respectively). *See also* He *supra* note 86, at 19 (providing an example to illustrate options for surplus Credits).

<sup>216</sup> *See* The Taxpayer Relief Act of 1997 § 39(a).

<sup>217</sup> *See* I.R.C. § 39(a).

<sup>218</sup> *See* I.R.C. § 280(C)(c)(3)(B)(II) (reducing the Code section 41 Credit reduction by twenty one percent when claimed in tandem with a Code section 174 Deduction).

<sup>219</sup> *See* I.R.C. at § 39(a)(1).

<sup>220</sup> *See* H. R REP. NO. 100-1104 at 88 (1988).

<sup>221</sup> *See* Wamsley *supra* note 21, at 187 (suggesting that ideally the Credit would be structured such that an entity will receive a sufficient payoff so that it carries out the same projects that society as a whole would choose to undertake).

<sup>222</sup> *See* Wamsley *supra* note 21, at 186 (noting that for the Credit to be effective, the benefits of the research must outweigh the costs to society).

<sup>223</sup> *See* ERTA Explanation *supra* note 6, at 120.

<sup>224</sup> *See* Klein, *supra* note 27, at 1164 (the current tax regime incentivizes companies to inflate their expenditures).

Code—such as carryovers—are incorporated, the result should be consistent with the aims of the evaluative framework.

### **C. The R&D Tax Credit to Offset Payroll Tax Liability**

The R&D Tax Credit can function to offset payroll tax liability.<sup>225</sup> As previously described, the PATH Act made it possible for certain entities to claim the R&D Tax Credit in the form of a payroll tax credit used to offset required employer contributions to OASDI.<sup>226</sup> Recall, OASDI contributions represent the social security portion of virtually every employer's payroll tax liability arising out of FICA.<sup>227</sup> Social security is funded through payroll taxes, with half of the tax paid for by the employer and the other half paid for by the employee.<sup>228</sup> Receiving the Credit in this form is not available to all taxpayers; the entity must be considered a QSB to be eligible.<sup>229</sup> To be deemed a QSB, the entity must first operate as a partnership, corporation, or sole proprietorship.<sup>230</sup> Next, gross receipts must not exceed \$5 million in the current tax year.<sup>231</sup> Finally, there can be no gross receipts at all for any tax year immediately preceding the five-year period ending with the current tax year.<sup>232</sup> A QSB more closely aligns with the colloquial understanding of a start-up company, although a mature company can technically qualify.

If eligible as a QSB, the entity can elect to apply a portion or all of the R&D Tax Credit toward employer OASDI contributions for up to five years.<sup>233</sup> Applying the Credit in this

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<sup>225</sup> See I.R.C. § 41(h)(2).

<sup>226</sup> Protecting Americans from Tax Hikes Act of 2015 § 121 (amending Code section 41(h)). See also McMahon *supra* note 21 at 308 (discussing the PATH Act's major implications for the Credit).

<sup>227</sup> McMahon *supra* note 43, at 308 (describing the implications of the PATH Act to the R&D Tax Credit).

<sup>228</sup> Tristen J. Cohen, *Retirement Security: Leveraging the Research and Development Tax Credit*, 15 MAR. ELDER'S ADVISOR 291, 292 (2014).

<sup>229</sup> See I.R.C. § 41(h). See also He *supra* note 86, at 8-9 (discussing eligibility for the payroll tax Credit).

<sup>230</sup> See *id.* at § 41(h)(3)(A) (defining a QSB, not to be confused with an ESB under Code section § 38(c)(5)(C))

<sup>231</sup> *Id.*

<sup>232</sup> *Id.*

<sup>233</sup> See *id.* at § 41(h)(4)(B). The election is made by completing Section D of IRS Form 6765, *Credit for Increasing Research Activities*, and also submitting Form 8974, *Qualified Small Business Payroll Tax Credit for Increasing Research Activities*, per the instructions and statutory filing requirements depending on the business entity type.

manner is generally limited to the lesser of: (1) a \$250,000 cap; (2) the Credit computed for the current year; or (3) the amount of any business credit carry forward under Code section 39 that is carried from the tax year when the election was made.<sup>234</sup> Recall that if the computed R&D payroll Tax credit exceeds the statutory limits, surplus may be carried forward.<sup>235</sup> Under ideal circumstances then, a QSB can theoretically offset \$1.25 million over a five year period.<sup>236</sup>

The Credit is available to offset employer payroll tax liability for QSBs that have no net income or even incur a net operating loss.<sup>237</sup> The credit's utility, however, does not vanish in the event that a QSB turns a profit.<sup>238</sup> While the amount of credit that can be channeled to offset OASDI payroll tax liability is capped, nothing in the statute precludes apportioning the credit to both to income and payroll tax.<sup>239</sup> QSBs can decide for themselves how to best utilize Credit dollars to offset OASDI payroll tax liability and income tax liability exceeding twenty-five percent of over \$25,000.<sup>240</sup> With the TCJA's reduction in corporate tax rates, the Credit's tax offsetting potency—making it more likely that surplus of Credits will be generated. These consequences flow whether or not the Credit is used to offset payroll or income tax liability. Such a framework unfairly enhances the benefit to QSBs.

The payroll tax credit election was designed to incentivize new, risk-taking firms and encourage private-sector decisions that prioritize investment in research and development as opposed to disproportionately subsidizing research activities of large established firms.<sup>241</sup> The philosophy was to use the R&D Tax Credit to make labor less expensive for nascent companies

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<sup>234</sup> See I.R.C. § 41(h)(2); *id.* at § 39.

<sup>235</sup> See *id.* § 3111(f)(3).

<sup>236</sup> See *id.* § 41(h)(4)(B).

<sup>237</sup> MOSS-ADAMS, LLP, *supra* note 60, at 3.

<sup>238</sup> See *id.*

<sup>239</sup> See I.R.C. § 41(h) (requiring the election to indicate the amount of tax credit to apply to payroll obligation, implying that the unapplied amount can be used elsewhere).

<sup>240</sup> See I.R.C. § 38(c).

<sup>241</sup> See Cohen *supra* note 228, at 309 (discussing the policy justification for the so-called Startup and Innovation Credit, which was eventually incorporated in substantially similar form by the PATH Act).

heavily invested in research who would otherwise be unable to access its conventional tax benefits because it is unlikely they would generate income early on.<sup>242</sup> In the advent of the current tax regime, a QSB can choose when to begin amassing a Credit stockpile. The QSB can simply elect how many Credits generated should be apportioned to offset income, payroll tax liability, or carried forward.<sup>243</sup> Economic growth is primary justification for tax credits in general.<sup>244</sup> As we have seen, a stockpile can exceed its utility when a company cannot use the Credits to offset QREs. A start-up may then conclude that it should halt investing in research—the very issue Congress sought to eliminate when the payroll tax credit option was installed for QSBs.<sup>245</sup> If this occurs, the aims of promoting innovative and incremental research are threatened and progress stagnates.

At least two scenarios involving abuse by QSB owners are possible and cannot be tolerated. First, a QSB owner may be able to obtain a government subsidy for a sham investment. Self-classification and reporting enable QSBs to liberally categorize expenses as QREs.<sup>246</sup> Artificially inflating QREs is not a unique problem to QSBs,<sup>247</sup> but its effect is particularly egregious when considering OASDI funding is potentially at stake. Under the “substantially all” rule, QREs can be significantly increased by including entire paid wages if it is estimated that research activities comprise at least eighty percent of the employee’s time.<sup>248</sup> Research investments and efforts are not monitored, and the four-part test does not require any measurable

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<sup>242</sup> *Id.*

<sup>243</sup> See I.R.C. § 41(h) (requiring the election to indicate the amount of tax credit to apply to payroll obligation, implying that the unapplied amount can be used elsewhere).

<sup>244</sup> Shay *supra* note 14, at 441.

<sup>245</sup> See Cohen *supra* note 228, at 309.

<sup>246</sup> See Klein *supra* note 27, at 1161 (showing a significant positive correlation between R&D expenditures and contemptuous tax reporting).

<sup>247</sup> See *id.*

<sup>248</sup> See Treas. Reg. § 1.41-2(d)(2). See also Union Carbide, 133 T.C. 278 (rejecting contemporaneous documentation requirement in favor of credible oral testimony); *McFerrin*, 570 F3d at 672 (allowing taxpayer to use reasonable estimates of expenditures).

objective be achieved.<sup>249</sup> Indeed, the taxpayer largely decides which research is worth conducting, how to invest, and what is to be done with the results; a research plan is not necessary to claim the credit.<sup>250</sup> This affords too much discretion to QSB owners. With some ingenuity, a savvy QSB owner can leverage the credit to completely avoid millions in FICA payroll taxes obligation over five years—without ever delivering any measurable technological advancement to society.<sup>251</sup> Such an outcome is likely either due to superficial research or artificially inflating QREs. Meanwhile, the employee must pay her income tax with no relief.<sup>252</sup> In this scenario, the federal government has diverted revenue for no meaningful benefit to society.

The second consequence arises out of the flexibility afforded to the QSB to decide whether to apply its Credit to payroll taxes, income taxes, or some combination thereof. With the advent of the TCJA, Credits have much more tax-offsetting value, and tax planning can effectively engender a Credit stockpile that can be carried forward up to twenty years.<sup>253</sup> Such a posture can facilitate a chilling and nefarious maneuver in the QSB context. Consider, for instance, a QSB that employs a skilled researcher. This researcher's salary can be completely assignable as a QRE if at least eighty-percent of her time devoted to qualified research activities.<sup>254</sup> The QSB may apply the claimed Credit as a payroll tax credit for up to five years and reduce out-of-pocket costs for its human capital investment.<sup>255</sup> If this research then becomes profitable, resulting in income tax liability, the QSB may shift Credit allocation to use some or all of the Credit to offset

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<sup>249</sup> See Treas. Reg. § 1.41-4(a)(3)(ii).

<sup>250</sup> Mahaffy *supra* note 17, at 825.

<sup>251</sup> See I.R.C. § 41(h) (allowing for a possible \$250,000 cap over five years of credit to be applied).

<sup>252</sup> See Cohen *supra* note 228, at 292.

<sup>253</sup> See Holtzman *supra* note 110.

<sup>254</sup> See I.R.C. § 41(b)(2)(B); Treas. Reg. § 1.41-2(d)(2).

<sup>255</sup> See I.R.C. § 41(h)(2).

its liability, and choice can be made each year.<sup>256</sup> The TCJA operates to reduce corporate taxes and increase the tax-offsetting force of the credit, making carry forward of a Credit surplus more likely. Because ongoing research is not required to utilize the Credit stockpile, there is no safeguard for the researcher's job. A nefarious owner driven by avarice could have the government subsidize a portion of his workforce for five years, reap the payroll tax benefit while stockpiling surplus credits, terminate R&D initiative/employee, and apply the Credit toward income tax into the future for twenty years. Indeed this would require a five year development cycle and there is a theoretical limit to the pro rata tax benefit, but the possibility exists. Such a high social welfare and tax revenue cost was not a contemplated outcome in 1981.

#### **D. Restructuring to Minimize Exploitation and Restore Purpose**

The current framework for claiming the R&D tax credit needs to be adjusted to realign its purpose in the context of the current tax regime. The R&D Tax Credit's own codifying section has remained largely unchanged in the advent of the PATH Act and TCJA.<sup>257</sup> As we have seen, the interplay with other Code sections creates powerful incentives to exploit its liberalized rules and increases the likelihood that a Credit stockpile will be generated. This is not to say the entire R&D Tax Credit has run its useful course, as others have contended.<sup>258</sup> Recall that the R&D Tax Credit has been assumed by some authorities to induce two dollars of spending for every one credit dollar realized.<sup>259</sup> The Credit represents over \$20 billion in spending though, and such an expenditure demands careful scrutiny.<sup>260</sup> A sum of this magnitude can be positively transformative if deployed to obtain new knowledge and promote the positive externalities

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<sup>256</sup> *See id.*

<sup>257</sup> *See Holtzman supra* note 110.

<sup>258</sup> *See Jacob Nussim & Anat Sorek, Theorizing Tax Incentives for Innovation*, 36 VA. TAX REV. 25, 49 (2017) (doubting the social desirability of current practices for promoting innovation through tax incentives, and considering why non-tax cash-transfers are perhaps socially superior).

<sup>259</sup> Sullivan, *supra* note 25.

<sup>260</sup> Sullivan, *supra* note 25, at 1223.

discussed earlier.<sup>261</sup> Two modifications are suggested to redress the Credit's vulnerabilities. First, a taxpayer's ability to look back and open prior tax years to generate the Credit needs to be restricted. Second, the Regulations need to be revised to mandate more exacting control over qualified research expenditures ("QREs"). Each of these remedial measures is discussed in turn.

Taxpayers should be restricted from opening prior tax years and claiming the R&D Tax credit. Currently, an entity may look back to an open tax year and claim the credit by filing an amended return.<sup>262</sup> The Alternative Simplified Credit computation method may be used to streamline this process, minimizing the documentation requirement in favor of a percentage calculation of QREs.<sup>263</sup> It is against a fundamental aim of the credit to be reimbursed for past research activities. Recall that the Credit was intended to stimulate investment in development activities that would not otherwise have been undertaken in its absence.<sup>264</sup> Prior investments in research clearly do not comport with this requirement as the research effort and expenditure already occurred and whatever investment made was presumably recovered. This kind of research patently would have occurred without the Credit. When the PATH Act made the Credit permanent the public was placed on actual notice of its existence, thereby neutralizing any claims of ignorance. If the Credit is not claimed in a timely manner, the presumption should be the investment in research would have otherwise been made, obviating the need for the Credit's tax-offsetting value; therefore, absent extenuating circumstances, a taxpayer should not be

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<sup>261</sup> Cf. Shay *supra* note 21, at 440-42 (noting that positive externalities can lead to societal benefits such as improved productivity and higher wage jobs in proximity to where research is conducted thus improving social benefit; however, in the absence of research activities the societal cost of subsidizing seems unjustified).

<sup>262</sup> MOSS-ADAMS, LLP *supra* note 60, at 3 (noting that a longer retroactive application period may be possible if the company suffered certain losses and that companion state credits are also available).

<sup>263</sup> See Treas. Reg. § 1.41-9(b)(2) (2018).

<sup>264</sup> See 135 CONG. REC. S13114, S13125 (daily ed. Oct. 12, 1989).

entitled to retroactive relief. Indeed, other mechanisms besides a tax subsidy can provide adequate incentive for innovation, such as research grants.<sup>265</sup>

Opening prior tax years to claim the Credit is particularly egregious with the onset of the TCJA. As described above, eliminating AMT and reducing corporate tax rate increases the tax-offsetting power of the Credit.<sup>266</sup> This is so because the preliminary tax liability is necessarily reduced when the tax rate is reduced, and the Credit offsets this figure dollar-for-dollar—thereby increasing in force. A straightforward tax planning maneuver is to open all eligible tax years in an attempt to stockpile the maximum amount of Credits, and then apply them to future income tax. As we have seen, a credit stockpile can threaten all six aims of our evaluative framework.

The R&D Tax Credit should not be applied with the benefit of hindsight as part of a tax planning strategy. Permitting such activity affords businesses far too much discretion and advantage when computing and claiming the credit. It also provides perhaps the strongest incentive for over inflating QREs so the maximum Credit's will be generated.<sup>267</sup> For the Credit to be justified, societal benefits must at least balance the revenue costs.<sup>268</sup> Inflating QREs does nothing to promote innovation, experimentation, or incremental research activities. It does, however, expend revenue and detract from economic progress. In this case, the expected value to the company far exceeds the value to society.

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<sup>265</sup> See Daniel J. Hemel & Lisa Larrimore Quелlette, *Beyond the Patents—Prizes Debate* 92 TEX. L. REV. 303 (2013) (providing a framework to compare tax and nontax incentives for innovation).

<sup>266</sup> See Tax Cuts and Jobs Act of 2017 § 12001(b)(1) (amending Code section 11(b) and Code section 280(C)(c) of the Internal Revenue Code). See also Holtzman *supra* note 110 (explaining how the value of the Credit has increased for taxpayers).

<sup>267</sup> See Klein, *supra* note 27, at 1164 (recognizing the potential for significant financial benefit acts as an incentive to mis-categorize and inflate R&D expenditures thereby increasing the Tax Credit; finding a positive correlation between R&D expenditures and contemptuous tax reporting).

<sup>268</sup> See Shay *supra* note 14, at 421 (noting the basic premise for the R&D Tax Credit incentive contemplates new knowledge that leads to innovation and economic growth).

The framework for allocating QREs needs to be re-worked. Specifically, the eighty percent threshold used to allocate the entirety of an employee’s wage as a QRE should be eliminated.<sup>269</sup> The statutory four-part test as construed by the courts remains useful for qualifying certain in-house expenditures, but it is less suited to wages.<sup>270</sup> Indeed, the largest component of R&D expenditures is employee wages and benefits.<sup>271</sup> The eighty percent rule encourages those who stand to benefit most from the credit to simply “round up” in an overzealous appraisal when recounting the extent of employee direct, supervisory, and support functions connected to research.<sup>272</sup> After all, it is easiest and most beneficial for the taxpayer to simply consider an employee’s entire wage as a QRE—especially when such an optimistic accounting will maximize the tax credit.<sup>273</sup> The interests of administrative feasibility, compliance, and maximizing the aggregate QRE are all competing; however, a guestimate simply lacks the sophistication necessary to serve as a workable solution.

In the current digital age, it is not an insurmountable task to account for an employee’s contribution accurately and honestly. Tools prepared by major accounting and technology firms are readily available that can assist with apportioning employee time.<sup>274</sup> Even if investment in an enterprise solution is not feasible, simple standard operating procedure can fill the void. This

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<sup>269</sup> See Treas. Reg. § 1.41-2(d)(2).

<sup>270</sup> See generally I.R.C. at § 41(d); *McFerrin*, 570 F.3d at 676 (“Qualified research” has four separate and independent requirements: (1) the expenses must be of the type deductible under I.R.C. § 174; (2) the research must be undertaken ‘for the purpose of discovering information ... which is technological in nature;’ (3) the application of that information must be ‘intended to be useful in the development of anew or improved business component of the taxpayer;’ and (4) substantially all of the research activities must ‘constitute elements of a process of experimentation.’).

<sup>271</sup> *Shay supra* note 14, at 426.

<sup>272</sup> See I.R.C. § 41(b)(2) (permitting direct engagement, supervision, and support as a qualifying activity). See also *Shami* 741 F.3d at 564 (finding an over allocation of eligible wages the bulk of its QREs came from the salaries of the CEO and Cochairman of the Board, neither had formal training in chemistry or research).

<sup>273</sup> See *Klein, supra* note 27, at 1164.

<sup>274</sup> See e.g. PRICEWATERHOUSECOOPERS, *Research and Development Credit Services*, <https://www.pwc.com/us/en/services/tax/specialized-tax/research-development-credit.html> (last visited Apr. 5, 2020) (“[W]e have developed a flexible, customizable technology solution designed to build upon your existing technologies. Our unique web-based solution utilizes Microsoft SharePoint and is designed to minimize disruption to your business by incorporating data from existing payroll and ERP systems).

can be accomplished through timesheets, payroll ledgers, and reports so that an individual's time and wages are costed to specific projects.<sup>275</sup> It may also be helpful to assign a standardized job description to a researcher, supervisor, or assistant that captures the extent to which certain qualifying functions are carried out. Given the increased force each credit dollar now carries and the myriad options available to account for an employee's time, it is not appropriate to simply assume wages are QREs under the presumption that eighty percent is tantamount to the whole. Here, the value of an inflated estimate to the company far exceeds the value provided to society.

#### **IV. Conclusion**

The R&D Tax Credit was introduced in 1981 with a noble purpose: stimulate innovation and economic progress by incentivizing entities to invest in obtaining new knowledge through the scientific process of experimentation.<sup>276</sup> From the initial policy we have deduced evaluative measures of promoting economic progress, fostering innovation, encouraging experimentation, recognizing incremental research, minding federal revenue cost, and maximizing societal benefit. Contemporary tax policy and liberalized rules have reshaped the utility of the Credit. As a result of the PATH Act and the TCJA, the R&D Tax Credit now has unprecedented dollar-for-dollar tax offsetting potency. In this context, a taxpayer today can unfairly generate a Credit stockpile that has the potential to offend all six of the aims in our framework.

While the current tax environment incentivizes exploitation at great cost to society, the fostering spirit of the credit remains its salvation. Removing and amending certain features of the R&D Tax Credit can restore its integrity and revitalize its salutary purpose. In sum, the R&D Tax Credit is a worthy feature that can have a positive influence on the U.S. economy; however, this can only be accomplished if the cost of the subsidy balances with its value to society.

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<sup>275</sup> See Swindle *supra* note 56, at 322 9(offering suggested analog methods to account for employee time).

<sup>276</sup> See Economic Recovery Tax Act of 1981, at 221.