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Research Credit: A Journey of Uncertainty

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The passage of the "American Taxpayer Relief Act of 2012" (P.L. 112-240, 1/2/2013) temporarily removed uncertainties surrounding the Research Tax Credit (IRC §41: Credit for Increasing Research Activities) as this provision was once again extended, for the fourteenth time, through the end of 2013. The credit expired at the end of 2011 so the new extension applies retroactively to cover

the 2012 tax year. However, the law was only signed into effect after December 31, 2012;[1] therefore, a taxpayer cannot include the tax benefit in their income tax provision for financial statements ending on December 31, 2012. Instead, this benefit must be recognized in the first quarter of 2013.

The research credit is a nonrefundable credit available to businesses that conduct qualified research activity. Taxpayers have to increase their research activity from year to year in order to receive this credit. Lawmakers never passed this as a permanent provision and introduced many changes with each temporary extension. Today, businesses of all sizes claim a total of about $7.8 billion in research credit annually.

IRC §41 was introduced in 1981 as a temporary provision to stimulate domestic research activities. It has been extended every year since then with the exception of 1995. Each extension brought modifications to the scope of "qualified research." After the amount of qualified research expense is determined, the taxpayer may choose from the two available formulas (Regular Credit or Alternative Simplified Credit) to calculate the actual credit amount

The Tax Reform Act of 1986 (TRA 1986) provided the most significant change to the definition of qualified research. It added three additional qualifying requirements to the original condition that research expense must first be deductible under IRC §174 (though no double benefit is allowed) to be eligible for the research credit.[2]

Subsequently, Treasury issued, withdrew, and reissued regulations to clarify the four tests set forth in TRA 1986. One major change in the 2004 final regulations eliminated the requirement to "obtain information that exceeds, expands or refines the common knowledge of skilled professionals in the particular field of science or engineering."[3] Before this change was made, the IRS believed that research must be for discovery of revolutionary breakthrough in order to qualify for the credit. This test was extremely difficult test to meet. The new regulations expanded this test to include evolutionary advancements.[4]

In *U.S. vs. McFerrin*, the Court of Appeals for the Fifth Circuit held that the 2004 regulations apply retroactively to years before the regulations went into effect. In its analysis, the Fifth Circuit rejected the lower court's finding that "'discovering information meant going beyond the current state of knowledge in the field" and cited from the 2004 regulations that the "discovery of information" test can be satisfied by "elimination of uncertainty."[5]

Today, a "Four Part Test"[6] is generally applied to determine whether research expenses are qualified for the credit:

1) Elimination of Uncertainty

Also known as the "§174" test. IRC §174 initially did not clearly define "research and development" (R&D). Later regulations specified that R&D expenditure "must be related to activities intended to discover information that would eliminate uncertainty concerning the development."[7] In other words, the end result is initially uncertain and requires further development, testing, and refinement of hypothesis.[8] Interestingly, the law does not require the research to produce a successful outcome.[9] Failure is often a convincing demonstration of the uncertainty test because, by definition, uncertainty implies the process will not always work as intended.

A recent case illustrated this point in practice. In *U.S. vs. Davenport,*[10] the court decided in favor of the IRS because the taxpayer's testing of software "did not involve a series of trials to test a hypothesis or a series of experiments with one or more alternatives." The software in question was developed and customized for the taxpayer by a third party and has worked as intended even before testing. Therefore, research credit is not available for the expenses incurred to integrate and test this software.

1 PriceWaterhouseCooper. (2013, Jan. 8). Fiscal Cliff Legislation Extends Research Credit, Resolves M&A-related Credit Issue. WNTS Insight. Retrieved from http://www.pwc.com/en_US/us/washington-national-tax/newsletters/wnts/assets/pwc-legislation-extends-research-credit-resolves-m-issue.pdf

2 Guenther, G. (2011, Nov. 29). *Research Tax Credit: Current Law, Legislation in the 112th Congress, and Policy Issue Congressional Research* Service. p. 26. Retrieved from http://www.ieeeusa.org/policy/eyeonwashington/2011/documents/researchtaxcredit.pdf

3 Treasury Regulation §1.41-4(a)(3)(ii).

4 Guenther, 2011, p.27.

5 *U.S. vs. McFerrin*, 570 F.3d 672, (CA-5, 2009).

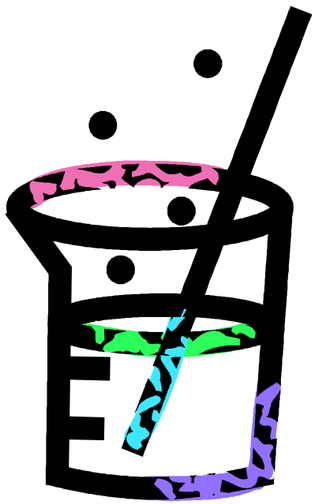
6 IRC §41(d)(1).

7 Treasury Regulation §1.174-2(a).

8 Conference Report No. 99-841, 1986-3 C.B. Vol 4, 72.

9 Treasury Regulation §1.41-4(a)(3).

10 *U.S. vs. Davenport*, 2012-2 USTC ¶50,568 (DC TX, 2012).



2) New or Improved Business Components:

The activity must be undertaken to develop a new or improved business component—a product, process, computer software, technique, formula, or invention.[11] The 2004 regulations significantly expanded the scope of business component beyond just tangible "products." This reflected a nationwide shift of research focus at the time as more and more research was geared towards developing intangible assets.

3) Technological in Nature:

The process of experimentation has to rely on the principal of physical and biological sciences, engineering, and computer science. This effectively precludes all research in social sciences.[12]

While taxpayers sometimes apply the notion of R&D creatively, courts have generally interpreted the "technological nature" test rather narrowly—limiting qualifying activities to those that are directly related to scientific principles or are laboratory-based. In *Heritage Organization et al vs. Commissioner,*[13] the Tax Court firmly denied the taxpayer's claim for expenses incurred to research tax planning strategies involving "a set of shell corporations with embedded losses." Even though tax research is often a time consuming process with uncertain outcome, it is clearly not a scientific activity in its ordinary meaning. The court did not consider the research was performed for "elimination of uncertainty," it reasoned that in the world of tax planning, uncertainty is usually eliminated by a change of law and not by actions undertaken by the taxpayer.

4) Process of Experimentation

Research is conducted using fundamental scientific principles for a new or improved function, performance, reliability, or quality. The regulations also exclude the improvements of style, taste, and design factors from qualified research.

The research credit can provide eligible taxpayers with tremendous savings, about 13% (federal and state combined) for every dollar generated for businesses is of research expenditure.[14] However, just how effective has the credit been in encouraging research and producing economic benefit for the larger society? Figure 1 gives a snapshot of research expense borne by government and private sector.

The federal government remains the top funder for basic research. However, businesses' share of applied research has increased steadily since the introduction of the research credit, while the federal share has declined.

Applied research often lacks the "spillover" benefits compared to basic research, but often provides a higher return on investment because it relates more directly to the business' income producing activity.[15] If spillover benefits are desired and broad scope basic research becomes a requirement to

11 Treasury Regulation §1.41-4(b)(2).

12 Conference Report No. 99-841, 1986-3 C.B. Vol 4, 71.

13 TC Memo 2011-246.

14 Oster, R. and Snead, M. (2013, Jan. 15). *Federal and State Tax Credits* Overview, CalCPA Education Foundation Presentation

15 *Ibid.*

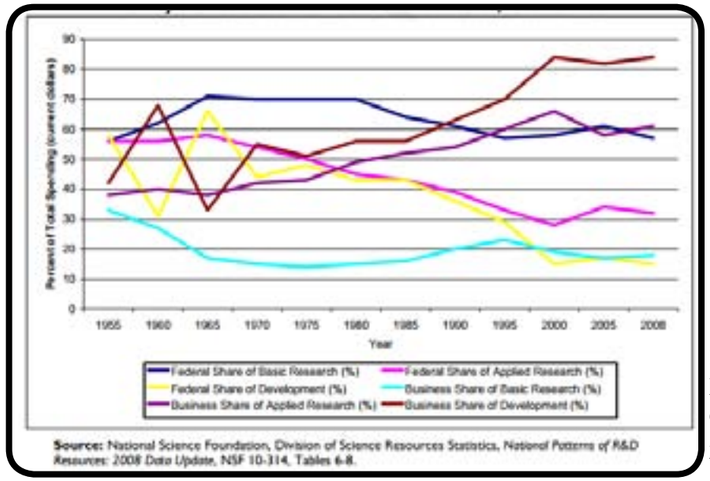


Figure 1: Share of U.S. Spending (in current dollars) on Research and Development Held by the Federal Government and Businesses, 1955 to 2008[16]

claim the credit, the law would revert back to the original "discovery test" which disqualified many innovative research at the time. Since its enactment, the research credit has been a frequently debated legislation:

- What should be changed to target certain desirable research?
- When, if at all, will it become permanent?
- How to carry out the many proposed changes, through comprehensive reform or gradual guidance?

Congress faces the same questions every couple of years whenever the temporary provision sunsets.

From 2005 to 2009, an average of 12 million businesses claimed $7.8 billion in research credit each year. Figure 2 compares the dollar amount of credit claimed and the number of claimants at each level of business receipts for 2008 and 2009.

Not surprisingly, the largest corporations claimed the greatest amount at over 80%, even if they made up only 13% of the total number of claimants. This 13% is similar to the percentage of credits claimed by smallest corporations, at the other end of the scale in business receipts. This pattern and were likely to have potentially suggests that claims for research credit correlates to both a company's total research activity as well as the share of research among all of its activities. Take the high tech industry as an example, larger companies will incur more research expenses. Although the research expenses are only a very small portion of the companies' total expenses, the significant dollar amounts would generate decent size credits. At the other end of the scale, early stage tech companies may not have many customers but would be conducting extensive research to develop their first products.

Since the activities of these early stage startup companies are focused on research, these companies are also good candidates for the credit.

Additionally, significant amounts of credits were claimed by mid-size businesses, with receipts between $10 million and $50 million. These mid-size businesses, making up 20% of total claimants, received close to $350 million worth of research credit. One explanation for this statistic is that mid-size companies have tremendous growth potential

16 Guenther, 2011, p. 31.

Size of Business Receipts (in whole dollars)	Year							
	2009				2008			
	Amount of Claim		Number of Claimants		Amount of Claim		Number of Claimants	
Under $25,000	$207,937	2.67%	1,906	15.42%	$259,250	3.12%	1,721	13.51%
$25,000 under $100,000	$22,044	0.28%	318	2.57%	$23,219	0.28%	313	2.46%
$100,000 under $250,000	$21,012	0.27%	293	2.37%	$29,092	0.35%	385	3.02%
$250,000 under $500,000	$23,785	0.31%	189	1.53%	$33,854	0.41%	302	2.37%
$500,000 under $1,000,000	$34,440	0.44%	254	2.06%	$33,297	0.40%	296	2.32%
$1,000,000 under $2,500,000	$68,593	0.88%	1,256	10.16%	$84,405	1.02%	1,386	10.88%
$2,500,000 under $5,000,000	$88,233	1.13%	1,138	9.21%	$91,134	1.10%	1,216	9.55%
$5,000,000 under $10,000,000	$78,049	1.00%	1,072	8.67%	$96,910	1.17%	1,233	9.68%
$10,000,000 under $50,000,000	$348,726	4.49%	2,636	21.34%	$347,441	4.18%	2,583	20.28%
$50,000,000 under $100,000,000	$199,425	2.57%	800	6.47%	$182,221	2.19%	797	6.26%
$100,000,000 under $250,000,000	$300,972	3.87%	809	6.55%	$326,015	3.93%	771	6.05%
$250,000,000 or more	$6,380,762	82.08%	1,686	13.64%	$6,796,532	81.85%	1,734	13.61%
Total	$7,773,979	100.00%	12,359	100.00%	$8,303,369	100.00%	12,736	100.00%

Figure 2: Corporations Claiming a Credit for Increasing Research Activities. Claimed credit Amounts (thousands of dollars) and Number of Claimants by Size of Business Receipts [All figures are based on samples][17]

and were likely to have demonstrated some degree of success, making it easier for them to attract capital necessary to fund more research. For these companies, their aim is expansion in both existing and new markets thus, making research an integral part of that growth strategy.

Much like the research it is intended to stimulate, IRC §41 has been through countless evolutionary refinements over the years, and as a temporary provision, its fate still remains uncertain after 2013. While it is difficult to speculate what the research environment would have been like in the last thirty years without this credit, the benefit it crystal clear. For the U.S. to continue its lead in technological breakthroughs, companies would have to count on the research credit to embrace many more changes into the future

17 IRS SOI Tax Stats – Corporate Tax Statistics. Retrieved from http://www.irs.gov/uac/SOI-Tax-Stats-Corporation-Tax-Statistics