

THE U.S. R&D TAX CREDIT: HISTORY, DESIGN, AND CURRENT STATUS

A Memorandum to NEDO-DC

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Introduction

Many – perhaps most – countries’ tax systems contain various incentives to encourage R&D.¹ The U.S. is no exception. But the U.S. provisions do differ in their history, scope and design from what now seems to be emerging as a common model worldwide. Whereas (as discussed below in more detail), the U.S. basically combines straightforward R&D deductibility with an incremental R&D tax credit, other countries – both developed and developing – often put together a wide-ranging set of policies that can include “super-deductibility” (i.e., some multiple of what was actually spent), various credits and sector-specific incentives. To a small degree, the U.S. has also moved in this direction, and it is clear that the business community would like it to go much farther. But while the politics of the R&D credit have kept it a subject of perennial renegotiation, it has remained a somewhat static policy instrument.

The discussion below looks at the U.S. R&D tax credit from the perspectives of history, politics, policy design and policy impact. It concludes by offering some interpretations of why the credit is as it is and what its future may be.

U.S. Tax Provisions before the R&D Tax Credit

Until 1954, the U.S. tax code essentially ignored R&D, and tended to avoid tax incentives in general, preferring to stick with principles of tax “neutrality” among different types of economic activity and different sectors.² In 1954, however, a wide-ranging package of business incentives was added to the tax code, including Section 174, on “Research and Experimentation Expenditures” (this is widely referred to as R&D)³ Section 174 gave businesses the option of either “expensing” R&D (in which case it would be deductible from income in the year it was incurred) or “capitalizing” it (in

¹ See, for an excellent recent survey, Deloitte, 2009 Global Survey of R&D Tax Incentives. www.investinamericasfuture.org/.../2009Global%20SurveyRandDTaxIncentivesDeloitteFebruary2010.pdf

² The history of the period before 1981 is contained in George R. Heaton, Jr. “Technological Innovation and Tax Policy,” a report to the National Science Foundation (80-SP-0877) 1980.

³ It should be noted that the term “research and experimentation” which also pertains in the R&D tax credit of today, was always intended to cover only research “in the laboratory sense,” and not late-stage development or activities such as marketing trials.

which case, it would be deducted in fractions over the presumed time period during which the R&D “investment” yielded its rewards).

Although Section 174 was widely characterized as an R&D “incentive,” in practice it simply ratified the accounting practices that were then common practice, and made it easier for the Internal Revenue Service (IRS) to administer how it dealt with R&D. What does appear to have arisen after the enactment of section 174, was a split between the way large companies treated R&D – as an expense to be deducted in the year of its performance – and the way small companies tended to do so – as a capital investment, to be deducted over time.⁴

Section 174 has remained in the U.S. tax code, mostly unchanged, from 1954 until the present. It can be seen as a baseline policy in which R&D is simply a deductible expense.

Adoption of the R&D Tax Credit in 1981

During the late 1970s and throughout the 1980s, American leaders debated how to improve the competitive position of the United States. One important new policy that the U.S. Government adopted was the R&D tax credit, created by a provision in the Economic Recovery Tax Act of 1981 (Public Law 97-34; codified in the Internal Revenue Code as Section 41). Gary Guenther of the Congressional Research Service explains why the U.S. Congress adopted the R&D credit:

Congress was looking to stem a decade-long decline in spending on R&D by the private sector as a share of U.S. gross domestic product that commenced in the late 1960s. Around the time the credit was enacted, more than a few analysts thought the decline [in R&D spending] contributed to a slowdown in U.S. productivity growth and a surprising loss of competitiveness by a variety of U.S. industries in the 1970s.⁵

⁴ This difference seems to have arisen because small companies often did not have enough current income to make expensing worthwhile. That the special situation of small company R&D is of continued concern became clear again in the R&D tax credit legislation that was passed in September, 2010. See discussion below.

⁵ Gary Guenther, “Research and Experimentation Tax Credit: Current Status and Selected Issues for Congress,” Report RL31181, Congressional Research Service, October 6, 2008, page 10. His report is available at: <http://ncseonline.org/NLE/CRSreports/08Aug/RL31181.pdf>.

Beyond these general motivations, it seems fair to say that the U.S. was specifically concerned with the competitive threat from Japan, and was therefore often tempted to imitate Japanese policies. Japan had adopted a tax credit in 1967, and it was designed to reward “increments” in R&D (i.e. continuing increases above previous years). Thus, the Japanese experience offered both a rationale for an R&D tax credit and a model for its design.

The design of the U.S. R&D credit has always been incremental, meaning that it is only available when companies increase their R&D above what they have spent in a baseline based on earlier years. Its original rate was 25% of “qualifying” R&D expenses beyond the baseline time period.⁶ As the CRS describes the main part of the original credit:

The initial credit was equal to 25% of qualified research spending above a base period, which was equal to average spending on such research in the three previous tax years.”⁷

For example, if a company increased its R&D spending by \$10 million per year – that is, \$10 million above the average R&D expenditures for the previous three years – then the government would lower that company’s taxes that year by \$2.5 million.

The credit was initially in effect from July 1, 1981, until December 31, 1985. It applied to all companies filing U.S. tax returns, whether American or foreign-owned.

The R&D Tax Credit since 1981

Later laws changed the credit several times, and in several ways. Perhaps the most important change occurred in 1986, when Congress lowered the rate from 25% to 20%. In addition, changes were made to which R&D expenses qualify for the credit, with the extension of qualifying expenses to contracted R&D and R&D done in universities as the most important. Today, as a result of the legislative changes, the U.S.

⁶ The question of what expense qualify is based on criteria set up under Section 174 (discussed above). This has become a very complicated problem, whose parameters have been modified by Congress, IRS regulations, and litigation by companies seeking to expand the credit. Generally speaking, the IRS wants to restrict the credit to activities that are “technological” in nature. Whereas companies would like to expand it to include a broader range of inquiries.

⁷ CRS, page 11.

in fact has several R&D tax credits (even though we informally still think of them as forming a single overall U.S. R&D tax credit).

There are now three versions of the “main” R&D tax credit. A company may select only one of them in any tax year. They are:

- the regular 20% research credit (RRC),
- an alternative incremental research credit (AIRC),
- an alternative simplified incremental credit (ASIC).

In essence, these three credits represent different computational approaches to a similar result. The choice among them – which is entirely up to the company -- depends largely on the trajectory of a company’s R&D expenditures and its profit picture over time.⁸

In addition to the main R&D credit, companies may now also take advantage of a “basic research credit” for research contracts with universities or other qualified non-profit research organizations. This credit was clearly intended to foster university-industry collaboration. It is limited to “scientific” research (i.e. the social sciences or market surveys would not qualify), and it is distinct from “donations” for research, which are considered charitable deductions, not R&D. This credit is equal to 20% of total payments for qualified basic research above a base amount, so it is also an incremental credit.

The R&D credit has also been specifically applied to research on energy. This is the one example of the credit’s application to a particular sector, and it has also been made more generous in this context. That is, the energy credit is not incremental, but rather a more generous “flat credit,” which would apply every year, whether or not the energy research expenditures increase. In an attempt to further encourage collaboration, qualifying expenditures include 100% of company payments to universities, federal laboratories, and certain small firms for energy research performed under contracts.

⁸ The computations are quite complicated. Different scenarios are presented in CRS.

The net result of these changes is that in any given year, a company in the U.S. may claim up to three different R&D credits: one of the three “main” R&D tax credit approaches; the “basic research credit,” and the “energy research credit.”⁹

The Politics of the R&D Tax Credit

Since its enactment in 1981, the R&D tax credit has turned into an almost-perennial subject of political debate. Never made permanent, but sometimes amended, and 14 times renewed, the overall set of R&D credits represents a complicated political picture.

On the one hand, the U.S. credit has received strong support over the years from U.S. industry and from both Republicans and Democrats.

In terms of industrial support, a large number of U.S. companies have formed a political coalition to support the credits, the “R&D Credit Coalition.”¹⁰ The coalition and research organizations that agree with it make three arguments: (1) the credit encourages companies to invest more in R&D, which helps create U.S. jobs; (2) the credit and the R&D it encourages benefit society as a whole as well as individual companies, because the new research results “spill over” and can be used by others; and (3) a generous R&D tax credit attracts R&D activities to the United States. Groups in favor of the credit increasingly emphasize this third point, arguing that other nations have recently adopted generous R&D tax credits and that both U.S. and foreign companies will be tempted to move their R&D to those countries unless the U.S. matches these credits.¹¹

In terms of elected officials, no major U.S. political leader appears to oppose the credit. Members of Congress from both parties support it. And both President George W. Bush and President Obama have asked Congress to make it permanent.

⁹ This information on the three types of research credits comes from Guenther, pages 3-10. Guenther’s paper also provides additional details on these various types of credits.

¹⁰ The R&D Credit Coalition’s Web site is: <http://www.investinamericasfuture.org/>.

¹¹ For a thoughtful argument on how the U.S. R&D tax credit compares with those from other nations, see Robert D. Atkinson, “Creating Jobs by Expanding the R&D Tax Credit,” Information Technology and Innovation Foundation, January 26, 2010, <http://www.itif.org/files/2010-01-26-RandD.pdf>.

On the other hand, Congress has never made the R&D credit a permanent part of U.S. law. Instead, Congress extends it for only two or three years at a time. In fact, Congress has extended the credit – that is, renewed it – 14 times since 1981. The latest law, passed in December 2010, extends the credit to December 31, 2011, at which time it will expire again. Several times the credit has legally expired, and Congress has then passed new laws both to extend the credit and to apply it retroactively back to the earlier times when it had expired. These short extensions cause considerable uncertainty for companies.

Why has Congress never made the R&D tax credit a permanent part of U.S. tax law? Gary Guenther and others offer one explanation. The overall set of R&D credits is expensive – it cost the U.S. Treasury \$15.5 billion in U.S. fiscal year 2007 – and Republicans and Democrats frequently disagree over how to pay for it.¹² They must either increase other taxes or cut other spending, and in order to make the credit permanent leaders of both political parties would have to agree on where to get the money. So far, they cannot agree on how to pay for a permanent credit, so they agree only to short-term extensions. It is also possible that Democrats in particular like the idea of short-term extensions, because it gives them an opportunity to negotiate agreements in which they agree to extend the R&D credit and Republicans agree to extend other tax credits that are very important to Democrats. And it is possible that both Republicans and Democrats like the R&D credit, but that it is not their highest political priority.

The Impact of the Credit

The political argument in favor of extending or expanding the R&D credit is weakened by the many criticisms the credit has received. The CRS lists five major criticisms, which come from different critics but which add up to considerable skepticism about the U.S. credit.

Most policy analysts and lawmakers endorse the use of tax incentives to spur increased domestic business R&D investment. Yet the current research tax credit

¹² For example, see Guenther, page 32, for a discussion of a 2008 dispute in the U.S. Senate over whether or how to offset the cost of the credit.

seems to attract more criticism than praise. A major concern of critics is that the credit is not as effective as it should be because of what they say are flaws in its design. In their view, the credit will have its intended benefits only if these flaws are corrected. Critics blame the credit's relatively weak incentive effect on five shortcomings in particular: (1) the credit is not a permanent provision of the IRC [Internal Revenue Code]; (2) it has weak and arbitrary incentive effects; (3) it is not refundable [meaning that companies that do not pay taxes, such as start-up firms, cannot get a payment from the government]; (4) the definition of qualified research [the research expenses that are eligible for the credit] remains incomplete and too ambiguous; and (5) the credit is not targeted at R&D investments that generate greater social returns than private returns [that is, it not targeted at basic research that would benefit the overall society as well as the company].¹³

In addition, economists have difficulty estimating the effectiveness of the R&D credit, another factor that may weaken enthusiasm for the credit. For example, the Congressional Budget Office (CBO) reached these conclusions in a 2007 report:

Economists who have studied the effectiveness of the R&E tax credit in the United States and similar incentives in other countries generally conclude that each additional dollar of foregone revenue attributable to the R&D-promoting tax credit causes companies to spend another dollar on R&D projects.... Some studies suggest that the effect of the tax credit may be growing over time.... [But with] few other studies of the credit in the 1990s, it cannot be determined whether the credit's effect has continued to grow.¹⁴

Actions on the Credit in 2010

In September 2010 the Congress passed the "Small Business Jobs Act of 2010" (P.L. 111-240). While generally intended to provide various incentives for small business and economic stimulus, this act also amended the R&D tax credit. Its provisions apply only to small businesses (less than \$50 million in revenue), and allow them to use the R&D tax credit without an "Alternative Minimum Tax" (AMT) limitation. Because of the complexity of the AMT – which generally poses income thresholds that limit the use of deductions and credits for high-income taxpayers – this new R&D credit provision is similarly complicated and somewhat arcane. The reason

¹³ Guenther, pages 17-18.

¹⁴ Sheila Campbell, "Federal Support for Research and Development," Congressional Budget Office, June 2007, page 24, <http://www.cbo.gov/ftpdocs/82xx/doc8221/06-18-Research.pdf>. For an additional analysis of the credit's provisions and effectiveness, see Staff, Joint Committee on Taxation, "Description of Revenue Provisions Contained in the President's Fiscal Year 2009 Budget Proposal. Part Two: Business Tax Provisions," U.S. Government Printing Office, September 2009, pages 7-24, <http://www.jct.gov/publications.html?func=startdown&id=3576>.

for its enactment was the fact that many small businesses and their owners – who often pay taxes in a unified framework with their companies – were not getting the benefit of the R&D credit due to their AMT liability. The act eliminates much of this drawback, and “allows small and mid-sized companies to reinvest what would have been tax dollars into new jobs and equipment upgrades.”¹⁵¹⁶

Even more importantly, in December 2010, the Congress finally renewed the R&D credit after its lapse at the end of 2009. This was accomplished by “The Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010” (Public Law 11-312), which extended the R&D credit until December 31, 2011.¹⁷ As mentioned earlier, this is the 14th extension of the credit – that is, set of R&D credits. While several Senators and Representatives had proposed changes to the R&D credit during 2009 and 2010, including proposals that would have made the credit simpler and/or permanent, none of these proposals – with the small-business exception described above – became part of the December 2010 law. Indeed, the debate about these possibilities for the R&D credit seems to have been largely eclipsed by the more generally contentious issues of tax rates for wealthy Americans, which were at the centerpiece of the debate on this law. Thus, Public Law 11-312 simply extended the previous credit without modifications or permanence.

Conclusions

- The U.S. R&D tax credit was enacted in 1981, in response to intense competitiveness concerns, particularly from Japan. It has enjoyed widespread popular support ever since.
- In spite of widespread support, the R&D tax credit has never been made a permanent feature of U.S. law. On the contrary, it is an almost-perennial subject of debate in the Congress, with 14 renewals and a number of modifications since 1981.

¹⁵ Brian Lefever, “Research Tax Credit Extended with an AMT Limitation.” Ezine Articles, December 2010. See: <http://ezinearticles.com/?Research-Tax-Credit-Extended-Without-an-AMT-Limitation&id=5593039>. The article also gives sample calculations.

¹⁶ This form of tax corporation is referred to as a Subchapter S company.

¹⁷ This act actually contained a very large package of tax “relief” measures, generally preserving or extending the so-called “Bush” tax cuts of a decade earlier.

- The renewals and modifications of the R&D tax credit have pushed it toward ever-greater complexity and exceptions, as well as toward incentives tailored to specific policy goals; namely, university-industry collaboration, small business support, and energy research.
- Although conceived of and supported as an “incentive” to R&D, the R&D tax credit may not in fact create much new R&D. The few studies that exist are critical of its design. Most companies do not see it as having much effect on their R&D decisions.
- A world pattern seems to be emerging with respect to tax policy for R&D, which emphasizes very generous incentives of various types. The U.S. R&D tax credit is generally considered to be “behind” this trend.¹⁸
- U.S. companies and research organizations supported by U.S. industry will continue to argue for the credit and will try to persuade Congress to make it permanent. It is likely that Congress will continue to extend the R&D credit in the future. And while no one knows what will happen in the years to come, it also seems likely that the credit will be continued in its present form.

¹⁸ This is a recurrent theme in the business community – which, like all such claims needs to be taken with some skepticism. A recent article in R&D Magazine is typical in claiming that while the U.S. R&D credit was the “most generous of any nation in 1981, 16 other nations had a more generous tax break by 2010.” See Pamela Villalreal, “Don’t Let the R&D Credit Slip Away, at: <http://www.ncpa.org/commentaries/don-t-let-the-rd-tax-credit-slip-away2>, September 16, 2010.