RESEARCH BRIEF

If AI Takes the Jobs, Who Will Pay the Taxes?

As artificial intelligence (AI) rapidly advances, the technology threatens to displace human jobs—and disrupt federal revenue. AI could displace an estimated 10 to 15 percent of the hours that Americans work over the next 15 years, hitting highly paid workers, such as lawyers, analysts, software developers, and financial professionals, the hardest.[1] Because taxes on labor generate about two-thirds of federal revenue, AI substitution for the top 10 percent of earners presents a real risk to the federal budget.

To address this risk, RAND researchers developed a framework to gauge AI's effects on federal revenue based on whether humans find new jobs and how firms price AI. The researchers applied this framework to four scenarios of AI-driven labor displacement. Using tools from the RAND von Furstenberg Family Budget Model Initiative, they estimated income taxes, payroll taxes, and corporate receipts under different assumptions about employment and AI pricing. They also mapped relevant provisions of the existing tax code to identify adjustments that could stabilize revenue while preserving incentives for human employment. This research brief describes the researchers' findings and summarizes options for policymakers to consider.

KEY FINDINGS

- Because labor taxes generate two-thirds of federal revenue, displacement of jobs from artificial intelligence (AI) threatens that revenue base.
- The extent that AI reduces federal revenue depends on two factors: whether job-displaced humans find new employment and whether firms charge monopoly prices for AI.
- RAND researchers analyzed four scenarios for how AI-driven job displacement could affect federal tax revenue and identified tax code adjustments that could address structural risks to that revenue.
- Targeted tax reforms could stabilize the tax base by raising the demand for labor and replacing revenue with tax sources that are not tied to wages.

Structural Revenue Risk

Over time, federal revenue has grown more dependent on individual labor income. In 1950, businesses and individuals each contributed roughly half of federal taxes. By 2024, individuals' income taxes and payroll taxes accounted for 84 percent of federal revenue. (Individual income tax includes labor taxes on wages and salary and taxes on unearned income, such as dividends, interest, rent, and capital gains.) That concentration leaves the tax system vulnerable: A sustained drop in employment, or even a shift in how employers pay working-age Americans, would constrict revenue collection.

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AI displacement of high-income workers compounds the risk. Experts anticipate that AI will displace knowledge workers in professional services, finance, and technology before it reaches lower-wage occupations.[2] Displacing even 10 percent of high earners would create a fiscal shock comparable to a recession. This is because, according to 2021 Internal Revenue Service data, the top 10 percent of earners bring home about half of all pretax income and contribute 76 percent of federal revenue from individual income taxes—roughly one-third of all federal revenue. On top of that, state and federal spending would rise to provide unemployment insurance and other safety-net benefits to displaced workers at the exact same time that federal and state revenue from income and payroll tax would drop.

Two Variables, Four Scenarios

RAND researchers identified two factors that would determine the potential severity of fiscal consequences from AI displacing some workers:

- **New work for displaced workers.** Throughout history, new technologies have eliminated some jobs while creating others. If AI follows this pattern, workers who lose their current positions will eventually find comparable employment elsewhere, and labor tax revenue will recover. However, if this wave of automation reduces overall demand for human labor, 65 percent of federal revenue will be at risk.
- **AI pricing.** If a small number of dominant AI firms charge monopolistic prices for AI use, they could amass large corporate profits, generating higher corporate tax revenue. In contrast, broadly available at-cost or low-cost AI—such as smaller, open-weight models—would compress profits across the economy, trigger deflation, and reduce corporate tax receipts.

Combining these two factors produced four scenarios that represent the extreme end points of possible outcomes (Figure 1).

For each scenario, the researchers simulated the effects of a 10-percent shock to employment. Scenarios 2 and 4 pose the greatest risk to federal revenue because displaced workers find no new work.

The scenarios also differ based on the price that firms pay to use AI (Figure 2). In all four scenarios,

FIGURE 1

Four Scenarios Based on Work Availability and AI Pricing

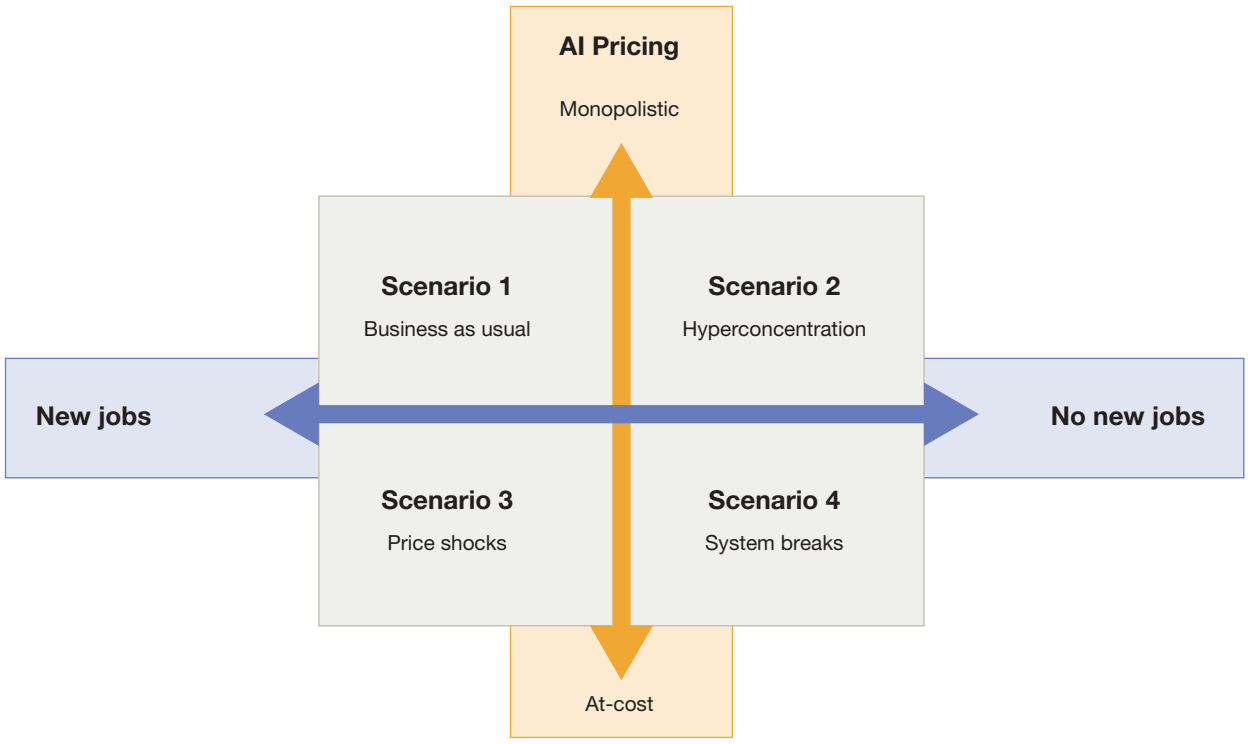
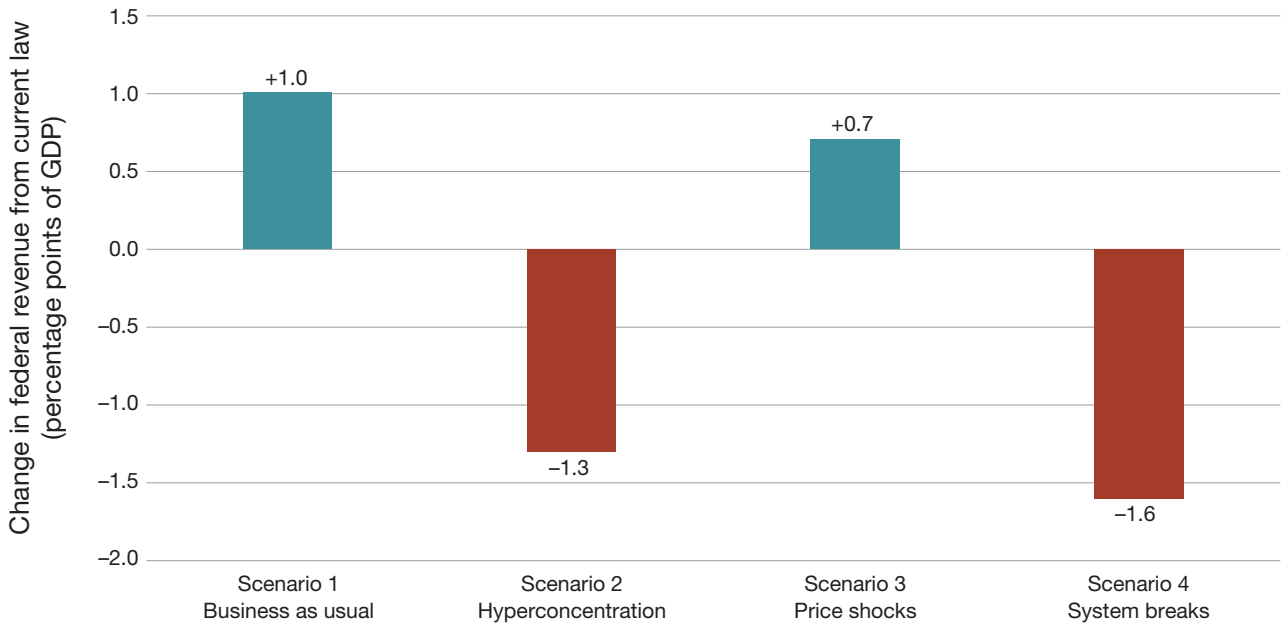


FIGURE 2

Federal Revenue Falls 1.3 to 1.6 Percentage Points of Gross Domestic Product If Displaced Workers Find No New Jobs



NOTE: Bars show the change in federal revenue (labor plus business taxes), relative to existing law with no AI shock, after a 10-percent employment shock. Existing law raises 14.0 percent of GDP from labor taxes and 2.8 percent from business taxes (16.8 percent in total). Changes in labor and business taxes, respectively, in percentage points of GDP are as follows: Scenario 1, +0.2 and +0.8; Scenario 2, −1.5 and +0.2; Scenario 3, +1.6 and −0.9; and Scenario 4, +0.5 and −2.1. Scenarios 1 through 4 are illustrated in Figure 1 and depict AI pricing (monopolistic versus at-cost) and employment (new job creation versus full displacement). GDP = gross domestic product.

the researchers considered the firms that are hiring labor and purchasing AI services to be in a competitive market for their outputs. In Scenarios 3 and 4, the researchers assumed that AI costs are priced competitively rather than monopolistically because of heavy competition in the AI sector or because of a robust open-weight model ecosystem. In these scenarios, firms facing competitive AI system costs would realize increases in productivity and reduced labor costs, resulting in lower output costs because of competition, hence deflation. Because labor costs for human managers, accountants, and lawyers factor into nearly everything bought and sold, AI displacement of these jobs could lower prices generally and trigger deflation. Deflation, in turn, would shrink tax revenues without lowering federal debt. Just as inflation reduces the burden of debt, deflation would make the national debt less affordable.

If AI is priced monopolistically, the price pressure runs the other way. The few firms that control the leading AI systems would earn large above-normal profits, and corporate tax receipts would rise: Business taxes are 0.8 percentage points of GDP higher than under existing law in Scenario 1 and 0.2 percentage points higher in Scenario 2. Whether that is enough depends on what happens to workers. If displaced workers find new jobs (Scenario 1), labor tax revenue holds up and total revenue rises. If they do not (Scenario 2), labor taxes fall by 1.5 percentage points of GDP and the added corporate revenue offsets only a small part of the loss.

Incentives to Automate

Not only does federal revenue depend heavily on labor income, but the tax code also contains incentives for corporations to replace workers with automation. Those incentives could further erode the tax base if AI were to displace jobs.

Employers pay a payroll tax for each human worker on their staff. For every dollar a firm pays a worker, it owes the federal government about another 7.65 cents in payroll tax (on earnings below the Social Security wage cap). That payroll tax does not apply to software, robots, or AI systems, however. Depreciation rules also allow

businesses to write off the costs of new equipment and software faster than the assets actually wear out, which lowers the after-tax costs of employers' investments in automation.

The tax code makes no distinction between AI systems that augment workers and those that replace them. Both get the same accelerated write-off, effectively turning depreciation rules into an unintended subsidy for displacing workers.

In addition, the federal code caps taxes on capital income, which consists of the dividends and investment gains that flow to business owners. The capital income tax cap is 20 percent, whereas wages can be taxed as high as 37 percent. If existing tax rates hold, this gap could also create a cycle that slowly shifts income from workers to AI asset owners and lowers the effective tax rate across the economy, unless Congress acts to narrow the gap between tax rates on capital income and wages.

Stabilizing the Tax Base

Uncertainty over which jobs or sectors will be hardest hit by AI automation makes it difficult to know which parts of the tax code to adjust. RAND researchers identified two broad areas of reform that could help, regardless of how automation plays out.

Balancing Tax Incentives Between Individuals and Corporations

Policymakers can change the tax code to remove incentives to avoid hiring human workers:

- Replacing the employer-side payroll tax with a corporate income tax would eliminate the financial penalty on hiring. Done carefully, this could be revenue-neutral: Firms would pay roughly the same overall tax amount through a different mechanism that does not penalize adding a worker to the payroll. In the existing system, the employer share of the payroll tax is a cost that rises with every hire and does not apply to software or AI, so it tilts firms toward automation. Shifting that burden to corporate profits would remove the tilt and raise revenue from the profits that AI could generate. Fully replacing the employer payroll tax would require roughly doubling the effective tax rate on business income.
- A progressive corporate tax structured around per-worker profits would give firms a financial reason to retain employees while allowing the federal government to capture some of the windfall profits that concentrated AI ownership would generate. Under this design, the rate a firm pays would rise with its profit per worker. A firm with many employees relative to its profits would pay a lower rate than an AI-intensive firm with few employees and large profits.

Replacing Lost Labor-Tax Revenue with Nonwage Sources

If displaced workers do not find new jobs, income and payroll tax receipts fall. The following options raise revenue from tax bases that do not depend on wages (capital gains, consumption, inheritances, and wealth):

- Taxing long-term capital gains as ordinary income would generate an estimated $100 billion or more per year in additional federal revenue, an amount that would grow as automation shifts federal income from wages to corporate investment returns.
- A federal value-added tax (VAT) on goods and services at each stage of production would collect revenue based on consumption rather than on who earned the money or how. The United States is the only major economy without one. Paired with a rebate for lower-income households to offset its regressive effect, a modest VAT could generate $200 billion to $300 billion per year (in 2018 dollars) and would remain stable even as AI reshapes how income is earned.
- A lower-complexity option could address tax preferences at death. Currently, when someone inherits an investment portfolio, a step-up-in-basis provision permanently exempts a lifetime of investment gains from taxation. Repealing that provision could recover tens of billions of dollars annually.
- A wealth tax would have the largest base and would grow more in a world with AI. However, this would require a constitutional change and new tax collection infrastructure.

Next Steps

Congress can get ahead of this potential fiscal crisis. Normal legislative processes could implement several of the options above (repealing the step-up in basis at death, narrowing the capital-labor rate gap, adjusting the payroll tax structure) without creating new tax collection infrastructure. Smaller changes, such as simplifying targeted hiring incentives for workers displaced by automation, could also boost worker retention.

Other options, such as implementing a federal VAT, would be larger undertakings. But federal policymakers should appreciate how quickly AI could shift job availability. Waiting until AI worker displacement is already underway would leave less fiscal room to respond. Over the long term, policymakers could also confront harder constitutional and political questions, including a federal wealth tax and potential government ownership or regulation of dominant AI systems.

At minimum, policymakers should track the early indicators of these scenarios: declining individual income tax revenue, accelerating displacement of professional workers, and spreading of low-cost AI models. A tax code reform agenda calibrated to those signals would be better positioned than one designed for a single predicted outcome.

Notes

[1] Daron Acemoglu, "The Simple Macroeconomics of AI," National Bureau of Economic Research, Working Paper 32487, May 2024; International Monetary Fund, "Slowdown in Global Medium-Term Growth: What Will It Take to Turn the Tide?" in *World Economic Outlook—Steady but Slow: Resilience amid Divergence*, April 2024.

[2] Tyna Eloundou, Sam Manning, Pamela Mishkin, and Daniel Rock, "GPTs Are GPTs: Labor Market Impact Potential of LLMs," *Science*, Vol. 384, No. 6702, June 20, 2024.

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