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Joint Committee on Finance

Paper #331

Refundable Research Tax Credit (General Fund Taxes -- Refundable Credits and Other Payments)

[LFB 2021-23 Budget Summary: Page 227, #9]

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 claimed 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: (a) 10% of the tax credit claimed in the current year; or (b) 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.

As adopted by the Committee under LFB Paper #102 (sum sufficient estimates), expenditures under current law for refundable research tax credit claims are estimated at \$15,300,000 GPR in 2021-22 and \$18,400,000 GPR in 2022-23.

The Wisconsin Economic Development Corporation (WEDC) is responsible for certifying and verifying eligible claimants under certain refundable tax credit programs, including the business development tax credit, enterprise zones tax credit, and electronics and information technology manufacturing (EITM) zone tax credit programs. WEDC will generally enter into a contract with a business to create or retain jobs and/or to make a capital investment in the state for which the business may claim the awarded tax credits. Pursuant to the terms of the contract, a business may receive a verification letter from WEDC upon completion of the Wisconsin investment to claim the credits from DOR.

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, a 1998 study conducted

by John C. Williams and Charles I. Jones found that the optimal R&D investment is at least twice the actual investment, and possible higher.

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.

6. In addition, research tax credits may assist Wisconsin businesses that compete against national firms to attract and retain talent by enabling them to increase the compensation they can offer to researchers. Thus, the research tax credit can boost long-term productivity in a number of sectors and help to attract or retain well-educated, highly compensated engineers and researchers in Wisconsin who may otherwise leave the state for employment opportunities elsewhere.

Use of Nonrefundable Research Credit

7. 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.

8. Based on aggregate statistics provided by DOR through tax year 2016, and tax sample data for tax years 2017 and 2018 (the most recent for which data is available), the amount of research credits claimed under the corporate income/franchise tax has grown significantly since tax year 2009. New and carried forward research expense credit claims, including engine research and energy efficient research, totaled \$129.8 million in tax year 2009, but increased to \$600.5 million in tax year 2018 (363% growth over nine years). For comparison, the amount of credits used under the corporate income/franchise tax increased from \$8.3 million in 2009 to \$52.4 million in 2018 (531% growth), counting both the nonrefundable portion (\$43.9 million) and refundable portion (\$8.5 million) used

in 2018. Because credit claims grew by more than use of the credit in absolute terms, the overall balance of unused credits grew from \$121.5 million in 2009 to \$595.1 million in 2016 (390% growth).

9. It is estimated that the amount of research credits claimed by corporate filers continued to grow to \$690.6 million in tax year 2019, comprised of \$46.9 million nonrefundable credits used, \$13.6 million refundable credits used, and \$630.1 million unused.

10. The research credit was not available under the individual income tax until tax year 2013. However, DOR's aggregate statistics through tax year 2019 for the individual income tax show a similar pattern. The amount of credits claimed increased from \$10.7 million nonrefundable credits in 2013 to \$49.8 million nonrefundable credits and \$1.6 million refundable credits in 2019 (380% overall growth over six years). For comparison, the amount used grew from \$8.7 million nonrefundable credits in 2013 to \$23.2 million nonrefundable and \$1.6 million refundable in 2019 (growth of 185%). The balance of unused credits in tax year 2019 was \$26.6 million for individual filers.

11. Overall, it is estimated that more than 63% of the annual amount of new research tax credit claims between tax years 2009 and 2018 were not actually used by taxpayers during that time period. It is estimated that claimants used the research tax credit in the amount of \$341.7 million to reduce their tax liability from tax year 2009 through tax year 2018, including \$10.1 million of refundable credits). For comparison, unused, carried-forward credits grew by \$572.8 million over that period.

12. Two factors may explain the underutilization of research tax credits. First, most multistate corporations apportion income to Wisconsin using a single sales factor apportionment formula. Federal law limits each state's taxing jurisdiction such that each state only requires businesses to pay tax on the portion of the profits fairly attributable to its activities in that state, such as its property, payroll, and sales. Generally, for purposes of the Wisconsin corporate income/franchise tax, a corporation apportions income to the state based on the ratio of its total sales or receipts in Wisconsin compared to the total sales or receipts everywhere. As a result, even though a company may manufacture a product in Wisconsin, its overall tax liability is limited by the portion of sales made within Wisconsin.

13. Second, the state offers other tax benefits to manufacturers, and manufacturers conduct the majority of the types of research expenses which qualify for the research tax credit. According to the 2018 Business Enterprise Research and Development Survey by the National Center for Science and Engineering Statistics, companies in manufacturing industries performed 62% (\$274 billion) of all the domestic research and development nationwide and 69% (\$3.7 billion) of the research and development in Wisconsin. Because Wisconsin provides the manufacturing and agriculture tax credit (MAC), these businesses may already be able to greatly reduce (or eliminate) any income or franchise taxes they owe the state, by using the MAC rather than the research tax credit.

14. Based on guidance published by DOR, taxpayers have the option to use all, part, or none of their nonrefundable credits based on the statutory language within each credit, which states that a claimant may claim a credit. If more than one nonrefundable credit is used, the computation order provided in statute must be followed. Thus, the nonrefundable portion of the research credit must be

used before the MAC if both credits are being used to offset tax in the statutory computation order. Taxpayers may choose to forgo using the research credit and use the MAC instead, or they can use some of the nonrefundable portion of the research credit and then use the MAC to offset the remaining tax liability. [A special rule applies for combined group members, which requires them to use all available credits to offset liability prior to sharing nonrefundable research credit. Thus, by applying the computational order, the entire nonrefundable research credit would need to be used before using the MAC.]

15. For example, according to tax return data for tax year 2018, of those filers who claimed both the MAC and a research credit, 85% of claimants carried forward unused research tax credits (for an average credit of \$935,000 carried forward). Those claimants that did not carry forward research tax credits had an average tax liability of \$81,000 remaining.

16. By contrast, the refundable portion of the research credit is applied after the computation of the claimant's Wisconsin net tax. Thus, the refundable portion is not subject to, nor impacted by, the computational order.

Alternatives to Change the Refundable Portion of the Research Tax Credit

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

18. If a firm has no taxable income prior to accounting for tax benefits from the research credit, 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.

19. 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.

20. As another example, businesses are more likely to have net operating losses (NOLs) during and after a recession. During such times, businesses may be unable to use the research credit simply because they have no profit against which to use the credit. Further, NOLs 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 years 2009 and 2019. The accumulation of unused research tax credit may be partially the result of the use of NOLs.

21. 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 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.

22. 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 \$921.9 million in research tax credits in tax year 2021, of which only \$70.7 million will be used as nonrefundable tax credits and \$18.4 million used as refundable credits.

23. 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 \$832.8 million in tax year 2021.

24. Assembly Bill 68/Senate Bill 111 (AB 68/SB 111) would 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 10% of the credit amount to 20% of the credit amount. These provisions would first apply to new research credit claims for tax years beginning after December 31, 2020. AB 68/SB 111 estimates the fiscal effect of the provision to be \$10.6 million GPR annually, beginning in 2021-22. However, based on more recent tax data, it is estimated that this provision would increase expenditures by \$4,600,000 GPR in 2021-22 and by \$18,400,000 GPR in 2022-23 and annually thereafter (Alternative A1).

25. 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.

26. 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 \$2,300,000 GPR in 2021-22 and by \$9,200,000 GPR in 2022-23 and annually thereafter.

27. On the other hand, the Committee could decide that it is unnecessary to expand the refundable portion of the credit for two reasons (Alternative A5).

28. 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 distinction between investments in applied research as opposed to more basic research, even though the latter is much less likely to produce immediate economic returns for the business (and hence businesses are less likely to engage in absent the subsidy). As a result, the stated goals of the administration may not be served by increasing the refundable portion of the credit amount.

29. 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 administrated by WEDC, such as technology development loans or grants for companies that conduct research activities in Wisconsin. For this reason, the Committee could, instead, provide WEDC with additional funding of \$4,600,000 GPR in 2021-22 and \$18,400,000

GPR in 2022-23 and direct WEDC to create and administer a research grant program for the purposes of incenting research and development in this state and for attracting and retaining engineers and other researchers (Alternative A3).

30. Second, because a significant amount of credits claimed over the previous eight tax years have 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 (under Alternative A1) without actually increasing their current planned investments into R&D.

31. Finally, the Committee could sunset the refundable portion of the research tax credit beginning in tax year 2022 (Alternative A4). Based on survey data from the National Science Foundation's Business R&D and Innovation Survey for 2018, private sector expenditures for R&D research in Wisconsin were \$5,334 million in 2018. Among the 50 states and the District of Columbia, Wisconsin private sector research expenses were 12th highest on a per capita basis. It could be argued that the research credits available under current law were already incenting private companies to conduct research in Wisconsin, compared to other states, even before enactment of the 10% refundable credit.

32. In the U.S. economy, where barriers to the free flow of information across state borders are 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. 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 of that research 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 choose to locate its factory or headquarters.

33. 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 in R&D. 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 Reenen, *How Effective are Fiscal Incentives for R&D? A Review of the Evidence* (2000).

34. 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 cash

payments 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 2022, would reduce expenditures for credit claims by \$4,600,000 GPR in 2022-23 and \$18,400,000 GPR in 2023-24 and annually thereafter (Alternative A4). The Committee could sunset the refundable credit in conjunction with providing funding to WEDC for the research grant program under Alternative 3.

Qualified Research Expenses

35. 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.

36. Under current law, in-house research expenses do not include compensation used in computing credits under the development zone tax credit program. However, AB 68/SB 111 would not prohibit claimants under other WEDC administered tax credit programs, including the business development, enterprise zone, and EITM zone tax credit programs, from claiming or using the nonrefundable or refundable portions of the research tax credit. Eligible businesses are certified by WEDC for these credits based on their qualifying payroll and capital expenditures, which may include wages paid to researchers and other expenses that qualify for the state research tax credit.

37. For example, based on DOR tax return information, it is estimated that, in tax year 2018, 176 individual filers and 19 corporate filers claimed both the refundable portion of the research credit and a refundable credit under either the enterprise zone tax credit program or the business development tax credit program for wages. These claimants claimed \$1.6 million of refundable research credits in tax year 2018. Although it is unclear whether the same wages were used by any of these filers to compute and claim both tax credits, current law would have allowed them to do so.

38. Given the significant tax incentives already available under WEDC administered refundable tax credit programs, the Committee could find that providing additional tax incentives for potentially the same expenditures under the research tax credit, such as the wages of researchers, would be duplicative. Thus, the Committee could modify current law to define qualified research expenses as not including compensation and other expenditures used in computing credits under the business development, enterprise zone, and EITM zone tax credit programs (Alternative B1). Under this alternative, claimants of these credits 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 they use to compute other refundable tax credit claims. These claimants could continue to claim research tax credits to the extent that their qualified research expenses are not claimed under these other programs. It is estimated that redefining qualified research expenses in this manner would increase state revenue collections by a minimal amount annually.

ALTERNATIVES

A. Refundable Portion of the Research Tax Credit

1. 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 10% of the credit amount to 20% of the credit amount for tax years beginning after December 31, 2020. Increase estimated expenditures for refundable research credit claims of \$4,600,000 GPR in 2021-22 and by \$18,400,000 GPR in 2022-23.

ALT A1	Change to Base
GPR	\$23,000,000

2. Adopt Alternative A1, but with the modification to expand the refundable portion from up to 10% to up to 15% of the amount claimed. Increase estimated expenditures for the refundable research credit by \$2,300,000 GPR in 2021-22 and by \$9,200,000 GPR in 2022-23.

ALT A2	Change to Base
GPR	\$11,500,000

3. Create a sum certain appropriation under WEDC and provide \$4,600,000 GPR in 2021-22 and by \$18,400,000 GPR in 2022-23. Specify that WEDC must use funding provided to create and administer a research grant program for the purposes of incenting research and development in this state and attracting and retaining researchers in this state.

ALT A3	Change to Base
GPR	\$23,000,000

4. Repeal the refundable portion of the research tax credit effective for tax years beginning after December 31, 2021. Relative to current law, estimate reduced expenditures of \$4,600,000 GPR in 2022-23 and \$18,400,000 GPR in 2023-24 and annually thereafter. [This alternative could be adopted in conjunction with Alternative A3.]

ALT A4	Change to Base
GPR	-\$4,600,000

5. Take no action.

B. Definition of Qualified Research Expenses

1. Specify that, beginning in tax year 2022, qualified research expenses do not include compensation and other expenses used in computing credits under the business development, enterprise zone, and electronics and information zone tax credit programs. Estimate that the change would increase revenue collections by a minimal amount on an annual basis.

2. Take no action.

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