



Amortizing Research and Development Expenses Under the Tax Cuts and Jobs Act

**FISCAL
FACT**
No. 635
Feb. 2019

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Key Findings

- Currently, businesses can choose to fully expense the costs of research and development (R&D); that is, they can deduct the costs of R&D from their taxable income in the year that those costs occur.
- Expensing is the proper tax treatment of investment and other business costs, as it prevents a firm's profits from being overstated in real terms. This lowers the cost of investment. Requiring a firm to amortize business costs over a number of years overstates the firm's taxable income, reducing business capital investment.
- Starting in 2022, the Tax Cuts and Jobs Act (TCJA) will require companies to amortize their R&D costs over five years, instead of deducting them immediately each year. This change will raise the cost of investment, discourage R&D, and reduce the level of economic output.
- Canceling amortization of R&D costs would result in a 0.15 percent larger economy, a 0.26 percent larger capital stock, 0.12 percent higher wages, and 30,600 full-time equivalent jobs.
- Canceling amortization would reduce federal revenue by \$119 billion on a conventional basis between 2019 and 2028, and by \$99.2 billion on a dynamic basis. In the long run, it would reduce federal revenue by \$8.43 billion each year, in 2019 dollars.
- The costs of canceling amortization could be offset by eliminating two tax expenditures: the credit union exemption and the rental loss exemption.

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Introduction

Many parts of the Tax Cuts and Jobs Act (TCJA) will not take effect for several years. One such area is in the treatment of research and development (R&D) costs. Under current policy, companies can choose to expense the costs of R&D—that is, they can fully deduct R&D costs from their taxable income in the year those costs occur, keeping their profits from being overstated in real terms. This practice, called full expensing, is the proper tax treatment of R&D and other business expenses, as it does not discourage investment and economic growth.

Starting in 2022, however, companies will have to amortize these costs over five years, as required in the TCJA. This new treatment of R&D will raise the cost of investment, discourage R&D, and reduce the level of economic output. It will also increase the complexity of the tax code by requiring businesses to track one more set of deductions over the years.

This paper reviews the current tax treatment of R&D expenses and discusses why requiring firms to amortize expenses in 2022 will increase investment costs, discourage R&D spending, and reduce the level of economic output. Using the Tax Foundation General Equilibrium Model, it estimates the economic effect and revenue cost of canceling R&D amortization. Finally, it provides options for offsetting this cost through the elimination of specific tax expenditures.

The Differing Economic Effects of Full Expensing and Depreciation

In general, businesses can deduct the full cost of ordinary business expenses, including R&D costs, in the year in which the expenses occur.¹ This policy is called full expensing, or 100 percent bonus depreciation. In cases in which full expensing is not allowed, businesses must deduct their costs over time, following Internal Revenue Service (IRS)-set depreciation schedules. These apply to some types of capital investment, including equipment, machinery, and buildings.²

In contrast to full expensing, depreciation requires firms to deduct assets over a number of years or decades. Due to both inflation and the time value of money, depreciating costs reduces the present value of deductions. This effectively shifts taxes forward in time, which increases tax burdens and decreases the after-tax return on the investment in present value.³

The type of cost recovery that businesses are allowed to use matters a great deal for investment decisions. Delays in recovering costs, and the presence of inflation, overstate income and raise taxes, reducing after-tax earnings below what is required to make an investment worth doing. The result is less capital formation, lower productivity and wages, and less output.⁴

1 26 U.S.C. §174.

2 Erica York and Alex Muresianu, "The TCJA's Expensing Provision Alleviates the Tax Code's Bias Against Certain Investments," Tax Foundation, Sept. 5, 2018, <https://taxfoundation.org/tcja-expensing-provision-benefits>.

3 Ibid.

4 Stephen J. Entin, "The Tax Treatment of Capital Assets and Its Effect on Growth: Expensing, Depreciation, and the Concept of Cost Recovery in the Tax System," Tax Foundation, April 24, 2013, <https://taxfoundation.org/article-nstax-treatment-capital-assets-and-its-effect-growth-expensing-depreciation-and-concept-cost-recovery/>.

Treatment of R&D Under the TCJA

Companies can currently deduct the full cost of their R&D expenses immediately. However, the TCJA has scheduled the policy to end after December 31, 2021. Starting in 2022, companies will have to amortize their R&D costs over five years, starting with the midpoint of the taxable year in which the expense occurs.⁵ For research conducted outside of the U.S., the time horizon for amortization will be 15 years. This change will mark the first time since 1954 that companies will not be able to deduct the full costs of R&D expenses immediately.⁶

The new treatment of R&D will raise the cost of investment, discouraging R&D and reducing economic output. It will also increase the complexity of the tax code by requiring businesses to track one more set of deductions over the years. A better policy would be to cancel the change to amortization and to continue with full expensing.

Given its drawbacks, the scheduled change to amortization was likely included in the TCJA in order to comply with legislative rules, rather than on policy grounds. Under current Senate rules, lawmakers can pass a spending or revenue bill with only 51 votes through a process called “reconciliation,” to avoid a possible filibuster. However, this shortcut comes with a catch: the Byrd Rule stipulates that reconciliation bills cannot increase the budget deficit outside the budget window—currently a ten-year period.⁷ By raising federal revenue estimates, the change from expensing to amortization allowed the bill to comply with this rule.

Economic Impact of Canceling Amortization

Canceling amortization of research and development expenses would boost long-run output by reducing the service price of capital. According to the Tax Foundation General Equilibrium Model, canceling the amortization of R&D would increase the size of the economy by 0.15 percent in the long run, raise wages by 0.12 percent, increase the size of the capital stock by 0.26 percent, and raise employment by 30,600 full-time equivalent jobs. Canceling the scheduled amortization is a pro-growth tax change.

TABLE 1.

Economic Impact of Canceling the Amortization of R&D Expenses

Gross Domestic Product (GDP)	0.15%
Wage Rate	0.12%
Capital Stock	0.26%
Full-Time Equivalent Jobs	30,600
Service Price of Capital	-0.20%

Source: Tax Foundation General Equilibrium Model, December 2018

⁵ P.L. 115-97, §13206.

⁶ Gary Guenther, “Research Tax Credit: Current Law and Policy Issues for the 114th Congress,” Congressional Research Service, March 13, 2015, 2, <https://fas.org/sgp/crs/misc/RL31181.pdf>.

⁷ Kyle Pomerleau, “How a Longer Budget Window Helps and Doesn’t,” Tax Foundation, June 27, 2017, <https://taxfoundation.org/longer-budget-window-helps-doesnt/>.

While intellectual property, and research and development, are an important part of the U.S. economy, the economic impact of amortization will be modest for two reasons. First, intellectual property, while growing in importance, is still a relatively small share of the total capital stock. According to the Tax Foundation model, approximately 8.4 percent of the capital stock is intellectual property products. In comparison, nonresidential structures make up more than 36 percent of the U.S. capital stock.

Second, while expensing is more attractive from a cash flow standpoint, some companies may not be able to or want to fully expense research and development costs. Companies in a loss position do not get the full benefit of an upfront deduction and must carry forward those deductions into future years when they could get a deduction. This reduces the value of expensing for these firms. In addition, some companies choose to amortize research and development expenses. As a result, they won't benefit from the potential lower cost of capital.

Revenue Impact of Canceling Amortization

According to the Tax Foundation model, canceling the amortization of R&D would reduce federal revenue by \$119 billion on a conventional basis between 2019 and 2028. The costs would be front-loaded. In the first year, 2022, canceling amortization would reduce federal revenue by \$40.1 billion. The cost would decline over time, so that by 2028, canceling amortization would cost \$6.5 billion. In the long run, we estimate that federal revenue would be \$8.43 billion lower each year than it otherwise would have been (in 2019 dollars).⁸

Additional economic output over the budget window, due to the larger capital stock, would provide an additional \$19.9 billion in dynamic revenue. As a result, canceling the amortization of research and development costs would reduce federal revenue by \$99.2 billion between 2019 and 2028 on a dynamic basis. In the long run, revenues will be about \$2 billion lower each year than they otherwise would have been on a dynamic basis.

TABLE 2.

Revenue Impact of Canceling the Amortization of R&D Expenses (Billions of Dollars)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019 -2028	Long-run 2019 Dollars
Conventional Estimate	\$0.0	\$0.0	\$0.0	-\$40.2	-\$26.0	-\$19.6	-\$15.1	-\$7.5	-\$4.1	-\$6.5	-\$119.0	-\$8.43
Dynamic Revenue	\$0.0	\$0.0	\$0.0	\$0.7	\$0.8	\$2.1	\$2.9	\$3.7	\$4.5	\$5.2	\$19.9	\$6.34
Total Dynamic Revenue Estimate	\$0.0	\$0.0	\$0.0	-\$39.5	-\$25.2	-\$17.5	-\$12.2	-\$3.8	\$0.5	-\$1.4	-\$99.2	-\$2.09

Source: Tax Foundation General Equilibrium Model, December 2018

⁸ The long-run cost is far below the initial cost because, although firms with full expensing can deduct the full cost of investments going forward, they must still depreciate past investments. See Kyle Pomerleau and Scott Greenberg, "Full Expensing Costs Less Than You'd Think," Tax Foundation, June 13, 2017, <https://taxfoundation.org/full-expensing-costs-less-than-you-d-think/>.

Options to Offset the Cost of Canceling Amortization

If lawmakers want to offset the costs of canceling amortization, they should look to the tax code's many tax expenditures as opportunities for reform and revenue generation. A tax expenditure is a departure from the normal tax code that lowers a taxpayer's burden. While some expenditures are broad-based changes that play a valuable role by moving the U.S. towards a different tax system, others simply give preferential treatment to particular economic activities. These expenditures deviate from sound tax policy by making the tax code less neutral and shrink the tax base.⁹

Eliminating expenditures would raise revenue to balance the costs of canceling amortization, while bringing the tax code more in line with the principles of sound tax policy. Lawmakers looking for ways to recoup revenue after canceling amortization should consider eliminating the following expenditures.¹⁰

Exemption of Credit Union Income

The federal tax code exempts state and federal credit unions from taxation. In 1934, Congress made a variety of financial institutions exempt from paying corporate income taxes. Then, in 1951, it removed the exemption for some institutions while specifically keeping the exemption for credit unions.¹¹ Lawmakers have provided three reasons that credit unions play a different role from other financial institutions and therefore deserve tax-exempt status. Credit unions (1) help lower-income people who don't have bank accounts; (2) restrict their customer base to groups of people with a common bond, enabling the credit union to specialize in their financial needs; and (3) avoid high-risk, high-return investments in favor of safe, lower-interest investments.¹²

While this may have been an accurate description of credit unions 70 years ago, the financial sector has changed over time. Credit unions have avoided most of the restrictions above, and as a result, they have competed directly and successfully with other financial institutions in many markets with a major cost advantage, the tax exemption.¹³ We estimate that eliminating this tax exemption for credit unions would generate about \$2.14 billion in annual revenue.¹⁴

9 Robert Bellafiore, "Tax Expenditures Before and After the Tax Cuts and Jobs Act," Tax Foundation, Dec. 18, 2018, <https://taxfoundation.org/tax-expenditures-pre-post-tcja/>.

10 These offsets would exceed the cost of canceling amortization and would therefore result in a net increase in federal revenue.

11 Erica York, "Reviewing the Credit Union Tax Exemption," Tax Foundation, Jan. 30, 2018, <https://taxfoundation.org/reviewing-credit-union-tax-exemption/>.

12 IRS, "State Chartered Credit Unions Under 501(c)(14)(A)," <https://www.irs.gov/pub/irs-tege/eotopicm79.pdf>.

13 John A. Tatom, "Competitive Advantage: A Study of the Federal Tax Exemption for Credit Unions," Tax Foundation, Feb. 28, 2005, <https://files.taxfoundation.org/legacy/docs/8ccda96dc9aa7b1b47ca2f9f2632c796.pdf>.

14 U.S. Treasury, "Tax Expenditures," Oct. 19, 2018, 23, <https://home.treasury.gov/system/files/131/Tax-Expenditures-FY2020.pdf>, and author's calculations.

Exemption from Passive Loss Rules for \$25,000 of Rental Loss

The tax code generally limits a taxpayer's ability to deduct losses occurring from passive activities from nonpassive income.¹⁵ The tax code's passive activity loss rules are intended to prevent tax shelters. Though the use of passive losses to offset nonpassive income is generally restricted, certain real estate owners enjoy a special exemption from passive income limitations that allows them to deduct up to \$25,000 in passive losses from nonpassive income. The exemption phases out for taxpayers earning between \$100,000 and \$150,000.¹⁶

This exemption allows certain owners of rental real estate to lower their tax bill using passive income losses, but it denies this treatment to other taxpayers with passive income. We estimate that eliminating this exemption would generate about \$7.13 billion in annual revenue.¹⁷

Conclusion

Expensing, or the immediate write-off of R&D costs, is a valuable component of the current tax system. The TCJA's change to amortization in 2022, requiring firms to write off their business costs over time rather than immediately, would raise the cost of investment, discourage R&D, and reduce economic output.

Canceling amortization and continuing expensing for R&D costs would result in a 0.15 percent larger economy, a 0.26 percent larger capital stock, 0.12 percent higher wages, and 30,600 full-time equivalent jobs. It would reduce federal revenue by \$119 billion on a conventional basis between 2019 and 2028, and by \$99.2 billion on a dynamic basis. In the long run, it would reduce federal revenue by \$8.43 billion.

Policymakers looking for ways to offset the costs of canceling amortization should consider eliminating the credit union exemption and the rental loss exemption. Together, canceling amortization and eliminating these expenditures would preserve a strength of the tax code—full expensing for R&D costs—and end some provisions favoring particular industries and shrinking the tax base.

15 The tax code distinguishes between nonpassive activities—businesses in which the taxpayer works on a regular, continuous, and substantial basis—and passive activities—business in which the taxpayer does not materially participate. See IRS, "Passive Activity Losses - Real Estate Tax Tips," <https://www.irs.gov/businesses/small-businesses-self-employed/passive-activity-losses-real-estate-tax-tips>.

16 U.S. Treasury, "Tax Expenditures," 10.

17 Ibid., 23, and author's calculations.