



## Legislative Fiscal Bureau

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Joint Committee on Finance

Paper #325

### **Refundable Research Tax Credit (General Fund Taxes -- Income and Franchise Taxes)**

[LFB 2019-21 Budget Summary: Page 147, #28; and Page 148, #29]

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#### **CURRENT LAW**

A tax credit is an amount that is subtracted from the gross income tax liability of the taxpayer in a given year, resulting in a dollar-for-dollar reduction in gross tax liability. In general, businesses may be eligible to claim a business tax credit when preparing and filing the required individual and corporate income/franchise tax forms with the Department of Revenue (DOR).

If a nonrefundable credit exceeds tax liability, any amounts claimed that cannot be used to offset tax liability are identified so that the taxpayer can carry the unused amount forward for use in a future tax year. In general, unused tax credits may be carried forward for up to 15 years. Conversely, if the credit is refundable and the amount of the credit exceeds the claimant's tax liability, the state issues a check for the excess amount or the claimant may apply the credit against the next year's tax liability. Nonrefundable credits are counted as revenue reductions in the state's accounting system. Refundable credits are paid from appropriations and counted as state expenditures.

The state provides research tax credits to businesses equal to a percentage of the increase in a business's qualified research expenses, as defined under the Internal Revenue Code (IRC), for research conducted in Wisconsin. This includes expenses for wages, supplies, and renting or sharing computers owned and operated by another person. In general, qualifying expenses are non-capital, and thus, do not include spending for buildings and equipment. The credits can be claimed against the individual income tax and the corporate income/franchise tax. For most businesses, the credit equals 5.75% of the amount by which the claimant's qualified research expenses for the taxable year exceed 50% of the average qualified research expenses for the three taxable years immediately preceding the tax year in which the claimant claims the credit. If the taxpayer had no

qualified research expenses in any of the three preceding tax years, the credit is equal to 2.875% of the claimant's qualified research expenses for that tax year.

For businesses that engage in certain types of research activities, the same calculation of the credit applies, but the credit percentages are equal to 11.5% (rather than 5.75%) and 5.75% (rather than 2.875%). The higher percentages apply to: (a) designing internal combustion engines (including substitute products such as fuel cell, electric, and hybrid drives) for certain vehicles; and (b) designing and manufacturing energy efficient lighting systems, building automation and control systems, or automotive batteries for use in certain hybrid-electric vehicles.

For taxable years beginning prior to January 1, 2018, the credits were 100% nonrefundable and any unused portion of the credit could be carried forward to offset future tax liabilities for up to 15 years. Pursuant to 2017 Act 59, for taxable years beginning on or after January 1, 2018, the amount of the credit is calculated in the same manner; however, up to 10% of the amount may be claimed as a refundable credit. The refundable portion of the research tax credit is equal to the lesser of 10% of the tax credit claimed in the current year or the credit remaining after subtracting the amount of credit used in the current year to offset the tax owed. Any unused portion of the nonrefundable tax credit may be carried forward for up to 15 years. Unused credits that were carried forward from taxable years beginning prior to January 1, 2018, remain nonrefundable.

## **GOVERNOR**

Modify the partially refundable research tax credit (including the engine and energy efficiency credits), as computed under current law, to increase the refundable portion from up to 10% of the credit amount to up to 20% of the credit amount. The administration estimates that the change would increase expenditures on refundable research tax credits by \$2,250,000 in 2020-21 and \$9,000,000 in 2021-22 and annually thereafter. The provision would first apply to new research credit claims beginning in tax year 2020. Together with the cost to continue the refundable portion of the research tax credit under current law, total funding provided under the bill would be \$7,500,000 in 2019-20 and \$11,250,000 in 2020-21. The cost of the refundable portion of the credit is estimated to increase to \$18,000,000 in 2021-22 and annually thereafter.

Further, the bill would specify that claimants under the electronics and information technology manufacturing (EITM) zone tax credit program would not be eligible to receive the refundable portion of the research tax credit. The nonrefundable portion of the research tax credit could still be claimed.

## **DISCUSSION POINTS**

### **Purpose of the Research Tax Credit**

1. Technological innovation is an important driver of economic growth and has wide social benefits. Long-run economic growth and improved living standards are driven by the accumulation of knowledge-based factors of production, such as human capital, learning-by-doing, research and development (R&D), and innovation.

2. A number of economists have found that, on average, the social returns to R&D investment exceed the private returns from such investments. For example, John C. Williams and Charles I. Jones, found that the optimal R&D investment is at least twice the actual investment, and possibly higher. *Measuring the Social Return to R&D*, Quarterly Journal of Economics, vol. 113, no. 4 at 1119-1135 (Nov 1998).

3. The excess in the social returns to R&D investments compared to the private returns is an external benefit of R&D (spillover effect). Positive externalities or spillovers include reducing the costs of other firms' innovative activities by creating technological knowledge and showing the dead ends in research. In addition, an important part of innovative output is creating new and improved products and services at lower prices.

4. Private sector investment in R&D is likely to fall short of its overall economic and social benefit because a firm will not invest in a project if it knows that it cannot appropriate the potential revenues from that investment. Investment in R&D, and knowledge in general, are not fully appropriable, because once produced, at least part of the research can be obtained at no cost. Once invented, an idea can be imitated by others, although patent protection and delays in the dissemination of new ideas enable the innovator to appropriate a share of revenues from the new idea. If some portion of revenues from the investment is appropriable, the firm will invest only to the level where revenues are sufficient to make the investment profitable. In this case, the firm's investment is based on its private rate of return, which is lower than the social rate of return.

5. Tax credits for qualified research are intended to incent the private sector to increase R&D investments by lowering the after-tax cost of R&D. This is meant to correct for the market's failure to reward firms for the spillover effects that would result from their increased investment. Further, compared to other states, the state research credit may induce researchers to conduct their activities in Wisconsin instead of another location.

### **Use of Nonrefundable Research Credit**

6. As noted, for tax years beginning prior to January 1, 2018, the research tax credit was 100% nonrefundable. It is estimated that a significant amount of the nonrefundable research tax credit went unused each year because the claimants' taxable income was exceeded by the available tax benefits earned.

7. Based on aggregate statistics provided by DOR through tax year 2013 (the most recent year for which they are available) and preliminary tax return data for tax years 2014 and 2015, the amount of research credits claimed under the corporate income/franchise tax grew significantly since tax year 2009. Research credit claims, including credit carryforwards, totaled \$129.8 million in tax year 2009, but increased to \$451.4 million in tax year 2015 (248% growth over six years). For comparison, the amount of credits used under the corporate income/franchise tax increased from \$8.3 million in 2009 to \$25.8 million in 2015 (213% growth). Because credit claims grew by more than use of the credit, the overall balance of unused credits grew from \$121.6 million in 2009 to \$426.1 million in 2015 (250% growth).

8. It is estimated that unused research credits continued to grow to \$614.4 million under

the corporate income/franchise tax after tax year 2017.

9. The research credit was not available under the individual income tax until tax year 2013. However, DOR's aggregate statistics through tax year 2017 for the individual income tax shows a similar pattern. The amount of credits claimed increased from \$10.7 million in 2013 to \$34.0 million in 2017 (219% growth over four years), whereas use of the credits grew from \$8.7 million in 2013 to \$19.2 million in 2017 (growth of 121%). The balance of unused credits in tax year 2017 was \$14.8 million for individual filers.

10. Overall, approximately two-thirds of the amount of new research tax credit claims between tax years 2010 and 2017 were not actually used by taxpayers during that time period. It is estimated that claimants used the research tax credit in the amount of \$245.3 million to reduce their tax liability from tax year 2010 through tax year 2017. For comparison, unused, carried-forward credits grew by \$507.6 million over that period.

### **Proposals to Change the Refundable Portion of the Research Tax Credit**

11. Because a significant portion of the research tax credit went unused each year, it is likely that the incentive provided by the research tax credit to invest in additional qualified research expenses was significantly reduced.

12. If a firm has no taxable income after accounting for tax benefits, it cannot use a nonrefundable credit in that tax year. If the firm cannot use the credit, additional nonrefundable credits provide no incentive to invest in additional R&D expenses. This is especially the case if the unused credit amount is expected to be carried forward indefinitely.

13. For example, new and expanding firms that heavily invest in R&D may lack profit in the short term because their start-up and expansion costs exceed their revenues. Such firms are not able to rely on the nonrefundable portion of the credit unless and until they realize taxable income in a future tax year.

14. As another example, businesses are more likely to have operating losses during and after a recession. During such times, businesses may be unable to use the research credit simply because they have no profit. Further, as discussed in LFB Paper #322, net operating losses may be carried forward for up to 20 years. Due to the depth of the 2008-09 recession and slow recovery period, some firms carried forward significant losses between tax year 2009 through tax year 2017. The accumulation of unused research tax credit may be partially the result of the use of net operating losses.

15. Due to the time value of money, the value of credits carried forward is discounted to account for the uncertainty of when (or if) the claimant will have taxable income to be offset in the future. Thus, assuming that firms eventually do use the credits they claim, these firms will ultimately realize a reduced value compared to when the credit was initially claimed.

16. Pursuant to Act 59, the research tax credit is partially refundable beginning in tax year 2018. As noted, the refundable portion of the research tax credit is equal to the lesser of 10% of the

tax credit claimed in the current tax year or the credit remaining after subtracting the amount of credit used in the current tax year to offset the tax owed.

17. Even accounting for the recent changes to the research tax credit, it is anticipated that the majority of the credit will not be used in the current tax year. Under current law, based on the above information and including previously unused credits that have carried forward, it is estimated that individual and corporate tax filers will claim \$792.4 million in research tax credits in tax year 2019, of which only \$48.0 million will be used as nonrefundable tax credits and \$9.0 million used as refundable credits.

18. Under current law, if the current trends in claiming and using the research credit were to continue, the amount of unused credit is expected to increase to \$879.1 million in tax year 2021.

19. The bill would provide \$2,250,000 GPR in 2020-21 to expand the refundable portion of the research tax credit from up to 10% of the credit amount to up to 20% of the credit amount for taxable years beginning after December 31, 2019 (Alternative A1). It is estimated that expenditures would increase to \$9,000,000 GPR in 2021-22 and annually thereafter.

20. In the Department of Administration's Budget in Brief, the administration indicates that expansion of the refundable portion of the credit will provide a meaningful incentive for R&D investment by Wisconsin businesses to improve their competitiveness and help develop new products. Further, the administration indicates that the credit is meant to aid start-up companies that do not have tax liability to offset with the nonrefundable portion of the credit.

21. Alternatively, in order to reduce the cost of the proposed expansion, the Committee could expand the credit to up to 15% of the credit amount as opposed to 20% (Alternative A2). It is estimated that expenditures would increase compared to current law by \$1,125,000 GPR in 2020-21 and by \$4,500,000 GPR in 2021-22 and annually thereafter.

22. On the other hand, the Committee could take no action on the Governor's proposal and instead maintain the refundable portion of the credit at its current amount for two reasons. (Alternative A4).

23. First, the research tax credit is not targeted to any specific type of claimant or research activity. Any business having qualified research expenditures may claim it, regardless of the size or age of the business. Further, the credit is not targeted to certain areas of research that are directed to developing new products in Wisconsin or that are otherwise more likely to generate social or economic value. For example, the credit makes no difference between investments in applied research as opposed to more basic research, even though the latter is much less likely to produce immediate economic returns (and hence businesses are less likely to engage in). As a result, the stated goals of the administration may not be served by increasing the refundable portion of the credit amount.

24. If the Committee seeks to target investment into new start-up firms that conduct research in Wisconsin, it could, instead, provide funding for other tax credit programs or for economic development programs administered by the Wisconsin Economic Development Corporation (WEDC), such as technology development loans or grants for companies that conduct research

activities in Wisconsin.

25. Second, because approximately two-thirds of the amount of credits claimed over the previous eight tax years has not yet been used, it is likely the case that many claimants would continue to claim more credits than they can use against their taxable income in future years. If that trend continued, the great majority of the expanded refundable portion of the credit would be paid to current claimants, rather than to induce additional research activities. As discussed, the total credit amount is computed based on qualified expenditures in the current year compared to the average expenditures in the three previous years. Thus, claimants may continue to earn credits for approximately half of their research spending simply by maintaining their current R&D expenditures. It follows that many claimants would be able to claim the full refund for 20% of the credit amount without actually increasing their current planned investments into R&D.

26. Finally, the Committee could sunset the refundable portion of the research tax credit beginning in tax year 2020 (Alternative A3). Based on survey data from the National Science Foundation's Business R&D and Innovation Survey for 2016, private sector expenditures for R&D research in Wisconsin were \$4,387 million in 2016. Among the 50 states and the District of Columbia, Wisconsin private sector research expenses were 15<sup>th</sup> highest on a per capita basis. It could be argued the research credits available under current law were already incentivizing private companies to conduct research in Wisconsin, compared to other states, even before enactment of the 10% refundable credit.

27. In the U.S. economy, where barriers to the free flow of information across state borders is essentially nonexistent, encouraging firms to locate R&D in a particular state might not result in economic benefits that are easily confined to the state. See Bronwyn H. Hall and Marta Wosinska, *California R&D Tax Credit: Description, History, and Economic Analysis*, Report to the California Council on Science and Technology (1999). Thus, even assuming that the state credit efficiently induces additional investment in the state over and above the level induced by the federal credit, the benefits may not accrue solely in, or at all in, Wisconsin. For example, the intellectual property created due to research activities in Wisconsin may generate income taxable in other states where a firm may locate its factory or headquarters.

28. Further, the efficiency of the credit and to what extent state tax credits for R&D actually cause private sector firms to increase and/or relocate their R&D activities, remains a matter of controversy in economic literature. For example, one study suggests that credits increase in-state R&D investment, but almost exclusively from attracting investment from other states as opposed to causing an overall national increase. Wilson, D. J. *Beggar Thy Neighbor? The In-State, Out-of-State, and Aggregate Effects of R&D Tax Credits*. Review of Economics and Statistics, 91(2), 431–436 (2009). Other surveys of research have found a \$1 to \$1 increase in R&D expenses from subsidies. Bronwyn H. Hall and John van Reenen, *How Effective Are Fiscal Incentives for R&D? A Review of the Evidence*, working paper 7098 Cambridge, MA: National Bureau of Economic Research (April 1999); see also Bronwyn H. Hall and John Van Reenan, *How Effective are Fiscal Incentives for R&D? A Review of the Evidence* (2000).

29. Given that taxpayers in aggregate currently claim more research tax credits than they can use, the Committee could reasonably conclude that it is unnecessary to provide further tax benefits

to companies without taxable income in Wisconsin in the form of refundable credits. It is estimated that sunsetting the refundable portion of the research credit beginning in tax year 2020 would reduce expenditures for credit claims by \$2,250,000 in 2020-21 and by \$9,000,000 in 2021-22 and annually thereafter.

30. Further, sunsetting the refundable portion of the credit would reduce expenditures in the 2021-23 biennium by an estimated \$36,000,000 GPR compared to the bill.

### **Eligibility for Refundable Research Tax Credit**

31. Qualified research expenses eligible for the state research tax credit include in-house and contract research expenses for research conducted in Wisconsin. This includes wages and supplies used in the conduct of qualified research. Under the IRC, qualified research means research expenditures that may be treated as expenses which are undertaken for the purpose of discovering information which: (a) is technological in nature; (b) is intended to be useful in the development of a new or improved business component of the taxpayer; and (c) constitutes elements of a process of experimentation relating to a new or improved function, performance, reliability, or quality.

32. Under current law, in-house research expenses do not include compensation used in computing credits under the development zone program.

33. The bill would prohibit claimants under the EITM zone tax credit program from claiming the refundable portion of the research tax credit (Alternative B1). The nonrefundable portion of the research tax credit could still be claimed.

34. Businesses eligible for credits under the EITM zone tax credit program have already been certified by WEDC to earn up to \$2.85 billion in tax credits based on their qualifying for payroll and capital expenditures. This may include wages paid to researchers employed by the claimants that either perform services inside the EITM zone, or perform services outside the zone while in the state for the benefit of the operations within the zone.

35. Given the significant tax incentives already available under the EITM zone program, the administration indicates that providing additional tax incentives for potentially the same expenditures under the refundable research tax credit, such as the wages of researchers, would be unnecessary.

36. However, the Governor's proposal would still permit EITM zone claimants to use the same expenditures under the EITM zone program to claim the nonrefundable portion of the research tax credit. The administration's concern regarding the refundable research tax credit could also apply to the nonrefundable research tax credit.

37. Thus, the Committee could instead modify current law to define qualified research expenses as not including compensation used in computing credits under the EITM zone program (Alternative B2). Under this alternative, EITM zone claimants would be treated similar to claimants under the development zone tax credit program, such that they could not use either the refundable portion or the nonrefundable portion of the research tax credit for wage amounts claimed under the EITM zone tax credit program. Under this alternative, EITM zone claimants would be able to claim

both the refundable and nonrefundable portions of the research tax credit to the extent that their qualified research expenses are not claimed under the EITM zone program.

38. Finally, the Committee could decide that the administration's concerns regarding EITM zone claimants claiming tax credits for the same research expenditures apply to claimants under the enterprise zone and business development tax credit programs, which both award significant refundable credits for wages paid to eligible full-time employees. For example, based on DOR tax return information, it is estimated that had the refundable portion of the research tax credit been available in tax year 2017, at least 27 individuals filers and 15 corporate filers could have claimed both the refundable portion of the research tax credit and either the enterprise zone tax credit or the business development tax credit. Based on data provided by DOR, none of these claimants would have had a net tax liability and the refundable portion of the research tax credit, had it existed at the time, would have been fully refunded. As a result, prohibiting such claimants from claiming research credits for wage amounts used to claim the enterprise zone credit or the business development credit could reduce GPR expenditures and/or increase general fund tax revenues.

39. The Committee could modify the bill to also prohibit claimants of enterprise zone and business development tax credits from claiming the refundable portion of the research tax credit (Alternative B3). This would prevent claimants from claiming refundable tax benefits for the same research expenditure. However, because tax return data for tax year 2018 is not yet available (the first year in which refundable research tax credit is available), the amount of claims that would be prohibited is unknown.

40. Alternatively, similar to Alternative B2, the Committee could instead modify current law to define qualified research expenses as not including the compensation used in computing credits under the business development, EITM zone, and enterprise zone tax credit programs (Alternative B4). Such claimants could claim both the refundable and nonrefundable portions of the credit to the extent that their qualified research expenses are not claimed under these other programs.

## ALTERNATIVES

### A. Proposal to Increase Refundable Research Credit

1. Approve the Governor's recommendation to expand the refundable portion of the research tax credit from up to 10% to up to 20% of the claimed amount. Increase estimated expenditures related to refundable research credit claims by \$2,250,000 GPR in 2020-21.

ALT A1	Change to	
	Base	Bill
GPR	\$2,250,000	\$0

2. Approve the Governor's recommendation to expand the refundable portion of the research tax credit, but with the modification to expand the refundable portion from up to 10% to up to 15% of the claimed amount. Increase estimated expenditures related to refundable research credit

claims by \$1,125,000 GPR in 2020-21.

ALT A2	Change to	
	Base	Bill
GPR	\$1,125,000	-\$1,125,000

3. Take no action on the Governor's proposal. Instead, repeal the refundable portion of the research tax credit effective for tax years beginning on January 1, 2020. Reduce estimated expenditures related to refundable research credit claims relative to the bill by \$4,500,000 GPR in 2020-21. Relative to current law, estimate reduced expenditures of \$2,250,000 GPR in 2020-21.

ALT A3	Change to	
	Base	Bill
GPR	-\$2,250,000	-\$4,500,000

4. Take no action.

ALT A4	Change to	
	Base	Bill
GPR	\$0	-\$2,250,000

## **B. Eligibility for Refundable Research Tax Credit**

1. Adopt the Governor's proposal and specify that claimants under the EITM zone tax credit program would not be eligible to receive the refundable portion of the research tax credit. The nonrefundable portion of the research tax credit could still be claimed.

2. Specify that for purposes of both the refundable and nonrefundable portions of the research tax credit that qualified research expenses do not include compensation used in computing credits under the EITM zone program.

3. Adopt Alternative B1, with the modification to specify that claimants under the enterprise zone and business development tax credit programs would also not be eligible to receive the refundable portion of the research tax credit. The nonrefundable portion of the research tax credit could still be claimed.

4. Adopt Alternative B2, with the modification to specify that qualified research expenses do not include compensation used in computing credits under the enterprise zone and business development tax credit programs.

5. Take no action.

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