

Taxing AI: Alternative Approaches

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SUMMARY

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Taxing AI: Alternative Approaches

Some Members of the 119th Congress have advanced proposals for taxing artificial intelligence (AI), computer models that can learn, generate new content, and mimic or improve upon human reasoning. AI is trained with large amounts of data and then makes inferences from new input data using patterns learned from the training data. Recent attention has been focused on a subset of AI—generative AI, which can produce new writing, art, and computer code.

Arguments for taxing AI include concerns about disruption in labor markets; a need for tax revenue if wages, the main source of federal tax revenues, decline; concerns that AI will exacerbate the divide between the wealthy and the working class; claims that the current income tax system favors machines over workers because of tax subsidies to investment (meaning that a tax on AI would generate greater tax parity); disruption in the supply of chips for consumer electronics as firms devote resources to the more advanced chips used in AI; and adverse effects of AI data centers, such as increased electricity prices and environmental concerns for local communities.

Arguments against taxing AI include that AI, like other technological advances, increases productivity and social welfare, such that slowing the adoption of AI will harm the overall economy; that the race to develop more advanced AI, which is largely between the United States and China, is important for national security and the security of data systems; and that data centers can lower as well as raise electricity prices and can provide positive benefits for local communities, such as additional property tax revenues.

Tax proposals in the 119th Congress include a token tax (tokens measure the inputs and outputs of AI), a tax on computing power, a tax on digital advertising, a tax on the stocks of AI firms, a tax on electricity used in AI data centers, a disallowance of various tax subsidies to investment in AI data centers, a tax on profits in excess of a share of receipts, and a gross receipts tax on data centers. Excise taxes and/or income taxes could be levied on AI at the federal level.

Excise taxes could be imposed as unit taxes, such as taxes on the number of tokens or the use of electricity and water by AI data centers, or as ad valorem taxes (taxes on the dollar value of transactions), such as taxes on charges for AI subscriptions, a general tax on AI digital services (which could include advertising as well as subscriptions), taxes on electricity and water payments by data centers, taxes on the sale of chips or servers used by AI, and taxes on AI-enabled robot services. In general, unit excise taxes work if the units are similar and can be defined, which may produce some difficulties with token taxes. Ad valorem taxes may encounter difficulties if they are levied on intermediate goods, such as chips, that are exported and then reimported inside servers, because excise taxes are imposed on imports and rebated on exports. Under a tax on AI usage, intermediate use of AI inference when large firms produce and use their AI for other purposes, such as targeted advertising, would need to be valued internally and taxed based on that valuation.

Income tax approaches could include disallowing bonus or accelerated depreciation on equipment in data centers, disallowing qualification of data centers for opportunity zone incentives, disallowing like-kind deferrals of property sold to data centers, and disallowing AI data centers from qualifying as eligible property for real estate investment trusts (REITs). Another option is a tax on gross receipts of AI data centers, or a similar tax on receipts minus the cost of goods sold, the tax regime that currently applies to marijuana.

Some proposals for AI taxes, such as a tax on computing power, do not fall in these categories and may encounter difficulties if they are considered direct taxes that must be apportioned among the states according to population under the Constitution. Taxes computed on the physical infrastructure that produces AI output, such as taxes on the stock of AI firms (to be paid as a share of stock) and robot taxes on AI-enabled robots, may be considered direct taxes.

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Introduction

Some Members of the 119th Congress have advanced proposals for taxing artificial intelligence (AI), computer models that can learn, generate new content, and mimic or improve upon human reasoning.[1] These systems differ from software that follows rigid step-by-step instructions. AI is trained with large amounts of data and then makes inferences from new input data using patterns learned from the training data. Recent attention has been on a subset of AI—generative AI, which can produce new writing, art, and computer code.

Approaches to taxing AI face significant design challenges, especially in the context of existing federal tax approaches, such as income and excise taxes. This report reviews the rationales for taxing AI, existing tax mechanisms, and various AI tax proposals. It also addresses some of the challenges in implementing various AI tax schemes.

AI and Market Participants

AI models, such as those used by ChatGPT and Claude, are trained on large datasets to recognize patterns and produce outputs based on those patterns. However, the market participants in AI include companies engaged in a range of supporting activities, all of which could be potential targets for taxation. The major activities in the AI market and some of the notable companies include the following:[2]

- Large language models (LLMs) that are trained on data and produce output. Notable companies and examples of their LLMs are OpenAI (the GPT family of models), Anthropic (the Claude family of models), Alphabet/Google (the Gemini family of models), and Meta (the Llama family of models).
- Cloud computing, which provides computing power over the internet. Cloud computing services are provided by companies that include Amazon, Microsoft, Google, IBM, and Oracle.
- Designers and makers of various computer chips for processing, such as graphics processing unit (GPU) and other advanced computer chips that are used for training and inference in AI models (companies such as Nvidia, Advanced Micro Devices [AMD], Intel, Qualcomm, and Samsung); memory chips (such as Sk Hynix, Samsung, and Micron Technology); networking chips (such as Broadcom, Cisco, Nvidia, Marvell Technology, and Intel); and makers of data center equipment, such as servers, networking equipment, and storage devices (such as Cisco, Dell, Hewlett Packard, IBM, and Juniper Networks).[3]

[1] For an infographic that summarizes AI-related concepts, see CRS Infographic IG10077, *Artificial Intelligence (AI) Taxonomy*, by Laurie Harris and Nora Wells.

[2] For an overview, see Syvantis Technologies, "The Big Players In AI: Who Owns What And How It Works," May 7, 2026, https://www.syvantis.com/blogs/ai/the-big-players-in-ai-who-owns-what-and-how-it-works, and Phurichai Rungcharoenkitkul, "The AI Investment Race," BIS Working Paper no. 1367, July 2026, https://www.bis.org/publ/work1367.pdf. See also AI Multiple, "Top 30+ AI Chip Makers: NVIDIA & Its Competitors," accessed July 28, 2026, https://aimultiple.com/ai-chip-makers; IBM, "What Is A Data Center?," https://www.ibm.com/think/topics/data-centers; and Maya Derrick, "Top 10 Data Centre Companies," *Data Centre Magazine*, https://datacentremagazine.com/articles/top-10-data-centre-companies.

[3] For a discussion of spending on various components of data centers, see Evan Brown, "The Impact of Tariffs on the AI Data Center Buildout: Balancing Supply Chain Security and AI Infrastructure Leadership," Center for Strategic & (continued...)

- Data centers, the physical facilities that house servers, storage, and networking equipment for AI development and deployment and a variety of other traditional IT purposes (such as web browsing, streaming, email, and online banking).[4] The companies are more diverse, including tech giants like Amazon, Meta, and Microsoft, as well as smaller companies and companies that lease facilities.

The nature of firms that interact to provide AI services can complicate or limit alternative tax approaches. Large tech companies that are involved in multiple lines of business are often taxed as a single entity, so there is no easy way to separate profits from AI-related activities from profits from other activities. Similarly, data centers can be dedicated exclusively to AI or can provide both AI and non-AI functions that may not be easily separated by a federal tax official or other regulator.

Taxing AI: Arguments and Proposals

From an economics context, the rationales and goals for taxes are to raise revenue, redistribute resources across individuals in a way that meets a desirable standard for equity and fairness, address negative externalities (harmful spillover effects that are not captured by firms that produce products), and be administratively feasible. In general, it is not efficient to tax a singular product or activity unless there is a reason to do so. Moreover, while technological advances can cause disruptions or losses for certain groups, in the long run technological advances generally benefit individuals, and slowing technological change generally reduces productivity and overall welfare.

In the case of AI, several reasons for specific taxes have been advanced by various Members of Congress. One rationale concerns disruption to labor markets, as AI technologies can potentially displace workers or slow wage growth.[5] Such concerns have a long history, including notable examples during the industrial revolution in the early 1800s, mechanization and introduction of assembly lines (sometimes called the second industrial revolution) in the late 1800s and early 1900s, and the introduction of computers and the internet in the latter part of the 20th century.[6] Technological advances have improved productivity but resulted in labor displacement. Some proposals would tax AI and use the revenues to assist displaced workers. (Identifying workers displaced by AI versus other factors presents its own challenges that are beyond the scope of this report.) Senator Mark Kelly has proposed taxes on AI to finance an AI Horizon Fund that would, among other uses, assist dislocated workers. He proposes three new taxes on large companies: (1) a 5% tax on digital services advertising revenue, (2) a tax of $1.10 per 1 million units (a unit being 10 kilobytes of binary data) of computational processing, and (3) an excess profits tax of 50% on taxable income in excess of 40% of receipts for companies engaged in developing

International Studies, May 14, 2026, https://www.csis.org/analysis/impact-tariffs-ai-data-center-buildout-balancing-supply-chain-security-and-ai.

[4] See CRS In Focus IF12899, *Data Centers and Cloud Computing: Information Technology Infrastructure for Artificial Intelligence*, by Ling Zhu.

[5] Sania Edlich and Torsten Slok, "The Impact of AI on the U.S. Labor Market: Early Evidence from Observed Adoption," Apollo Global Management, July 2026, https://www.apollo.com/content/dam/apolloaem/pdf/daily-spark/2026//jul/30/Whitepaper-Impact%20of%20AI%20on%20U.S.%20Labor%20Market-2026-R2%201.pdf.

[6] For a brief discussion of these episodes, see Perla Khattar, "Technological Anxiety Is Not New: What Past Labor Disruptions Teach Us About AI," Institute for Ethics and the Common Good, March 10, 2026, https://ethics.nd.edu/news-and-events/news/blog-post-technological-anxiety-is-not-new-what-past-labor-disruptions-teach-us-about-ai/.

artificial intelligence.[7] Representative Greg Casar has proposed a tax on tokens, a measure of AI usage (H.R. 10044, 119th Congress).[8]

This argument also reflects concerns that tax revenues, which depend largely on labor income, will decline, creating a new need for revenues that could be partially addressed by taxes on AI.

A second argument is that AI will exacerbate the divide between the wealthy and the working class, and that taxes on AI could allow the sharing of this wealth with the American people. An example is the proposal by Senator Bernie Sanders for the federal government to take a stake in AI firms via a tax paid in stock (i.e., firms would turn stock over to the government), used to create a sovereign wealth fund.[9]

An argument has also been made that the current tax system favors AI over workers because of tax subsidies for investment in machinery, primarily bonus depreciation. Bonus depreciation, or expensing, allows investments in equipment to be deducted immediately rather than over time. This treatment is equivalent to a 0% effective corporate tax rate for marginal investment.[10] Senator Mark Warner has introduced bills, S. 5054 and S. 5055 (119th Congress), that would disallow bonus depreciation by data centers.[11] Senator Ron Wyden has proposed various tax changes for data centers, including disallowing bonus depreciation, disallowing the use of opportunity zones (OZs) for data center investments, limiting the use of real estate investment trusts (REITs), and imposing a gross receipts tax.[12] (OZs allow favorable tax treatment of the capital gains of investors in OZ projects.[13])

Another argument focuses on AI data centers and the demands they are making on electricity and water use, which some argue raise prices for consumers, strain the power grid, and create negative environmental spillovers. Representative Andrea Salinas has introduced a bill, H.R. 10102 (119th Congress), to impose a tax of one cent per kilowatt hour on data centers. Senator Elizabeth Warren has also proposed a tax on electricity used by AI.[14]

Externalities, such as those posed by electricity and water demand, could also be addressed with incentives rather than penalties. For example, one proposal would award a 30% credit for the cost

[7] Sen. Mark Kelly, "AI For America," https://www.kelly.senate.gov/wp-content/uploads/2025/09/KELLY-AI-FOR-AMERICA_924.pdf. Tax proposals include ones based on use of large-scale public resources, windfall revenues, and digital advertising taxes. The bill text is at https://aboutblaw.com/bmV7.

[8] Rep. Greg Casar, "OP-ED: The American Prospect: Tax AI to Create Jobs," press release, May 28, 2026, https://casar.house.gov/media/press-releases/op-ed-american-prospect-tax-ai-create-jobs; Andrew Lamparski, "Casar Introduces Bill To Tax AI Companies, Create Jobs Amid Layoff Fears," *CBS Austin*, August 6, 2026, https://cbsaustin.com/news/local/casar-introduces-bill-to-tax-ai-companies-create-jobs-amid-layoff-fears.

[9] See S. 4825 (119th Congress), American A.I. Sovereign Wealth Fund Act.

[10] See CRS Report R48631, *Marginal Effective Tax Rates: Changes in P.L. 119-21, the 2025 Reconciliation Act*, by Mark P. Keightley and Jane G. Gravelle for a discussion.

[11] See S. 5054 (119th Congress), Data Center Tax Accountability and Disclosure Act of 2026, and S. 5055 (119th Congress), National Workforce Transition Fund Act of 2026.

[12] Senate Finance Committee, "Wyden Unveils Proposal to Ensure Data Centers Pay for Disruptions Caused to Communities," press release, August 6, 2026, https://www.finance.senate.gov/ranking-members-news/wyden-unveils-proposal-to-ensure-data-centers-pay-for-disruptions-caused-to-communities; and Senate Finance Committee Democratic Staff, "Proposal for the Taxation of Data Centers," https://www.finance.senate.gov/imo/media/doc/080626_wyden_data_center_tax_white_paper.pdf. Bill draft is at https://www.finance.senate.gov/wp-content/uploads/2026/10/102326_data_center_tax_package_leg_text_discussion_draft.pdf.

[13] CRS Report R45152, *Tax Incentives for Opportunity Zones*, by Donald J. Marples.

[14] Sen. Elizabeth Warren, "Tax AI and Invest in the People," press release, May 27, 2026, https://www.warren.senate.gov/newsroom/press-releases/warren-for-time-tax-ai-and-invest-in-people/.

of facilities that recycle water in data centers and other industrial uses.[15] There have also been recent technological advances, such as direct-to-chip cooling technologies that reduce use of water and electricity; investments in these technologies could be subsidized in data centers.[16]

Some households and policymakers also have raised concerns about AI demand for computer chips crowding out the production of chips for other purposes, such as cell phones and personal laptops.[17] Although this issue will likely resolve over time as chipmakers expand production, a temporary tax could be imposed on chips used in AI, or on the servers that incorporate them.

The reasons for taxing AI may point to the best method of taxation. For example, if the concern is about labor market disruption or distribution of social benefits, any of these taxes will increase the cost of AI. If the issue is the negative externalities of data centers, taxes might be directed at data centers' consumption of electricity and water or directed at data centers in some other way. In general, more targeted taxes will be more likely to shift the behavior of AI-related businesses, which may not resolve concerns about the technology's effects writ large. For example, taxing the electricity usage of AI data centers could encourage such centers to use less electricity, but that would probably not ameliorate concerns about labor displacement. The ideal tax policy response is highly dependent on the specific problem or problems that policymakers hope to solve.

Arguments Against Taxing AI

A standard argument against taxes that target a specific economic activity is that the market allocates resources more efficiently than the government, and targeted taxes create distortions in the allocation of resources, thus reducing welfare. This argument becomes less applicable in cases of market failure, where conditions impede welfare-maximizing outcomes. Thus, there are numerous examples of tax policies that aim to intervene in specific markets to improve allocation because of market failures. Special excise taxes are often aimed at commodities that produce negative external effects on the economy, such as tobacco and alcohol. Tax subsidies, such as green energy incentives, are aimed at reducing the environmental harms of fossil fuels. The research and development credit encourages investment in research that is estimated to create significant positive spillover effects. All these are examples of policies targeting specific sectors or activities, though they all have unique rationales for subsidizing or taxing that sector or activity more than others.

AI's technological advances would be expected to economically benefit society. The basic argument against taxing AI is that the development and application of AI will increase economic productivity and social welfare overall, and that slowing that growth with taxes would be harmful. Indeed, economic research points to government encouraging technological advancement because technological innovators do not capture the full social return on their

[15] See H.R. 2940 (119th Congress, LaHood), S. 4506 (119th Congress, Luján), and H.R. 6900 (119th Congress, Thompson).

[16] See Chris Carreiro, "Direct-to-Chip Cooling—How it Works and its Effectiveness," Park Place Technologies, September 9, 2025, https://www.parkplacetechnologies.com/blog/direct-to-chip-cooling-how-it-works-effectiveness/; Christopher Tozzi, "Data Center Cooling Methods: Costs vs. Efficiency vs. Sustainability," Data Center Knowledge, October 31, 2025, https://www.datacenterknowledge.com/cooling/data-center-cooling-methods-costs-vs-efficiency-vs-sustainability.

[17] Robert McGreevy, "New Report Warns AI Data Center Boom Squeezes Memory-Chip Supply, Could Raise Everyday Tech Costs," *FoxBusiness*, August 24, 2026, https://www.foxbusiness.com/economy/new-report-warns-ai-data-center-boom-squeezes-memory-chip-supply-could-raise-everyday-tech-costs.

investments (some or even most of the gains "spill over" to other users of the technology), causing underinvestment in technological research and innovation.[18]

Most evidence, thus far, does not indicate an impact of AI on labor markets, one of the major concerns expressed by many about AI. A study by researchers at the Yale Budget Lab comparing AI-exposed workers to unexposed workers found no differences in unemployment levels.[19] The Yale Budget Lab also found no evidence of labor market disruption.[20] Stanford University researchers have also found no effect on the labor market using real time data in a continually updated study, although there was some indication that employment rates for young workers in AI-exposed occupations were lower.[21] Employment has taken an especially large dip for early-career software developers. These results may change—either worsening or improving—as AI is adopted more broadly.

A second argument against a domestic AI tax is that the United States is engaged in a global race, especially with foreign adversaries, to develop more sophisticated models. Some analysts argue that if the United States does not keep up with emerging AI technology, it could be more susceptible to cybersecurity attacks, with possible national security risks as well as general economic disruptions.

A related argument is the concern that taxing AI could drive investment offshore. That effect largely depends on how AI is taxed. Excise taxes are structured to apply to domestic consumption rather than domestic investment, so this type of tax would apply regardless of the location of production. Other types of taxes, such as income taxes, are targeted to production or sales and could have consequences for moving activities offshore. Taxes focusing on data centers could potentially encourage moving AI data centers abroad for certain activities. However, many factors constrain where AI data centers are located. They need to be close to water and power supplies and have connections to internet routes. Some activities, such as AI inference, need to be close to users to perform in real time, whereas others, such as AI training, do not.

Certain approaches to taxing AI present administration and enforcement issues. For example, taxes aimed at electricity costs of AI data centers or at equipment used for AI must differentiate between usage for AI and non-AI purposes, such as e-mail traffic, online financial and commercial transactions, and other uses of the internet that require data centers' services.

Some have raised issues with the argument that data centers raise electricity costs or that the effects on power and water demand harm local communities. In theory, these effects could go in either direction. If there is excess capacity in the electricity infrastructure, data centers may

[18] CRS Report R48848, *The Federal Research and Development (R&D) Tax Credit*, by Jane G. Gravelle and Mark P. Keightley, has a review of the studies that estimate the excess returns from investment in research that are not captured by firms.

[19] Martha Gimbel et al., "What We Do and Don't Know About How AI is Affecting the Labor Market," Yale Budget Lab, May 7, 2026, https://budgetlab.yale.edu/research/what-we-do-and-dont-know-about-how-ai-affecting-labor-market, and "Labor Market AI Exposure: What Do We Know?," February 29, 2026, https://budgetlab.yale.edu/research/labor-market-ai-exposure-what-do-we-know.

[20] Yale Budget Lab, "Tracking the Impact of AI on the Labor Market," September 15, 2026, https://budgetlab.yale.edu/research/tracking-impact-ai-labor-market, and Martha Gimbel et al., "Evaluating the Impact of AI on the Labor Market: Current State of Affairs," Yale Budget Lab, October 1, 2025, https://budgetlab.yale.edu/research/evaluating-impact-ai-labor-market-current-state-affairs.

[21] Erik Brynjolfsson et al., "Canaries in the Coal Mine? Six Facts about the Recent Employment Effects of Artificial Intelligence," Stanford Digital Economy Lab, https://digitaleconomy.stanford.edu/publication/canaries-in-the-coal-mine-six-facts-about-the-recent-employment-effects-of-artificial-intelligence/. See also Stanford's general policy brief, which reviews the current research: Neale Mahoney et al., "What Is Really Happening To Jobs? Separating AI Hype From Reality," Standford Institute for Economic Policy Research, July 2026, https://siepr.stanford.edu/publications/policy-brief/what-really-happening-jobs-separating-ai-hype-reality.

reduce electricity prices by spreading fixed system costs over more customers. If a data center results in an increase in infrastructure investment, consumer prices could increase as these additional fixed costs are spread to consumers. Evidence points to both types of effects.[22] For water use, many data centers use "closed-loop" systems that recycle the water used in the facility, leading to potentially little impact on water demand. In addition, costs to residents might also consider other effects, such as the generation of property tax revenues by data centers, which may reduce homeowners' and local businesses' property tax bills that reflect these ta,mlkxes, as well as provide funds for public services.

There are also other ways to mitigate negative effects, such as differential utility pricing structures or requiring data centers to fund utility construction.[23] President Trump has asked major technology companies to sign a Ratepayer Protection Pledge (RPP) stipulating that signees will pay for their own electricity infrastructure investments—including building "new generation resources" and "all new power delivery infrastructure upgrades" required by the companies' data centers—and will also subject themselves to a separate rate structure designed to mitigate impacts on other electricity users.[24] The RPP has been signed by a number of technology companies, including Amazon, Google, Meta, Microsoft, OpenAI, Oracle, and xAI, though it does not have any enforcement mechanisms, and its effects are not yet clear.[25] More recently, S. 5653 would reform the country's permitting system to require AI data centers and cryptocurrency data centers to pay the full amount of their own transmission infrastructure upgrades in addition to normal ongoing utility charges; the bill would also allow states to charge such data centers extra amounts in order to lower electricity rates for consumers.[26] The RPP and the permitting bill may potentially negate the impacts of data center demand on electricity rates for residential and other business customers, providing a nontax solution to the electricity rate issue.

[22] See Paul Donohoo-Vallett et al., "Caught in the Current: Historical and Prospective Drivers of Changes in US Electricity Prices," Rhodium Group. April 21, 2026, https://rhg.com/research/us-electricity-prices-drivers/; Ryan Hledik et al., "Factors Influencing Recent Trends in Retail Electricity Prices in the United States," Brattel Group, October, 2025, https://eta-publications.lbl.gov/sites/default/files/2025-10/full_summary_retail_price_trends_drivers.pdf#page=35; California Business Roundtable, "Do Data Centers Drive Higher Electricity Prices? What the Data Actually Shows," https://centerforjobs.org/ca/special-reports/special-report-do-data-centers-drive-higher-electricity-prices-what-the-data-actually-shows#ai-and-energy-use-what-the-data-shows-about-data-centers-and-electricity-costs-post-chatgpt; and Fernando E. Alvarez et al., "Data Centers and Local Economies in the Age of AI: A Shift–Share Approach," National Bureau of Economic Research Working Paper 35194, May 2026, https://www.nber.org/papers/w35194.

[23] See, for example, Carla Walker and Ian Goldsmith, "From Energy Use to Air Quality, the Many Ways Data Centers Affect US Communities," World Resources Institute, February 17, 2026, https://www.wri.org/insights/us-data-center-growth-impacts; and Neil Sheehan, "Data Center Development: How Communities Can Welcome Growth Without Sacrificing Control," Woolpert, March 24, 2026, https://woolpert.com/blog/in-defense-of-data-center-development-how-communities-can-welcome-growth-without-sacrificing-control/.

[24] White House, "Ratepayer Protection Pledge," press release, March 4, 2026, https://www.whitehouse.gov/releases/2026/03/ratepayer-protection-pledge/.

[25] Jake Morabito et al., "Data Centers, Energy Demand, and the Ratepayer Protection Pledge," American Legislative Exchange Council, April 1, 2026, https://alec.org/article/data-centers-energy-demand-and-the-ratepayer-protection-pledge/; and Amazon News, "A Responsible Path Forward for America's Energy Future," press release, March 4, 2026, https://www.aboutamazon.com/news/policy-news-views/amazon-data-centers-power-costs-white-house-pledge.

[26] Robinson Meyer, "The Senate Permitting Deal Contains a Data Center Double Tap," *Heatmap News*, October 1, 2026; and Diana DiGangi, "Senate Permitting Bill Would Expand Federal Role in Transmission Siting," *Utility Dive*, October 1, 2026.

General Federal Tax Options

There are three basic tax bases: income, assets or property, and sales or transactions. The federal government has income taxes, as well as excise taxes that apply to sales of certain products.[27] Notably missing from the types of taxes used by the federal government are taxes on property or assets. The Constitution requires direct taxes to be apportioned according to state population, which makes impractical any tax that courts might consider a direct tax.[28] Direct taxes are generally viewed as capitation (head) taxes and property taxes.

For taxing a specific activity, excise taxes are generally used. However, the income tax can affect the types of investments made by favoring investments in some assets over others, primarily through depreciation allowances for the deduction of the costs of investments, with the current system largely favoring intangible investments, equipment, and manufacturing structures over other structures.[29]

Excise Taxes

Excise taxes are applied to sales of goods and take two basic forms:

- per unit taxes, such as tobacco taxes (e.g., taxes per cigarette or per pound of pipe tobacco), alcohol taxes (applied to different products based on alcohol content), and gasoline taxes (per gallon taxes); and
- ad valorem taxes, which are set as a percentage of product prices (such as firearms and ammunition, air transportation, and heavy trucks and trailers).

Per unit taxes are feasible when uniform units can be defined. If units are differentiated, an ad valorum tax can address these differences. Excise taxes can be imposed on manufacturers or retailers, and can apply to goods or services (such as the telephone excise tax), though they are generally applied to goods.

Excise taxes are imposed on imports and rebated on exports, so that the tax base is domestic consumption. For that reason, excise taxes do not create incentives for production abroad to avoid taxes because the tax is based on where the good is consumed rather than on where it is produced. At the same time, the treatment of exports and imports means that excise taxes need to be levied at the final stage of production because tracking exports and imports of intermediate goods is complicated.

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[27] See CRS Report R48313, *Overview of the Federal Tax System in 2024*, by Donald J. Marples and Brendan McDermott.

[28] What constitutes a direct tax for this purpose is unsettled. See CRS Report R46551, *The Federal Taxing Power: A Primer*, by Milan N. Ball for a discussion of the apportionment clause. For two opposing views on whether a federal wealth tax is constitutional, see Dawn Johnsen and Walter Dellinger, "The Constitutionality of a National Wealth Tax," *Indiana Law Journal*, vol. 93, no. 1 (Winter 2018), https://www.repository.law.indiana.edu/cgi/viewcontent.cgi?article=11279&context=ilj, and David M. Schizer and Steven G. Calabresi, "Wealth Taxes Under the Constitution: An Originalist Analysis," *Florida Law Review,* vol. 77 (2025), pp. 1401-1520, https://scholarship.law.columbia.edu/cgi/viewcontent.cgi?article=5746&context=faculty_scholarship. For a general law journal article on defining a direct tax, see Joseph M. Dodge, "What Federal Taxes are Subject to the Rule of Apportionment Under the Constitution?," *University of Pennsylvania Journal of Constitutional Law*, vol. 11 (2009), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1311957#.

[29] See CRS Report R48277, *CRS Model Estimates of Marginal Effective Tax Rates on Investment Under Current Law*, by Mark P. Keightley and Jane G. Gravelle.

Excise taxes are usually imposed either to discourage some activity that is deemed to have negative external costs to society (such as alcohol and tobacco usage) or to provide related benefits to consumers (such as gasoline taxes used for highway construction). Excise taxes have declined significantly over time as a percentage of GDP, in part because most of them are imposed as per unit taxes and have not been indexed for inflation.[30]

Some taxes that might be thought of as other forms of tax are legally classified as excise taxes, including the estate and gift tax (a tax on the transfer of wealth), the taxes on net income of investments of private foundations and certain university endowments, and the tax on stock buybacks.

Income Taxes

The income tax is the largest source of federal revenue and applies to wage income, corporate income, business income, and passive capital income from capital gains, dividends, and interest. There are also payroll taxes applied to wage income, the other major source of federal revenue, to fund Social Security and Medicare.

The following features of the income tax favor some investments and activities over others:[31]

- *Expensing and accelerated deductions for investment in certain assets.* For most equipment and intangibles, firms can deduct costs immediately ("bonus depreciation" or "expensing"). Expensing also applies to some investments in resource extraction, such as oil and gas, agriculture, and reforestation and timber investments. Investments in regulated public utility property are not eligible for bonus depreciation but have access to accelerated depreciation schedules that allow deductions faster than the decline in value.
- *Credits for investments in certain assets.* Tax credits are allowed for research and development, low-income rental housing, certain investments related to clean energy, orphan drugs, certain railroad track maintenance expenditures, and rehabilitation of historic structures.
- *Tax-exempt bond financing available for certain private investments*. Eligible investments include housing; hospitals; education facilities; certain energy facilities; water, sewage, and waste disposal; airports, spaceports, docks, and mass commuting facilities; highway and rail-truck transfer facilities; and a limited amount of unspecified private activity.
- *Tax exemption or partial exemption for certain types of businesses*. Relevant business types include credit unions, insurance companies, real estate investment trusts, and farmers' cooperatives.
- *Favorable tax treatment for investments in certain geographical areas*. Such tax benefits are generally focused on distressed areas, including opportunity zones and empowerment zones along with the new markets tax credit. Certain clean energy tax credits also offer bonus credit amounts for new clean electricity facilities built in energy communities (generally areas with above-average

[30] For an overview of federal excise taxes, see CRS Report R46938, *Federal Excise Taxes: Background and General Analysis*, by Anthony A. Cilluffo.

[31] These provisions are provided in numerous sections of the tax code. For a document that discusses many of these provisions and their code sections, see CRS Committee Print CP10006, *Tax Expenditures: Compendium of Background Material on Individual Provisions — A Committee Print Prepared for the Senate Committee on the Budget, 2024*, by Jane G. Gravelle et al.

unemployment and certain amounts of current or previous fossil fuel employment) and/or designated low-income communities (only applies to new wind and solar facilities, which will become ineligible for clean electricity tax credits earlier than other technologies).

- *Tax deferral applying to many types of investments*. Examples of relevant investments include small business stock, like kind exchanges of real property, and certain installment sales.
- *Favorable treatment of owner-occupied housing by not taxing the implicit rent*. Income used to pay rent to landlords is taxable, whereas the value to homeowners of not paying rent is not classified as a form of taxable income.

Some of these tax benefits could be denied to AI companies as a method of taxing AI.

Marijuana Tax Treatment

Although an income tax allows deductions for ordinary and necessary costs of doing business, there is one case where many of these deductions are disallowed. Marijuana is illegal at the federal level, but illegal activities are still subject to taxation. Marijuana sellers can only deduct the cost of goods sold (Section 280E Internal Revenue Code).[32] For example, a marijuana retailer can deduct the cost of purchasing marijuana for resale, but cannot deduct other costs, such as labor, depreciation, rent, and utilities. This treatment makes the tax like a value-added tax. Whether business expenses of participants in the AI market could be disallowed is not clear, but there has not been a constitutional challenge to this tax rule, suggesting that this approach or a gross receipts tax might be a feasible option.

Alternative Taxation Methods for AI

This section discusses alternative methods for taxing AI and the potential advantages and disadvantages of each approach.

Unit Excise Taxes

Token Taxes

Token taxes could be imposed on use of tokens for both users' prompts as input into an AI model and the model output responding to the prompt. Tokens are basic data units used by large language models and measure units of words and sentences. Tokens are the unit of measure currently used to charge enterprise customers. Customers generally pay flat-rate subscriptions. There is some concern that tokens vary in definition and could be easily changed, and that tokens differ from one AI system to another.[33] In addition, the constant change in AI technology would make such a tax somewhat difficult to define and enforce. Flat-rate subscriptions (including basic no charge subscriptions) would need an imputed number of tokens to be taxed.

[32] See CRS Report R46709, *The Application of Internal Revenue Code Section 280E to Marijuana Businesses: Selected Legal Issues*, by Milan N. Ball.

[33] CRS Report R46709, *The Application of Internal Revenue Code Section 280E to Marijuana Businesses: Selected Legal Issues*, by Milan N. Ball.

When input and output are used internally in a firm, for purposes such as writing computer code or targeting advertising, the excise tax could be applied to "self-use." It could also be applied to training and inference under the "self-use" concept.

Taxes on Electricity or Water Used in Data Centers

Another way to impose a tax on AI is to tax its consumption of inputs, such as electricity. This type of tax might also be considered if a chief concern is not the displacement of labor but the pressure of data centers on electricity demand or water usage.

Because data centers may house both generative AI and other transactions that take place over the internet or television, an important issue is whether the tax is focused on AI uses of resources in data centers or more general data center uses. The latter would be simpler to tax.

Because the tax would apply to the usage of electricity or water, it would be considered a standard excise tax. Onsite electricity generation could be taxed under the "self-use" rules, though lawmakers could exempt such electricity if they wanted to target data centers' use of electricity from the grid.

Ad Valorem Excise Taxes

Ad valorem taxes are not based on units of a commodity, but on the prices customers pay for the commodity, which makes the definition of the tax base less susceptible to manipulation. An ad valorem tax could be considered where units are not uniform, such as tokens, equipment, and services.

Token Taxes

Rather than a unit tax on tokens, an ad valorem tax could be based on charges for use. For arrangements with third parties, an ad valorem tax would avoid problems in variability in the definition of tokens. "Self-use" would cover internal use based on fair market value.

Taxes on Electricity or Water in Data Centers

As with tokens, taxes on electricity or water could be based on charges, rather than on units of electricity or water consumption. Lawmakers seeking to exempt onsite electricity generation costs could limit the tax base to electric utility bills if they so desired.

Robot Taxes and Robot Service Taxes

An ad valorem tax could be applied to third-party services such as robot delivery.[34] It could also be applied for internal use, such as robot delivery in hotels and warehouses, based on fair market value. The range of robot services is broad, so such a tax might be difficult to define.

Alternatively, a tax could be applied to the sale of AI-enabled robots, though lawmakers may also face difficulties defining the relevant tax base.

[34] Vikram Chand et al., "Taxing Artificial Intelligence and Robots: Critical Assessment of Potential Policy Solutions and Recommendation for Alternative Approaches—Sovereign Measure: Education Taxes/Global Measure: Global Education Tax or Planetary Tax," August 2021, https://www.ibfd.org/sites/default/files/2021-09/International%20-%20Taxing%20Artificial%20Intelligence%20and%20Robots%20Critical%20Assessment%20of%20Potential%20Policy%20Solutions%20and%20Recommendation%20for%20Alternative%20Approaches%20-%20IBFD.pdf.

Taxes on Advanced Computer Chips

An excise tax could be imposed on computer chips used for AI purposes (while excluding those used for other computing purposes).[35] Examples of such chips include graphics processing units (GPUs) for AI model training and inference, application-specific integrated circuits (ASICs), and high bandwidth memory (HBM) chips. This tax could be difficult to impose, however, because chips are often embedded in servers that are largely imported, which would require determining the share of value represented by the chips.[36]

Taxes on Computer Equipment Used in Data Centers

As an alternative to taxing chips, a tax could be applied to the servers and other equipment used in AI data centers. To allow federal regulators to administer the tax, lawmakers would need to distinguish AI data centers using server equipment from traditional server farms not engaging in AI-related services.[37]

Digital Services Taxes

A tax could be placed on the revenue generated from AI by taxing digital services provided by AI, such as subscriptions, licensing, advertising, or any other method of exchanging AI services for money. This would be like an ad valorem token tax, although the tax could also cover digital advertising (free AI services paid for by ads).[38] General digital services taxes (not confined to AI) have been imposed by a number of countries.[39] This type of tax has the benefits of being more easily measured and capturing the value of production. It would still require lawmakers to define AI for tax purposes. It could be imposed as a self-use transaction tax on firms that have their own AI models for purposes such as targeted advertising. Policymakers would have to decide whether to treat training models as self-use and therefore taxable services. A digital services tax could also apply to charges for cloud computing.

Income Taxes

Several features of the income tax could be adjusted to reduce deductions and increase payments. These provisions could be directed at data centers.

One concern some have with disallowing deductions is how to focus them on AI, because data centers are also used for non-AI activities. Some data centers operate exclusively for AI purposes, others operate exclusively for non-AI purposes, and others operate for both AI and non-AI purposes. One policy option is to apply restrictions only to data centers with a given fraction of activity used for AI, as proposed in S. 5054 (119th Congress), which disallows bonus depreciation.

The depreciation provisions discussed below could also be applied to certain property that incorporates AI, such as AI-enabled robots.

[35] See Mesh Flinders and Ian Smalley, "What Is An AI Chip?," IBM, https://www.ibm.com/think/topics/ai-chip.

[36] Mihir Torsekar, "America's AI Boom Has a Trade Policy Blind Spot," Coalition for a Prosperous America, https://prosperousamerica.org/americas-ai-boom-has-a-trade-policy-blind-spot/.

[37] Christopher Tozzi, "Data Center vs. Server Farm: What's the Difference, Exactly?," *Data Center Knowledge*, July 11, 2025.

[38] A targeted tax on advertising might raise First Amendment issues.

[39] See CRS Report R47988, *The OECD/G20 Pillar 1 and Digital Services Taxes: A Comparison*, by Jane G. Gravelle.

Depreciation

The tax code allows depreciation deductions to recover the cost of investments in machinery and equipment. In standard economic theory, the deductions should be matched to the decline in the asset's value and spread over its useful life. For most equipment, current law allows the cost of the asset to be deducted immediately, a treatment referred to as bonus depreciation, thereby reducing taxes and increasing the return on the investment. Bonus depreciation, for an investment financed by equity, effectively makes the required return to investors tax-free, as the value of the deduction is equal to the present value of the taxes paid on future returns.

Disallowing bonus depreciation for data centers would require investments to be recovered under the Modified Accelerated Cost Recovery System (MACRS) over five or seven years using a method called double declining balance, which applies a rate of *2/T*, where *T* is the tax life, to the undepreciated balance. For example, a five-year recovery makes such investments less attractive (relative to expensing of such investments) and should reduce the level of investment.

A more extensive change would disallow not only bonus depreciation but also accelerated depreciation in general, and require assets to be depreciated under the Alternative Depreciation System (ADS). For information systems, the life is the same, five years, but ADS uses a slower straight-line method where equal amounts are deducted each year. The depreciation could also be restricted to the class life, which is six years.[40]

Eligibility for bonus depreciation could be retained if certain standards are met. For example, the Wyden proposal would exempt facilities if the structures are Leadership in Energy and Environmental Design (LEED) certified at the platinum or gold levels. Advanced cooling systems, such as direct-to-chip cooling, could be exempted. An exemption might also be allowed for data centers' onsite electricity generation, which could increase the incentive for data center owners to build their own electricity facilities rather than relying on the grid.

The effective tax rate for a corporate equity-financed investment, assuming a 21% statutory tax rate, is 0% for expensing, 17.3% for MACRS, 20.2% for ADS, and 22.8% for the straight-line method using the class life. The effect of these changes on incentives to invest can be estimated based on the increase in the user cost (or rental price) of capital. Eliminating bonus depreciation for average information equipment is estimated to increase the cost of capital by 4.2% if moving to MACRS, 5.2% if moving to ADS, and 6.0% if moving to class life with straight-line depreciation.[41]

Investments in Clean Energy

Data centers using newly constructed clean energy sources (renewables and nuclear) for onsite electricity generation or storage, or adding carbon capture to onsite fossil fuel sources, can receive various "clean energy" tax credits.

Data centers may also benefit indirectly from clean energy tax credits for utilities. When utilities receive clean energy tax credits, those benefits are sometimes used to lower final electricity rates for customers. Lawmakers could require data center owners to pay a surcharge for the estimated

[40] The table of class lives for MACRS, ADS, and the class life is in Internal Revenue Service, *How To Depreciate Property*, Publication 946, beginning on p. 100, https://www.irs.gov/pub/irs-prior/p946--2015.pdf.

[41] These calculations assume a 7% real discount rate, a 2% inflation rate, a 27% rate of economic depreciation, and a 21% tax rate. See CRS Report R48277, *CRS Model Estimates of Marginal Effective Tax Rates on Investment Under Current Law*, by Mark P. Keightley and Jane G. Gravelle for the methodology for calculating user cost.

electricity rate reductions they received due to federal tax credits, though such a surcharge may face administrative or legal difficulties.

Disallowing Opportunity Zones for Data Centers

Opportunity zones allow special treatment of capital gains on investments in economically distressed areas, a provision first enacted on a temporary basis in the 2017 tax revision (P.L. 115-97).[42] These tax benefits include a temporary tax deferral for capital gains reinvested in an opportunity zone, a step-up in basis for any investment in a zone held for at least 5 years (10% basis increase), and a permanent exclusion of capital gains from the sale or exchange of an investment in a zone held for at least 10 years. The 2025 reconciliation law (P.L. 119-21) made these provisions permanent and added an additional incentive—a 30% step-up in basis—for rural opportunity zones. The Wyden proposal would disallow these benefits for data centers. Senator Josh Hawley has also introduced a bill, S. 5418 (119th Congress), to disallow opportunity zone benefits for data centers.

Disallowing REIT Tax Benefits for Data Centers

Some data centers are owned by real estate investment trusts (REITs). REITs are corporations but are not subject to the corporate tax if they meet asset, income, and distribution tests: 75% of the trust's assets and income must be related to real estate, and 90% of its income must be distributed to shareholders, who then pay individual income taxes on distributions. Compared to partnerships, which are subject to similar tax treatment, a REIT can issue publicly traded stock, making investment available to smaller owners and making the investment much more liquid. One policy option could be to exclude data center assets and income from meeting the 75% test; another could be to disallow companies with data center activities from being classified as REITs.

Disallowing Like-Kind Exchanges for Land Sold for Data Centers

Owners of real estate can defer taxes on the sale of real estate if it is replaced by a similar (like-kind) property. Like-kind is defined broadly, so that gain on the sale of land can be deferred by purchasing any other kind of real property (land or buildings). Land sold to data center developers could be denied such "like-kind" treatment.

Gross Receipts or Value-Added Tax for Data Centers

The Wyden proposal also includes a gross receipts tax levied on data centers. A closely related alternative would be the same tax treatment as for marijuana businesses, taxing receipts with a deduction for the cost of goods sold. Because data centers do not produce or sell inventories, this would generally be equivalent to a gross receipts tax.

Taxes That Do Not Fit Into Existing Tax Categories

Some proposals do not fit into the basic categories of excise taxes, income taxes, or value-added taxes. These proposals seek to impose some type of tax on a company's production that is not measured in dollars or sales. Such taxes are difficult to define in some cases.

[42] CRS Report R45152, *Tax Incentives for Opportunity Zones*, by Donald J. Marples.

FLOP/Compute Taxes

A compute tax has been proposed by academics and industry experts in two different ways: a stock tax that would tax the equipment used in data centers and a flow tax that would tax data centers' output.[43] A stock tax, while simpler to apply, might encounter difficulties because it could be seen as a type of property tax.

To tax output, the tax base would involve a fee on computing usage to train or run AI. It could be measured in a variety of different ways, such as hours of operations; number of floating point operations (FLOPs), which measure math calculations; or gigahertz, which measure a computer's processing speed. There could be other measures of usage as well. However, one issue with attempting to measure compute, as well as measuring tokens, is that inputs can vary significantly in how much output they produce and can be manipulated by the taxpayer.[44]

A tax on income imputed to assets might be seen as similar to an asset tax and might encounter similar challenges.

Robot Taxes

It is not always clear what is meant by robot taxes, but the idea appears to be like the compute tax, a tax on the services provided by robots. It could also be more easily applied to assets (the stock of robots) rather than flow, but that might trigger legal issues regarding property taxation. This tax could go beyond a narrower definition of generative AI and apply to other robotic devices. Some of these taxes might be more easily applied if the tax base is on the value of services (such as robot delivery) and the tax is imposed on an ad valorem basis.[45]

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[43] Anton Korinek and Lee M. Lockwood, "Public Finance In The Age Of AI: A Primer," The Brookings Institution, December 30, 2025, https://www.brookings.edu/wp-content/uploads/2026/01/Korinek-Lockwood-FINAL-for-website.pdf.

[44] See Brian Williams, "How to Measure Compute: Implications for the Tax Base," Tax Policy Network, May 29, 2026, https://taxpolicynetwork.org/how-to-measure-compute-implications-for-the-tax-base/.

[45] Chand et al., "Taxing Artificial Intelligence and Robots."

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