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Joint Committee on Finance

Paper #395

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

[LFB 2023-25 Budget Summary: Page 217, #6]

BACKGROUND

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.

Since 1984, the state has provided research expense 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 noncapital, 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. Under current law, 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 double and 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 state credit was 100% nonrefundable, and any unused portion of the credit claimed could be carried forward to offset future tax liabilities for up to 15 years. Under current law, up to 15% of the amount of new research credit computed may be claimed as a refundable credit. The remaining portion of the credit is nonrefundable.

AB 43/SB 70 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 up to 15% of the credit amount to up to 50% of the credit amount. This provision would first apply to new research credit claims for tax year 2024.

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 amounts invested, and possible higher. A 2019 study found that the ratio of social returns to private investment was 4 to 1, implying substantial underinvestment in R&D from a social perspective. [Lucking, B., Bloom, N. and Van Reenen, J. (2019), *Have R&D Spillovers Declined in the 21st Century?* Fiscal Studies, 40: 561-590].

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, is 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. 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. For example, in tax year 2017, research expense credit claims under the corporate income/franchise tax (including engine research and energy efficient research) were \$539.6 million, but claimants used only \$49.7 million. As a result, claimants carried forward \$489.9 million for use in a future tax year.

8. In part because large amounts of credit were claimed, but unused, provisions of 2017 Act 59 and 2021 Act 58 modified the credit so that for taxable years beginning on or after January 1, 2018, up to 10% of the amount may be claimed as a refundable credit, and for taxable years beginning on or after January 1, 2021, up to 15% of the amount may be claimed as refundable. Credit amounts carried forward from previous years remain nonrefundable.

9. Even with a portion of new credit claims being refundable, significant amounts of credit claims continue to go unused. Specifically, unused credits carried forward by C corporations comprise the vast majority of carryforward amounts. According to aggregate statistics from DOR, in tax year 2020 (the most recent year available), C Corporations claimed \$655.0 million of research expense credits (including credits carried forward from previous years), but only used \$50.6 million nonrefundable credits and \$10.1 million refundable credits (a combined 9% of credits claimed). For comparison, in tax year 2020 individuals claimed \$52.1 million of research expense credits and used \$21.6 million nonrefundable credits and \$1.5 million refundable credits (a combined 45% of credits claimed).

10. Overall, 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 \$918 million in research tax credits in tax year 2023, of which only \$90 million will be used as nonrefundable tax credits and \$21 million used as refundable credits. If the current trends in claiming and using the research credit were to continue, the amount of unused credit is expected to increase from \$635 million in tax year 2020 to \$807 million in tax year 2023.

11. Several factors may explain the underutilization of research tax credits. First and foremost, with the accumulated credit carry forwards, C corporations claim a large amount of research expense credits relative to their overall tax liability. For example, in tax year 2020, C corporations in aggregate claimed \$655 million of research expense credits, and, after accounting for all nonrefundable credits actually used, had an overall net tax liability of \$1,254.7 million. Thus, unused research credit claims in tax year 2020 were so large (\$594.3 million) that the unused credits represented 47% of the total net tax liability for all C corporations.

12. Second, 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 Wisconsin tax liability is limited by the portion of sales made within Wisconsin. Because a company's research expenditures may be higher in proportion to Wisconsin relative to its income from sales to the state, it may qualify for more credits than needed to reduce its tax liability in any given year (especially because a company may be unprofitable in some years and have no tax liability to reduce, whereas the credits claimed would carry forward).

13. Third, under the typical income distribution of C corporations, the great majority of net tax liability comes from a relatively small number of tax returns, and most corporate filers have no tax liability at all. For example, in tax year 2020, 4% of tax returns reflected 92% of Wisconsin net tax liability. Although 41,808 C corporations filed returns, only 14,301 of them had a tax liability (34%). Corporations can have no tax liabilities because deductible expenses and loss carryforwards can entirely offset income. In other cases, nonrefundable tax credits earned, such as the research tax credit, entirely offset tax liability. Also, companies are not profitable every year and sometimes may not have taxable income due to a loss. Since two-thirds of C corporations historically have no tax liability in any given year, a large number of companies will claim more in research credits each year than they can possibly use. In tax year 2020, 54% of C corporations claiming the credit did not use any of the nonrefundable portion of the credit.

14. Fourth, 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 2020 Business Enterprise Research and Development Survey by the National Center for Science and Engineering Statistics, manufacturing industries performed 56.8% (\$264.6 billion) of all the domestic research and development nationwide was paid for and performed by private companies. In

Wisconsin, manufacturers performed 63.3% (\$3.5 billion) of the research and development activities. 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.

15. 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 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 a nonrefundable research credit. Thus, by applying the computational order, the entire nonrefundable research credit would need to be used before using the MAC.]

16. Overall, in tax year 2020, C corporations claimed \$907.8 million of MAC and research expense credits (72% of total net tax liability of C corporations for the tax year). Of those filers who claimed both the MAC and a research credit, 48% of claimants carried forward unused research tax credits (for an average credit of \$825,000 carried forward). Those claimants that did not carry forward research tax credits had an average tax liability of \$35,000 remaining.

17. 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. However, no refundable portion exists if all new research credits claimed in that year can be used to offset net tax liability.

Alternatives to Change the Refundable Portion of the Research Tax Credit

18. 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.

19. 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.

20. 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.

21. 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. Because of the depth of the 2008-09 recession and slow recovery period that followed, some firms carried forward significant losses. Thus, the accumulation of unused research tax credit over this period may be partially the result of the use of NOLs.

22. Considering 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. Assuming that firms eventually do use the credits they claim, these firms will ultimately realize a reduced value (adjusted for inflation) compared to when the credit was initially claimed.

23. AB 43/SB 70 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 up to 15% of the credit amount to up to 50% of the credit amount. This provision would first apply to new research credits claimed in tax year 2024 (Alternative 1).

The administration estimated that state tax revenues would decrease by \$16,100,000 in 2023-24 and that expenditures for refundable research credit claims would increase by \$64,400,000 GPR annually, beginning in 2024-25. However, because the current research credit claimants that would benefit from the proposal have no tax liability (and thus cannot further reduce their estimated payments), the fiscal impact from the enhanced refundable credit would occur when claimants claim the research tax credit when filing their return. Therefore, it is estimated Alternative 1 would increase expenditures by \$16,100,000 GPR in 2024-25 and \$64,400,000 GPR in 2025-26.

24. 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.

25. Alternatively, in order to reduce the cost of the proposed expansion, the Committee could expand the credit to up to 25% of the credit amount, as opposed to 50% (Alternative 2). It is estimated that expenditures would increase compared to current law by \$3,500,000 GPR in 2024-25 and by \$13,800,000 GPR in 2025-26. Under this alternative, the refundable portion would be ten percentage points greater than under current law and more in line with the magnitude of the increases enacted in previous budgets (from 0% to 10% under Act 59 and from 10% to 15% under Act 58).

26. On the other hand, the Committee could decide that it is unnecessary to expand the refundable portion of the credit for several reasons (Alternative 5). First, the credit has already been made partially refundable and expanded, but the economic benefits from doing so remain unclear. 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 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.

27. Second, 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. Given the computation of the credit based on expenditures, credit amounts necessarily are earned in higher amounts by larger companies because the largest companies can afford the most research expenditures. Logically, it is reasonable to expect most of the benefits of increasing the refundable portion to flow to larger companies, as opposed to small, startup companies. 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 such research absent the subsidy). As a result, if the goal of the credit is to incent non-appropriable basic research, this goal may not be served by increasing the refundable portion of the credit amount.

28. 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 the Wisconsin Economic Development Corporation (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 a new appropriation 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 3). The Committee could choose to provide \$16,100,000 GPR in 2024-25, or a different level of funding could be selected for the proposed WEDC grants program.

29. Third, before any previously claimed research tax credits can expire, a claimant would likely have had no state income/franchise tax liability for 16 consecutive years. This is because a claimant could potentially use the credit in the year claimed, or in any of the succeeding 15 tax years, to reduce tax liability. If the claimant had a net tax liability in any of those years, they likely would have used the credit.

To the extent having "too much" nonrefundable credit is a problem for credit claimants, it has not yet been solved by making the credit more refundable. If anything, the fact that claimants are accruing large credit carryforwards shows that the research expense credit is not the driving force incenting these companies to conduct research in Wisconsin. After all, they continue to increase their research expenditures without using additional refundable credits. At least for the companies with unused credits, increasing the refundable portion may not induce additional research activity.

30. Fourth, given the recent history of unused credits accumulating, 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 may be paid as a windfall to current claimants, rather than to induce additional research activities by existing companies. 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 50% of the credit amount under Alternative 1 without actually increasing their current planned investments into R&D.

31. Alternatively, in order to reduce the amount of unused research credits, the Committee could modify the computational order for research tax credit claims (Alternative 4). Under this alternative, tax claimants would be required to use the entire nonrefundable portion of the research credit (including carryforwards) prior to using the other tax credits appearing later in the computational order (such as the MAC) to reduce tax liability until all of the nonrefundable portion of the research tax credit is used and is completely exhausted. Thus, claimants could not choose to claim the nonrefundable research credit, but use \$0 of the credit, and instead apply MAC (as they can under current law). As under current law, the refundable portion would be used at the end of the computational order. If no liability remains, then up to 15% of the refundable portion (the amount under current law) could be refunded. The amount by which Alternative 4 would alter credits that are claimed is indeterminate. However, this provision would have the effect of reducing the future accumulation of research tax credits, especially amongst MAC claimants (as noted, manufacturers account for 63% of R&D expenditures in Wisconsin). The Committee could choose this Alternative instead of, or in addition to, any other alternative modifying the refundable portion for the research expense credit.

32. Fifth, based on data from the National Science Foundation's Survey on Business Enterprise Research and Development, private sector expenditures for R&D research in Wisconsin were \$5,506 million in 2020. Among the 50 states and the District of Columbia, Wisconsin private sector research expenses were 18th highest overall, three spots higher than Wisconsin's ranking by share of GDP. Thus, it could be argued that private companies already conduct an adequate amount of research in Wisconsin, compared to other states, and further tax subsidy inducements are unnecessary.

33. Finally, 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. *Beggars 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).]

However, other surveys of research have found a \$1 to \$1 increase in R&D expenses from subsidies, suggesting that research tax credits can induce additional research expenditures. [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, and it is unclear that additional tax incentives would induce further economic gains in Wisconsin, the Committee could conclude that it is unnecessary to provide further cash payments to companies without taxable income in Wisconsin in the form of refundable credits.

ALTERNATIVES

1. Expand the partially refundable research tax credit (including the engine and energy efficiency credits), as computed under current law, to increase the refundable portion from 15% of the credit amount to 50% of the credit amount for taxable years beginning after December 31, 2023. Increase estimated expenditures for refundable research credit claims by \$16,100,000 GPR in 2024-25 and by \$64,400,000 GPR in 2025-26.

ALT 2	Change to Base
GPR	\$16,100,000

2. Expand the partially refundable research tax credit (including the engine and energy efficiency credits), as computed under current law, to increase the refundable portion from 15% of the credit amount to 25% of the credit amount for taxable years beginning after December 31, 2023. Increase estimated expenditures for refundable research credit claims by \$3,500,000 GPR in 2024-25 and by \$13,800,000 GPR in 2025-26.

ALT 3	Change to Base
GPR	\$3,500,000

3. Create a sum certain appropriation under WEDC and provide \$16,100,000 GPR in 2024-25. 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 4	Change to Base
GPR	\$16,100,000

4. Require credit claimants to use the entire nonrefundable research tax credit (including amounts carried forward) prior to using other credits appearing later in the computational order, as specified in Discussion Point #31. [This Alternative can be adopted in conjunction with, or in lieu of, any alternative presented above.]

5. Take no action.

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