HOUSE OF REPRESENTATIVES
119TH CONGRESS—*2d Session*

THE 2026 JOINT ECONOMIC REPORT

R E P O R T

OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

ON THE

2026 ECONOMIC REPORT OF
THE PRESIDENT

CHAIRMAN'S VIEWS
CHAIRMAN DAVID SCHWEIKERT

MAY 13, 2026

JOINT ECONOMIC COMMITTEE

[Created pursuant to Sec. 5 (a) of Public Law 304, 79th Congress]

LETTER OF TRANSMITTAL

May 13, 2026

HON. MIKE JOHNSON
Speaker, U.S. House of Representatives
Washington, DC

DEAR MR. SPEAKER:

Pursuant to the requirements of the *Employment Act of 1946*, as amended, I hereby transmit the 2026 Joint Economic Report. The analyses and conclusions of this Report are to assist the several Committees of the Congress and its Members as they deal with economic issues and legislation pertaining thereto.

Sincerely,

David Schweikert
Chairman

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119TH CONGRESS, *2d Session* } HOUSE OF REPRESENTATIVES { REPORT 119-649

THE 2026 JOINT ECONOMIC REPORT

MAY 13, 2026.—Committed to the Committee of the Whole House on the state of the Union and ordered to be printed

Mr. SCHWEIKERT, from the Joint Economic Committee, submitted the following

R E P O R T

Report of the Joint Economic Committee on the 2026 Economic Report of the President

CHAIRMAN'S VIEWS

This year marks 80 years since President Truman signed the *Employment Act of 1946*, establishing the Joint Committee on the Economic Report in Congress, later renamed to the Joint Economic Committee. The *Employment Act* recognized the need for a stable and organized mechanism for monitoring and understanding the economy. Its development in Congress as the United States was emerging from World War II tells a story of legislative compromise and unified resolve toward clear goals for the world's largest economy. It is a story from which the current Congress can draw important lessons in confronting economic challenges before they become insurmountable.

Greatly concerned with how the American economy would look after the transition from a wartime to peacetime economy—and

not long after the Great Depression—the authors of the *Employment Act* in the Senate envisioned a strong, interventionist Federal government orchestrating a "carefully planned economic program" to guarantee full employment.

Members of the more fiscally conservative House of Representatives had different ideas for the role of government in the post-war economy. They worried that such a guarantee would force the Federal government to use all resources necessary to meet it, potentially enabling and excusing runaway deficit spending. Instead, they simply agreed on certain goals for the economy and sought to encourage private enterprise to achieve them. The House substitute encouraged individual initiative and avoided having the government compete with private business. Rather, the Federal government was to "adopt sound fiscal policies" that would "maintain the credit" of the U.S.

President Truman ultimately signed a bill that reflected a compromise between these visions. The Federal government was to aspire toward maximum employment, production, and purchasing power in a manner calculated to foster and promote free competitive enterprise.

In the 1970s, America faced new economic challenges. Just as war and worries of persistent unemployment had driven the 79th Congress to act, high unemployment and inflation fueled fears of persistent stagflation and drove the 95th Congress to pass the *Full Employment and Balanced Growth Act of 1978*, also called "Humphrey-Hawkins."

Humphrey-Hawkins made amendments to the *Employment Act* that reflected those concerns. It added to the stated goals of the Federal government: real income, balanced growth, balanced

Federal budget, adequate productivity growth, proper attention to national priorities, achievement of an improved trade balance through increased exports and improvement in the international competitiveness of agriculture, business, and industry, and reasonable price stability.

The declaration of these goals has since provided a destination, guiding each Congress as it debates, deliberates, and determines the best course of action. By aspiring toward an agreed set of goals while not bound to specific policy mechanisms, the Federal government has been able to remain flexible and responsive to changing economic conditions. Indeed, Congress underwent constant battles between interventionist and free-market economic policies over the decades since the *Employment Act* was signed, not unlike those that sculpted the bill itself at the end of World War II. These central goals have served as agreeable targets for the Federal government—and ones upon which success can be measured.

Accordingly, the *Employment Act* requires the President's Council of Economic Advisers to measure the success of Federal policies in achieving these goals each year in the *Economic Report of the President* (henceforth, the *Report*).

This year, the *Report* details how, by preventing the largest tax hikes in American history and implementing other pro-growth tax policies that built on the success of the *2017 Tax Cuts and Jobs Act*, the tax reconciliation bill passed last year made meaningful progress in the right direction. The *Report* rightfully acknowledges that, at the same time as artificial intelligence and other technologies present tremendous potential for the future economy, burdensome regulation continues to suppress the fruits of American innovation.

Low-cost, resilient energy supply and affordable, high-quality housing are core parts of building a prosperous America. Unfortunately, the Biden Administration adopted an approach that co-opted the power of the Federal government to surge demand and inhibit supply in these markets, creating a crunch that continues to hurt Americans. The current Administration has made progress toward a more market-oriented, all-of-the-above approach that would create a healthy supply of energy and housing.

The *Report* also explores the importance of strong supply chains, a powerful defense industrial base, and competitive physicians' markets. For each, it identifies and analyzes key ways in which the Federal government has created undue supply-side barriers that have prevented desirable outcomes.

The *Employment Act* also recognizes the importance of a Congressional counterpart to the President's Council, the Joint Economic Committee, to reflect the diverse array of opinions of constituents nationwide. Since 1946, 31 Chairmen from 20 states have led the Committee, and nearly 300 members from 48 states have served on the panel. It has welcomed almost 11,400 witnesses to testify before it on pressing economic matters, from economic stabilization in the 1940s, to the rise of the internet in the 1990s, to artificial intelligence last year.

Each Chairman and member has brought different perspectives to the Committee, reflecting dialogue with their constituents and industry leaders as the country navigated rapidly evolving economic conditions. Meeting the challenge of monitoring and interpreting these conditions, the Joint Economic Committee has remained a stable and reliable hub for ideas, analysis, and data,

supported by world-renowned staff economists and guided by a commitment to advancing American economic prosperity.

As Chairman of the Committee, I believe bringing about prosperity is more than adherence to statute—it is fundamentally moral. The success of Congress's policies rests on a promise that the lives of our children and grandchildren will be better than ours today. Regrettably, actions and neglect of Congress over the past decades have set us on a path unlike any the U.S. has seen, and one that makes that promise harder than ever to fulfill.

Since I became Chairman in 2025, gross national debt has increased by nearly $3 trillion, now sitting at a total of $39 trillion. Since the end of the COVID-19 pandemic, it has increased by about $7.5 trillion, driven by annual deficits around 6 percent of GDP. Annual deficits of this size had been entirely unseen outside of wars, recessions, and pandemics. At the same time, the Social Security trust fund is now set to be depleted before the end of the next Presidential term, and the Federal government is bound each year to spend trillions just to keep its promises.

Meanwhile, net interest—the price we pay for running fiscal deficits—now takes almost 20 cents of every dollar collected in tax. Within 30 years, that amount is expected to nearly double, drawing away hundreds of billions of dollars from productive investment every year. Last fiscal year, net interest cost more than our entire defense budget. The future of the U.S. is now determined by the holders of its debt, and the nation remains persistently fragile to even slight movements in the cost of borrowing for decades to come.

My view is that the country's most pressing problems and their optimal solutions can be consolidated into a framework I call a

Unified Theory for Fiscal Solvency. The Committee's staff economists and I have developed a framework for what policymakers must confront, how we got here, and what must be done.

This starts with an earnest recognition of the core problem: the U.S.'s population has *aged*. The structure of key Federal programs is particularly sensitive to this demographic shift, which has been foreseeable for decades. Yet, Congress shirked and continues to shirk its responsibility to address it.

Over the past 20 years, the number of Americans aged 65 and over has almost doubled, while the number of those aged 18 and under has stayed approximately the same. Over the next few years, a disproportionately large generation of Americans will have almost fully left the workforce, while a disproportionately small generation will graduate high school and enter it. At the same time as these material demographic changes have been unfolding, the U.S. population has also become unhealthier in critical ways. Foremost among them is that the share of the population considered obese has almost tripled.

Congress can make meaningful changes to the nation's current trajectory in two primary ways. One, tackle the core problem directly, not just how to finance it. Two, unleash creative destruction and renewal in the economy by legalizing innovation and fostering generational gains in productivity. The Republican section of the *2026 Joint Economic Report* delivers its findings and recommendations in five chapters.

Chapter 1, "The Intergenerational Imbalance and Growing Dependence on a Shrinking Workforce," observes that the Federal government's central focus has shifted from national security and

infrastructure to transfers of money from some individuals to others. Spending programs are built on the demographics of the past, and they continue to transfer dollars from the dwindling number of younger people to the growing number of older people. We find that almost three out of every five dollars transferred to individuals already ultimately go to the elderly, and future trends are almost certain to be increasingly problematic. Raising taxes only deepens this imbalance, whereas growing the economy and the tax base offers some potential for correcting course.

Chapter 2, "An Update on Federal Healthcare Policy," assesses the role of healthcare spending in driving fiscal deficits. Last fiscal year, the Federal government spent nearly $2 trillion on healthcare, making up over 28 percent of all spending. At the turn of the century, that figure was less than 20 percent, indicating healthcare is not only costing us more dollars but also clawing into a greater share of all Federal spending. Over that same period, personal health expenditures have increased by over 220 percent, straining Americans' wallets and showing that many Federal policies have not been working to lower costs. These policies have distorted market incentives and led to tremendous windfall for brokers and other intermediaries. Innovation remains the key to solving these problems.

Chapter 3, "The Fiscal and Economic Health of Medicare," explores Medicare in more detail and focuses on the Medicare Advantage program in particular. As a massive share of the U.S. population moves above retirement age, Medicare is in trouble. One trust fund on which the program relies is set to become insolvent within a decade, and the other is reliant on taxpayer transfers, meaning the U.S.'s aging is directly at odds with the program's financial sustainability under its current design. These problems form a trilemma between three goals: affordability for

seniors, fiscal solvency, and medical innovation. While policy currently makes these goals mutually incompatible, reforming Medicare Advantage by using new technologies to drive down costs would facilitate achievement of all three. Unleashing market forces can set right a program that is currently held captive by a bleak demographic situation.

Chapter 4, "Driving Production Through Human Capital and Innovation," analyzes the role of the labor force in driving future economic growth. A large and healthy labor force is critical to grow the economy and reduce the national debt, but nearly two decades below the replacement-level fertility rate have stalled population growth and complicated the math. Increasing the fertility rate would be a long-term solution to this problem but is insufficient to address the imminent challenge. Other countries face similar demographic predicaments and are actively recruiting talent, including away from our country. To preserve its potential and prosperity, any country must attract and retain those most likely to contribute to its economy. In many ways, current policies are not fit for this purpose and impose unnecessary and excessive opportunity costs. Instead, a points-based system would allow the U.S. to better position itself to win the global competition for talent and ensure those granted entry to the country complement Americans in the workforce. At the same time, unprecedented advancements in technologies like artificial intelligence will make the workforce more productive. Taken together, the labor force of the future will meet American needs and drive growth to help correct the nation's fiscal situation.

Chapter 5, "Putting Innovation at the Center of Pro-Growth Tax Policy," details how we can build a tax code that maximizes productivity and innovation to solve the core problem. While last year's tax reconciliation bill made meaningful progress, more

must be done to ensure the market is unshackled by government. The Federal government must ensure its tax policies harness the strengths of the market and reward ingenuity, not incumbents. For example, a border tax adjustment could achieve many of the same goals as tariffs do, but through a more growth-oriented framework.

Eighty years after the signing of the *Employment Act*, our country faces a precarious and unusual fiscal situation. Over those eight decades, Congress has met countless fiscal challenges. Meanwhile, growth of problems stemming from changes in the nation's demographics and health has been more subtle and insidious. For years, it has been imperative to resolve these problems, but Congress has remained paralyzed. Members are unwilling to face—and act on—reality.

In this *Response*, our Unified Theory lays the groundwork for correcting the nation's fiscal trajectory. Evidently, the scale of the problem emerges from an abandonment of the exact principles Congress agreed would pilot the U.S. through an uncertain economic future long ago. Legislators now not only disagree on specific policies, but also on whether to aspire toward broader economic policy goals in the first place, just as the sculptors of the *Employment Act* sought to avoid. Without this consensus, Congress remains trapped and confined to small, incremental changes that do little to meaningfully rescue the country's fiscal situation.

Unlike past periods of economic uncertainty, like the one out of which the JEC was born, there is now no war, recession, or pandemic that can end to bring about a reordering of the economy. This fiscal year, in peacetime, with tremendous growth in productivity, the Federal government is expected to again borrow 6 percent of the entire economy to finance exorbitant spending.

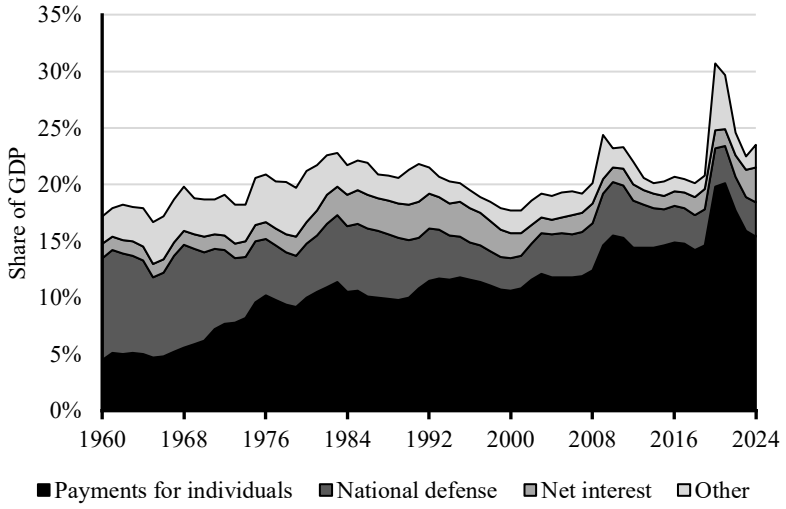
The unfortunate truth is that the current economy is calibrated to a level of deficit spending that is damaging our nation's future. Congress must act now to ensure policy can still effectuate the rapid change needed to avoid an impending catastrophe.

Without honest recognition of the harsh reality, legislating for solutions is impossible. I urge my colleagues to confront the math and adopt policies that chart a new path. The future built for our children and grandchildren depends on our imminent action.

CHAPTER 1: THE INTERGENERATIONAL IMBALANCE AND GROWING DEPENDENCE ON A SHRINKING WORKFORCE

A significant driver of increased outlays in recent decades is the fundamental shift in the core focus of the Federal government. Although it was originally primarily focused on national security and infrastructure, the majority of Federal spending now consists of transfers to individuals. While the number of government agencies and initiatives has multiplied over time, the primary upward pressure on outlays stems from the growing populations eligible for these benefits. The most significant expansions have occurred within Social Security and Medicare. As a result, it is projected that over half of Federal non-interest spending will be directed toward seniors within a decade.

Figure 1-1: Composition of Federal Outlays as a Share of GDP



Source: Office of Management and Budget[1]

Transfers to individuals are heavily dominated by these retirement and healthcare programs. However, it is important to note that not all associated outlays are spent exclusively on the 65-and-older demographic. For example, Old-Age, Survivors, and Disability Insurance (OASDI) allocates a significant portion of its funds to early retirees, as well as to the widows and children of deceased beneficiaries. Similarly, roughly 18 percent of Medicare funding flows to the under-65 population.[2] At the same time, there are additional Federal programs that primarily benefit seniors (for example, civil service and military pensions), and this age group retains a substantial share of the broader safety net. Approximately

[1] Office of Management and Budget, "Historical Tables, Budget of the United States Government, Fiscal Year 2026," Table 6.1, June 20, 2025, https://www.govinfo.gov/app/details/BUDGET-2026-TAB.

[2] Centers for Medicare and Medicaid Services, "Health Expenditures by Age and Sex," Table 9: Medicare Spending by Sex and Age Group and Type of Service, updated September 10, 2024, https://www.cms.gov/data-research/statistics-trends-and-reports/national-health-expenditure-data/age-and-sex.

20 percent ($450 billion in 2024) of support for seniors consists of transfers from programs other than Social Security or Medicare, such as Medicaid, government retirement funds, and anti-poverty initiatives.[3]

Table 1-1: Share of Payments for Individuals by Age Group and Tax Group, Excluding Education

Payments for individuals (excluding education)	Under 18	18 to 44	45 to 64	65 and over	Other
Social insurance	1%	3%	13%	83%	0%
General funds	13%	19%	24%	40%	5%
Total	**8%**	**11%**	**19%**	**59%**	**3%**

Source: Office of Management and Budget;[4] U.S. Treasury;[5] JEC calculations[6]

Table 1-1 shows that almost three out of every five dollars transferred to individuals ultimately go to seniors, but the proportion varies by the type of tax receipts. Critically, the concentration is even more pronounced in programs funded by

[3] JEC calculations; Office of Management and Budget, "Historical Tables," Table 11.3. For each line, a breakdown by age bracket was imputed from publicly available data and reports. Based on the breakdown of spending by age and the outlays for each provision, the $450 billion value comes from the outlays on the 65-and-older group that are neither Medicare nor Old Age and Survivors Insurance.

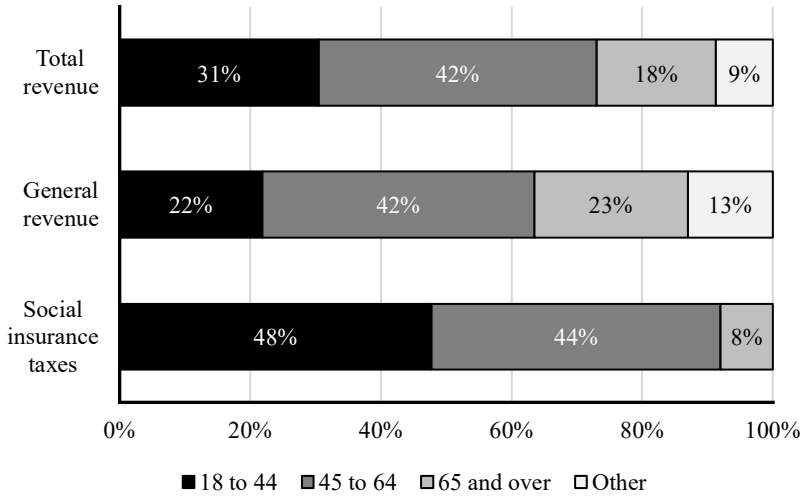
[4] Office of Management and Budget, "Historical Tables," Table 11.3.

[5] U.S. Department of the Treasury, FiscalData, "Monthly Treasury Statement (MTS)," accessed April 17, 2026, https://fiscaldata.treasury.gov/datasets/monthly-treasury-statement/.

[6] Social Security Administration, "Annual Statistical Supplement to the Social Security Bulletin, 2024," accessed April 21, 2026, https://www.ssa.gov/policy/docs/statcomps/supplement/2024/index.html; Centers for Medicare and Medicaid Services, "Health Expenditures by Age and Sex;" U.S. Census Bureau, "Annual Social and Economic Supplements," accessed April 21, 2026, https://www.census.gov/data/datasets/time-series/demo/cps/cps-asec.html; National Institutes of Health, Agency for Healthcare Research and Quality, "Chartbook on Healthcare for Veterans, National Healthcare Quality and Disparities Report," Pub. no. 21-0003 (November 2020), https://www.ncbi.nlm.nih.gov/books/NBK578553/; Internal Revenue Service, *SOI Tax Stats – Individual income tax returns complete report, part 3*, Publication 1304, updated March 26, 2026, https://www.irs.gov/statistics/soi-tax-stats-individual-income-tax-returns-complete-report-publication-1304-basic-tables-part-3; U.S. Census Bureau, "Survey of Income and Program Participation (SIPP)," accessed April 21, 2026, https://www.census.gov/programs-surveys/sipp.html.

social insurance taxes, which are largely payroll taxes. Seniors are also the principal recipients of provisions funded by general revenues.[7]

Figure 1-2: Share of Revenue Collection by Age Group



Source: U.S. Treasury;[8] JEC calculations[9]

[7] This is because of Medicare Parts B and D. Office of Management and Budget, "Historical Tables," Tables 3.2, 13.1.
[8] U.S. Department of the Treasury, "Monthly Treasury Statement (MTS)."
[9] Internal Revenue Service, *SOI Tax Stats – Individual income tax returns complete report, part 1*, Publication 1304, updated March 26, 2026, https://www.irs.gov/statistics/soi-tax-stats-individual-income-tax-returns-complete-report-publication-1304-basic-tables-part-1; Social Security Administration, "Annual Statistical Supplement;" Board of Governors of the Federal Reserve System, "Survey of Consumer Finances (SCF)," accessed April 21, 2026, https://doi.org/10.17016/8799; U.S. Bureau of Labor Statistics, "Labor Force Statistics from the Current Population Survey," last modified February 20, 2026, https://www.bls.gov/cps/cpsaat03.htm; U.S. Bureau of Labor Statistics, "Consumer Expenditure Survey," last modified January 5, 2026, https://www.bls.gov/cex/tables.htm; Internal Revenue Service, "SOI Tax Stats – Excise tax statistics," accessed April 21, 2026, https://www.irs.gov/statistics/soi-tax-stats-excise-tax-statistics; Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, *The 2025 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds* (2025), https://www.ssa.gov/oact/TR/2025/tr2025.pdf.

Tables 1-2 and 1-3 show that the proportion of tax contributions transferred to seniors decreases with age. Younger workers are more likely to derive most of their income from wages and pay nearly a majority of payroll taxes. This cohort's contribution to general revenue is disproportionately smaller, notably, than that of seniors.[10] Because younger workers generally earn less and rely more heavily on wage income, a larger share of their total tax burden directly funds senior-oriented initiatives. As individuals advance into higher tax brackets and derive a greater portion of their income from passive, non-wage sources, the taxes collected from them are transferred more evenly distributed across age groups.[11] Due to their higher income, middle-aged workers serve as the largest net contributors funding these transfers.[12]

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[10] General revenue includes personal income tax, corporate taxes and all other taxes besides social insurance. The author apportioned corporate tax revenue by age bracket by using relative ownership (direct and indirect) of stocks. "Other" corresponds to revenues that are too difficult to attribute to any age group and taxes paid by foreigners and other revenues. Additionally, the 65-and-over group has the largest share of stocks in private companies. They report the highest taxable incomes from dividends and pensions, and they account for almost 40 percent of all (net) capital asset sales.

[11] Internal Revenue Service, *SOI Tax Stats – Individual income tax returns complete report, part 1*, Tables 1.4, 1.5. The tables contain data for filing year 2023. The data breaks down different incomes declared in Form 1040 by age bracket, which is clear once the incomes are grouped by type. For reasons of brevity, this was excluded from this chapter.

[12] This chapter focuses on net outlays, which are about 10 percent smaller than the gross outlays. Net outlays are the most common measure for government spending, which is net of offsetting receipts such as Medicare premiums. Given the large number of offsetting receipts beside premiums, breaking them down by age group would be impossible. Nevertheless, the author believes that the gross measure is appropriate for expressing the real size of the Federal government in the economy. For FY 2025, the difference between net and gross was approximately $750 billion. Medicare's offsetting receipts alone are projected by CBO to reach 1.4 percent of GDP by the early 2050s. U.S. Department of the Treasury, *Financial Report of the United States Government, FY 2025* (2026), https://fiscal.treasury.gov/accounting/us-financial-report/2025-report; Congressional Budget Office, *The Long-Term Budget Outlook Data: 2026 to 2056* (February 2026), https://www.cbo.gov/publication/62044.

Table 1-2: Transfers as a Share of Cohort's Revenue Collection, Non-Interest

		Recipient					
		Under 18	**18 to 44**	**45 to 64**	**65 and over**	**Other**	**Nat'l defense**
Revenue	**18 to 44**	6%	9%	16%	53%	6%	
	45 to 64	7%	11%	15%	44%	8%	15%
	65 and over	9%	14%	15%	33%	10%	19%
	Other[13]	10%	15%	15%	25%	12%	23%

Table 1-3: Transfers From Revenue Collection, Non-Interest (Billions)

		Recipient						
		Under 18	**18 to 44**	**45 to 64**	**65 and over**	**Other**	**Nat'l def.**	**Total**
Revenue	**18 to 44**	$89	$150	$250	$843	$92	$173	**$1,598**
	45 to 64	$159	$248	$339	$974	$176	$329	**$2,224**
	65 and over	$86	$130	$144	$314	$99	$186	**$958**
	Other[14]	$47	$69	$67	$113	$55	$103	**$455**
	Total	**$381**	**$597**	**$799**	**$2,244**	**$422**	**$791**	**$5,235**

Source for Tables 1-2 and 1-3: Office of Management and Budget;[15] U.S. Treasury;[16] JEC calculations[17]

[13] *Row* "other" and *column* "other" are not the same groups. The former is the portion of revenues and non-interest spending that did not correspond to the groups listed in the table.

[14] *Row* "other" and *column* "other" are not the same groups. The former is the portion of revenues and non-interest spending that did not correspond to the groups listed in the table.

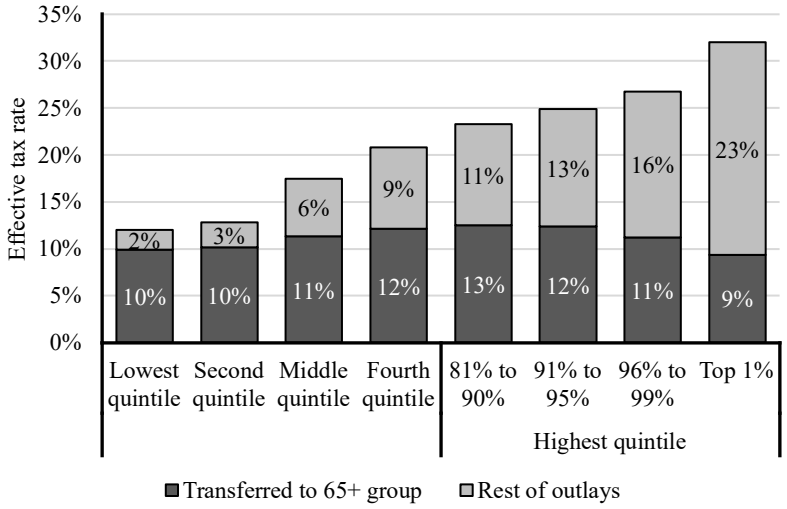
[15] Office of Management and Budget, "Historical Tables," Table 11.3.

[16] U.S. Department of the Treasury, "Monthly Treasury Statement (MTS)."

[17] Social Security Administration, "Annual Statistical Supplement;" Centers for Medicare and Medicaid Services, "Health Expenditures by Age and Sex;" U.S. Census Bureau, "Annual Social and Economic Supplements;" National Institutes of Health, Agency for Healthcare Research and Quality, "Chartbook on Healthcare for Veterans;" Internal Revenue Service, *SOI Tax Stats – Individual income tax returns complete report, part 1* and *part 3*; U.S. Census Bureau, "SIPP," Tables 1.5, 1.6; Board of Governors of the Federal Reserve System, "SCF;" U.S. Bureau of Labor Statistics, "Labor Force Statistics from the Current Population Survey;" U.S. Bureau of Labor Statistics, "Consumer Expenditure Survey;" Board of Trustees, Federal Old-Age and Survivors Insurance, *The 2025 Annual Report*, Table II.B1, p. 8.

A similar pattern emerges when analyzing the destination of revenues collected across income quintiles. Higher-income individuals contribute more due to their larger tax bases and progressive effective tax rates. Conversely, most—if not all—net tax liabilities paid by lower-income individuals take the form of payroll taxes.[18] As a result, over 80 percent of the taxes paid by the bottom 40 percent of households function mostly as direct transfers to seniors.

Figure 1-3: Distribution of Transfers from Non-Senior Childless Households by Market Income Quintile



Source: Congressional Budget Office;[19] Office of Management and Budget;[20] U.S. Treasury;[21] JEC calculations[22]

[18] On average, the lowest two quintiles have negative income tax liabilities. The figure only counts non-negative tax liabilities values for each group. See Congressional Budget Office, *The Distribution of Household Income, 2022* (January 2026), https://www.cbo.gov/publication/61911.
[19] Congressional Budget Office, *The Distribution of Household Income, 2022*, Additional Data for Researchers.
[20] Office of Management and Budget, "Historical Tables."
[21] U.S. Department of the Treasury, "Monthly Treasury Statement (MTS)."
[22] Distribution from non-senior childless households using non-negative liabilities only.

While the preceding analysis focuses on revenue transfers, total Federal outlays consistently exceed these revenues, thereby driving annual increases in the public debt. Attributing specific portions of this debt increase to distinct age brackets presents a methodological challenge. Just as Federal initiatives rely on diverse revenue streams, they also operate with varying deficit levels. For instance, although Medicare Part A consumes substantial fiscal resources, it actually ran a surplus in 2025, whereas the general fund operated at a deficit.[23]

There are two primary methods for estimating how each age group contributed to the national debt in 2025.[24] The first approach assumes that net interest is funded exclusively through public borrowing, leaving approximately $1 trillion to be distributed among primary spending components. The second approach assumes that net interest is paid out of general revenues at the same rate as other obligations, which increases the primary spending deficit by $400 billion. Depending on the methodology used, the deficit generated by transfers to seniors falls between $350 billion and $520 billion for 2025. [25]

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[23] Congressional Budget Office, *The Budget and Economic Outlook: 2026 to 2036* (February 2026), Appendix B, https://www.cbo.gov/publication/61882. While public discourse of Medicare's finances focuses on the Hospital Insurance (HI) Trust Fund, spending on Medicare Parts B and D, which are not outlays of that fund, constitute most of the program's costs.

[24] For both approaches, the deficits for the social insurance components are calculated first. The remaining deficit corresponds to general revenue and net interest. Each approach differs on the apportionment of this part of the deficit.

[25] While net interests are a standalone component in government outlays, they originate in increases in the national debt, which are a consequence of non-interest spending as well. That is, net interest spending is attributable to previous deficits and, therefore, to different government programs.

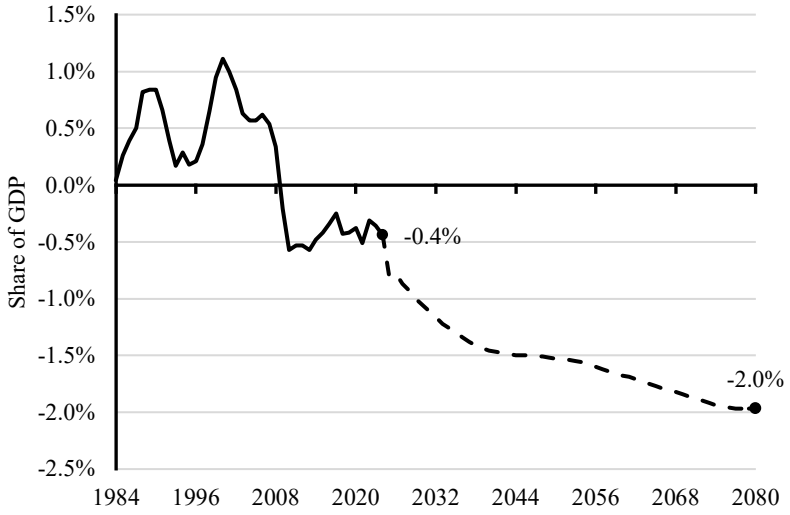
Table 1-4: Estimated Contributions to the Deficit, FY2025

	Approach 1 Net interest is only paid with debt		**Approach 2** Net interest is partially paid with taxes	
Recipient	**Value (billions)**	**Share of deficit**	**Value (billions)**	**Share of deficit**
Under 18	$66	4%	$135	8%
18 to 44	$89	5%	$190	11%
45 to 64	$75	4%	$173	10%
65 and over	$364	21%	$529	30%
Other	$72	4%	$153	9%
National defense	$135	8%	$286	16%
Net interest	$974	55%	$309	17%
Total	**$1,775**		**$1,775**	

Sources: Congressional Budget Office;[26] U.S. Treasury;[27] Boards of Trustees;[28] JEC calculations[29]

[26] Congressional Budget Office, *The Budget and Economic Outlook: 2026 to 2036*, Appendix B.
[27] U.S. Department of the Treasury, "Monthly Treasury Statement (MTS)."
[28] Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds, *The 2025 Annual Report of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds* (Centers for Medicare and Medicaid Services, 2025), https://www.cms.gov/data-research/statistics-trends-and-reports/trustees-report-trust-funds.
[29] Social Security Administration, "Annual Statistical Supplement;" Centers for Medicare and Medicaid Services, "Health Expenditures by Age and Sex;" U.S. Census Bureau, "Annual Social and Economic Supplements;" National Institutes of Health, Agency for Healthcare Research and Quality, "Chartbook on Healthcare for Veterans;" Internal Revenue Service, *SOI Tax Stats – Individual income tax returns complete report, part 3*, Table 3.7; U.S. Census Bureau, "SIPP."

Figure 1-4: Combined Deficit in OASDI and HI Trust Funds as a Share of GDP



Source: Social Security Administration[30]

Future trend

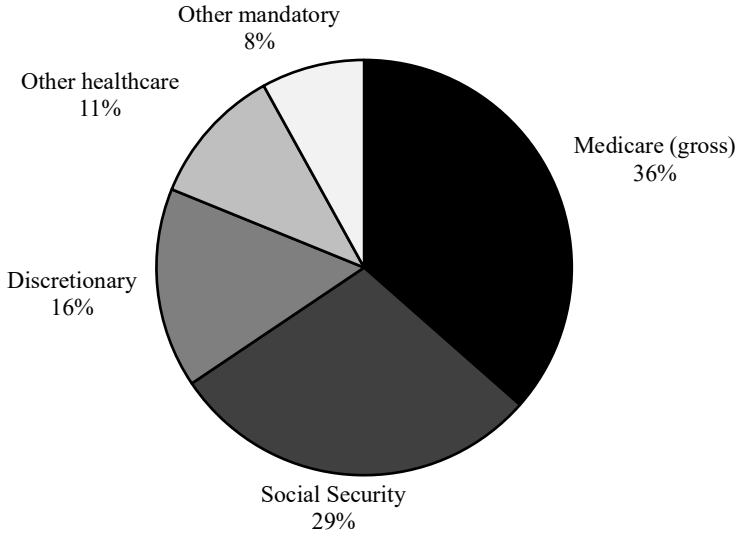
The trajectory of transfers is problematic. Deficits for Social Security and Medicare Hospital Insurance (HI) are projected to expand over time, compounding the growing share of general spending already consumed by Medicare Parts B and D. Together, Social Security and Medicare account for roughly two-thirds of the expected nominal growth in non-interest Federal spending over the next three decades (using 2026 as a baseline).[31] This fiscal pressure is driven by two demographic realities: the 65-and-older cohort is expanding rapidly (growing from about 8 percent of the population in 1950 to 17 percent today, with projections reaching

[30] Social Security Administration, Office of the Chief Actuary, "OASDI and HI Annual Income, Cost, and Balance as a Percentage of GDP, Calendar Years 1970-2100," in *The 2025 OASDI Trustees Report* (2025), https://www.ssa.gov/OACT/TR/2025/lr6g4.html. See the historical data and intermediate estimates.

[31] The author uses gross values for Medicare, including the portion offset by premiums. Congressional Budget Office, *The Long-Term Budget Outlook: 2026 to 2056*.

nearly 25 percent in 65 years), and lifespans are lengthening.[32] Actuaries estimate that by 2090, the percentage of the population aged 80 and over will be nearly as large as the entire 65-and-older cohort was in 1985.[33]

Figure 1-5: Projected Cumulative Increase in Spending from 2027 to 2056 in Current Dollars



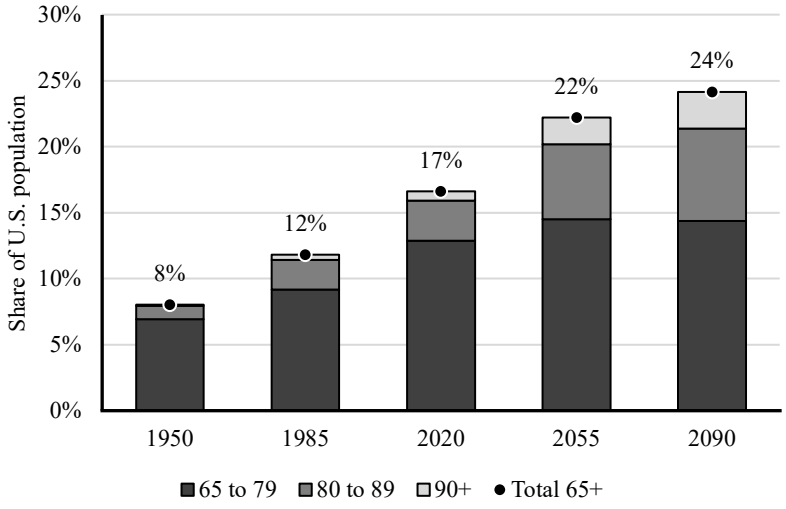
Source: Congressional Budget Office[34]

[32] These trends are not unique to the United States. Several countries are expected to have dire fiscal issues due to aging populations. Benedict J. Clements et al., "The Fiscal Consequences of Shrinking Populations," *International Monetary Fund* 021 (2015), https://doi.org/10.5089/9781513544885.006.

[33] Social Security Administration, Office of the Chief Actuary, *The 2025 OASDI Trustees Report*, https://www.ssa.gov/oact/Downloadables/CY/index.html. See the Area Population Tables, Midyear 1941–2100, Alternative II. For example, life expectancy at 65 for women in 1950 was 15 years, and by the end of this century it will rise to 25, which affects the ratio of lifetime benefits to taxes significantly.

[34] Congressional Budget Office, *The Long-Term Budget Outlook: 2026 to 2056*.

Figure 1-6: Share of Population Aged 65 and Over in Total Population



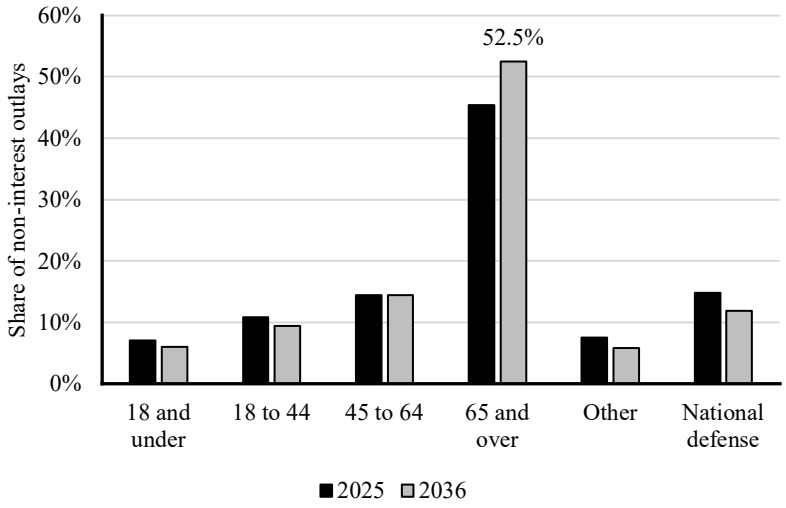
Sources: Social Security Administration;[35] JEC calculations

Using projections by the Congressional Budget Office (CBO) from 2026, Figure 1-7 illustrates a simplified projection of outlay shares for the year 2036.[36] This exercise assumes that the distribution of spending categories across age groups remains constant, updating only aggregate outlay shares based on projected growth (and assuming Social Security and HI benefits are paid as scheduled). Under these simplified conditions, the share of total outlays directed to the 65-and-older population climbs from 45 percent to 52 percent. Given long-term demographic forecasts, this increase does not represent a peak, but rather a step in a continued upward trajectory. While extending this projection out 30 years is analytically tempting, the anticipated demographic shifts would

[35] Social Security Administration, Office of the Chief Actuary, *The 2025 OASDI Trustees Report*. See the Area Population Tables, Midyear 1941–2100, Alternative II.
[36] Congressional Budget Office, *The Budget and Economic Outlook: 2026 to* 2036, Table 3-1.

render these static assumptions too unrealistic to produce reliable long-term estimates.

Figure 1-7: Estimated Share of Non-Interest Outlays by Group



Sources: Congressional Budget Office;[37] Office of Management and Budget;[38] JEC calculations[39]

Raising taxes is not the solution

The challenge of rising intergenerational transfers is compounding as trust funds for senior benefits rapidly deplete. The financing mechanisms for these systems were established in an era characterized by lower post-retirement life expectancies and a

[37] Congressional Budget Office, *The Budget and Economic Outlook: 2026 to* 2036, Table 3-1.
[38] Office of Management and Budget, "Historical Tables."
[39] Social Security Administration, "Annual Statistical Supplement to the Social Security Bulletin;" Centers for Medicare and Medicaid Services, "Health Expenditures by Age and Sex;" U.S. Census Bureau, "Annual Social and Economic Supplements;" National Institutes of Health, Agency for Healthcare Research and Quality, "Chartbook on Healthcare for Veterans;" Internal Revenue Service, *SOI Tax Stats – Individual income tax returns complete report, part 3*, Table 3.7; U.S. Census Bureau, "SIPP."

significantly higher ratio of workers to beneficiaries.[40] However, attempting to stabilize these funds by extracting more revenue from prime-age workers, effectively increasing taxes on labor, would only deepen the structural imbalance of intergenerational transfers.

A frequent policy proposal involves raising or eliminating the *Federal Insurance Contributions Act* (FICA) wage cap. [41] This approach carries significant, often overlooked, unintended consequences. First, current payroll tax rates are already nearly eight times higher than they were at their inception.[42] Furthermore, these levies do not exist in a vacuum; wage and self-employment earnings are also subject to personal income taxes. If the cap is removed, marginal tax rates for individuals earning $184,500 or more would jump by 6.2 percent.[43]

Another frequently ignored consequence of removing the FICA cap is its detrimental impact on the labor market, particularly

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[40] U.S. Congress Joint Economic Committee, *The 2025 Joint Economic Report*, H. Rep. 119-9 (2025), p. 15, https://www.govinfo.gov/app/details/CRPT-119hrpt9/CRPT-119hrpt9-pt1. The depletion of the OASDI trust fund has been projected relatively accurately by the Social Security Administration since 1992. Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, *The 1992 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds* (1992), p. 5, https://www.ssa.gov/OACT/TR/historical/1992TR.pdf.

[41] The limit on the amount of income subject to OASDI taxation. In calendar year 2026, the cap was set at $184,500. Social Security Administration, "Contribution and Benefit Base," accessed April 21, 2026, https://www.ssa.gov/oact/cola/cbb.html.

[42] Social Security Administration, "Annual Statistical Supplement to the Social Security Bulletin, 2024," Table 2.A3, accessed April 21, 2026, https://www.ssa.gov/policy/docs/statcomps/supplement/2024/index.html. On top of the income tax, the Medicare HI trust fund is financed by the Additional Medicare tax of 0.9 percent on incomes above $200,000.

[43] However, the incidence is undetermined. Some studies state that raises in payroll taxes are mostly paid by consumers of the product sold by the firm. Felipe Lobel, "Who Benefits from Payroll Tax Cuts? Market Power, Tax Incidence, and Efficiency," working paper (Cowles Conference on Labor & Public Economics, Yale University, June 2024), https://cowles.yale.edu/sites/default/files/2024-05/Lobel-lobel_jmp.pdf.

concerning highly experienced professionals. Many of these older workers possess substantial savings, granting them the flexibility to retire early or transition to non-labor income streams if their employment taxes spike.[44] Consequently, firms would lose not only critical technical skills but also the invaluable spillover benefits of senior staff mentoring younger employees. According to 2024 Census ACS data, approximately 400,000 workers in STEM fields between the ages of 44 and 64 earned wages that would have been subjected to higher taxes had the cap been removed that year.[45]

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[44] Gayle L. Reznik, David A. Weaver, and Andrew G. Biggs, "Social Security and Marginal Returns to Work Near Retirement," Social Security Administration Issue Paper no. 2009-02 (April 1, 2009), https://www.ssa.gov/policy/docs/issuepapers/ip2009-02.html; Annette Alstadsæter, "The Dual Income Tax and Firms' Income Shifting through the Choice of Organizational Form and Real Capital Investments," CESifo Working Paper no. 1018 (August 2003), https://www.ifo.de/DocDL/cesifo1_wp1018.pdf; Abby Alpert and David Powell, "Estimating Intensive and Extensive Tax Responsiveness: Do Older Workers Respond to Income Taxes?," RAND Corporation Working Paper WR-987-1 (June 18, 2014), https://www.rand.org/pubs/working_papers/WR987-1.html. Conversely, changes reducing future retirement income have the opposite effect on labor supply of near-retirement workers. See Eric French and John Jones, "Public Pensions and Labor Supply Over the Life Cycle," *International Tax and Public Finance* 19 (2012): 268–87, https://doi.org/10.1007/s10797-011-9184-x.

[45] Nine percent of workers in the 50–59 age range are subject to the cap and 20 percent of workers with a graduate degree (all ages). Zhe Li, *Social Security: Raising or Eliminating the Taxable Earnings Base*, Congressional Research Service Report RL32896 (December 22, 2021), https://www.congress.gov/crs-product/RL32896; U.S. Census Bureau, "American Community Survey Public Use Microdata Sample (PUMS)," March 5, 2026, https://www.census.gov/programs-surveys/acs/microdata.html. The most recent available data at the time of publication was from 2024; JEC calculations.

Table 1-5: Estimate of Older Professionals Affected by the Elimination of Taxable Maximum

	Ages 45 to 64		Ages 55 to 64	
Occupation	**Number affected**	**Share of total**	**Number affected**	**Share of total**
Computer	417,097	19%	148,792	16%
Life sciences	14,519	14%	5,873	14%
Engineering	223,070	22%	102,217	20%
Physics and chemistry	46,649	23%	21,145	25%
Physicians	315,674	58%	139,223	55%
Data and math	40,212	18%	16,218	17%
Total	**1,057,221**		**433,468**	

Sources: U.S. Census Bureau;[46] JEC calculations

Chasing rising costs with higher taxes to balance the budget would raise the cost of employment, discourage labor, and harm economic growth.[47] Conversely, structural reforms to these benefit systems could restore fiscal balance without increasing senior poverty.[48]

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[46] U.S. Census Bureau, "American Community Survey Public Use Microdata Sample (PUMS)."

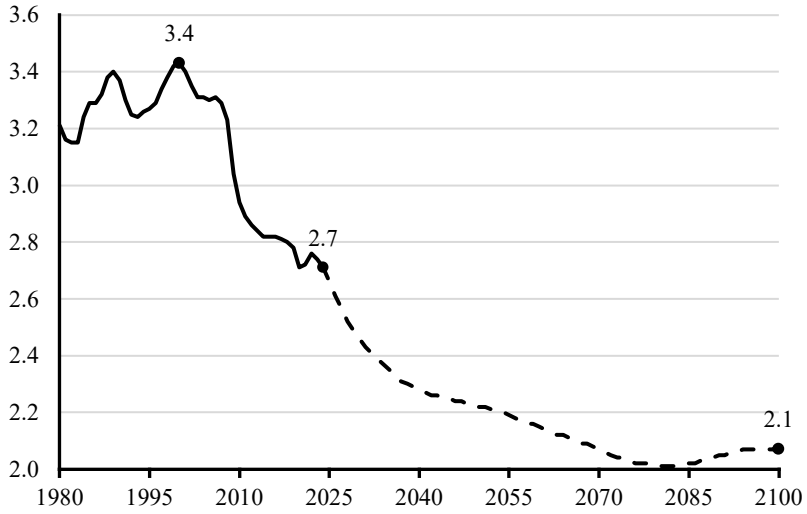
[47] U.S. Congress Joint Economic Committee, "Tax Increases Harm Growth," chap. 3 in *The 2024 Joint Economic Report*, S. Rep. 118-183 (2024), https://www.govinfo.gov/app/details/CRPT-118srpt183/CRPT-118srpt183.

[48] These policies, which are outside the scope of this chapter, aim at reducing the regressivity of benefits. Some of these would also allow for automatic changes that stabilize the trust funds. Andrew G. Biggs finds that President Bush's Social Security plan would have had increased scheduled payments for the bottom 60 percent and extended the trust fund's life for another ten years. Andrew G. Biggs, *What If George W. Bush's Social Security Reforms Had Passed?* AEI Economic Perspectives (2025), p. 12, https://www.aei.org/research-products/report/what-if-george-w-bushs-social-security-reforms-had-passed/. Antos et al. proposed means tested benefits and fixing benefits to a percentage of national average wages. Joseph Antos et al., "A Balanced Plan for Fiscal Stability and Economic Growth," in *Solutions Initiative 2024: Charting a Brighter Future*, Peter G. Peterson Foundation, (2024), p. 60, https://solutions2024.pgpf.org/plans/aei/. Boccia and Nachkebia propose reforms to our current system using the examples of other countries to reform the program's cost. Romina Boccia and Ivane Nachkebia, "Rethinking Social Security from a Global Perspective: What Congress Can Learn from the Experiences of Canada, Germany, New Zealand, and Sweden," Cato Institute Policy Analysis no. 998 (June 23, 2025), https://www.cato.org/policy-analysis/rethinking-social-security-global-perspective;

Increasing the tax base as a solution

An alternative approach involves bolstering revenues by expanding the taxable base. Over the past decade, the under-65 population has stagnated, precipitating a steep decline in the worker-to-beneficiary ratio. Both of these demographic trends are expected to persist, further elevating the level of wealth transferred from younger cohorts to seniors and accelerating the national debt.

Figure 1-8: Covered Workers per Social Security Beneficiary



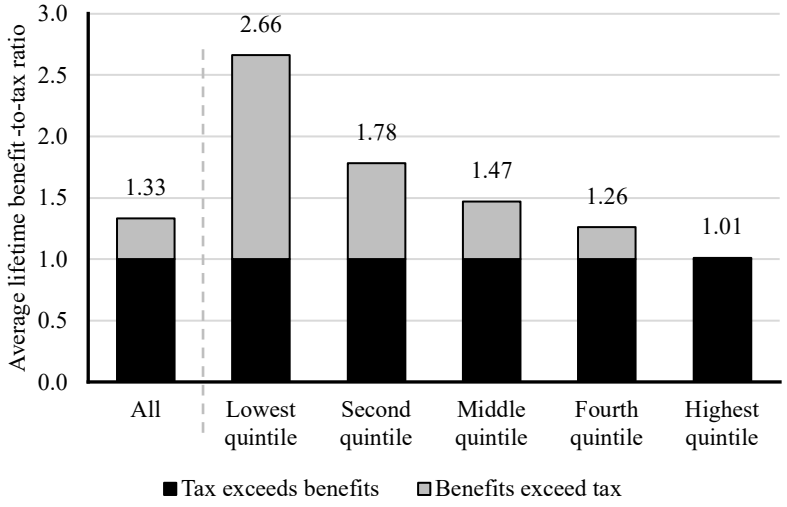
Sources: Board of Trustees[49]

Charles Blahous, "A Guide to Designing Social Security Reforms," Mercatus Center (October 1, 2025), https://www.mercatus.org/research/policy-briefs/guide-designing-social-security-reforms. Closing the gap would not only require removing the cap but also raising the payroll tax for all workers and employers. Jessica Riedl, "Don't Bust the Cap: Problems with Eliminating the Social Security Tax Cap," Manhattan Institute (April 11, 2024), https://manhattan.institute/article/problems-with-eliminating-the-social-security-tax-cap.

[49] Board of Trustees, Federal Old-Age and Survivors Insurance, *The 2025 Annual Report,* Table IV.B3, pp. 66–67.

Simultaneously, while retirement benefits scale with lifetime income, they do so at a much slower rate than the corresponding taxes paid throughout a worker's career. Consequently, the ratio of benefits received to taxes paid shrinks for those in the highest income brackets. As Figure 1-9 demonstrates, individuals born in the 1960s who reach the highest earnings quintile will, on average, receive roughly the same amount in benefits as they contributed in career taxes while, for the lowest quintile, it is almost three times.[50]

Figure 1-9: Average Lifetime Social Security Benefit-to-Tax Ratio for 1960s Cohort



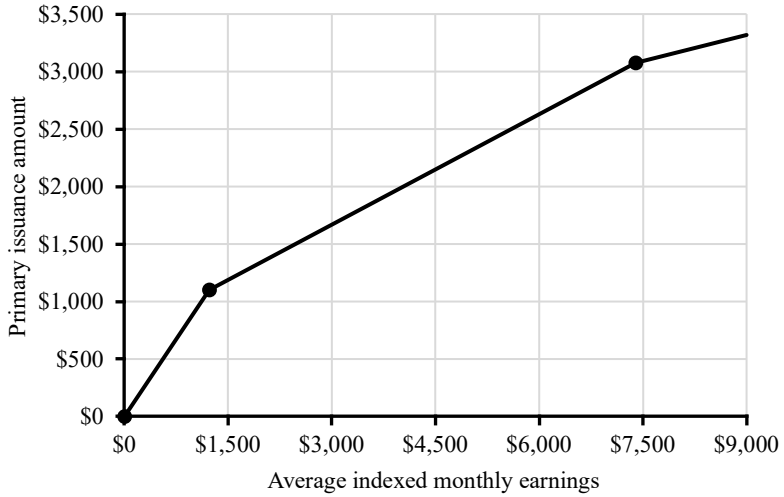
Source: Congressional Budget Office[51]

[50] The figure also shows that, on average, workers receive $1.33 in benefits for every dollar paid to the Social Security program.

[51] The ratio uses scheduled benefits, which are calculated based on the *Social Security Act*, regardless of trust fund balances. Congressional Budget Office, *CBO's 2025 Long-Term Projections for Social Security* (June 2025), Table 14, https://www.cbo.gov/publication/61492.

Because these ratios depend on the absolute value of income rather than relative rank, a clear policy lever emerges: if the program maintains the current primary insurance amount (PIA) formula and successfully increases the absolute proportion of high earners in the broader population, the average fiscal deficit per retiree will naturally decline, both because of a higher workers-to-beneficiary ratio and because of a higher proportion of high-income workers.

Figure 1-10: Primary Issuance Amount Formula for Those Newly Eligible in 2025



Source: Board of Trustees[52]

Expanding the proportion of highly skilled workers in the economy, particularly in high-demand market sectors, can boost career incomes across the population. While reforming the domestic educational system is the ideal long-term solution, even the most successful initiatives would take decades to yield tangible

[52] Board of Trustees, Federal Old-Age and Survivors Insurance, *The 2025 Annual Report,* Figure V.C1, p. 126.

fiscal results.[53] A more immediate approach involves reforming the immigration system to aggressively attract talent in high-paying fields experiencing labor shortages.[54] As detailed in Chapter 4, targeting skilled immigration to fill high-skill vacancies minimizes adverse effects on domestic wages while boosting aggregate productivity and reducing the fiscal deficit.[55] Crucially, in the context of this chapter, an influx of high-earners would alleviate the mounting pressure on American workers to surrender an ever-increasing share of their income to support seniors.[56]

[53] Another consequence of the aging population is the negative effect on GDP growth. See Shinichi Nishiyama, "Fiscal Policy Effects in a Heterogeneous-Agent Overlapping-Generations Economy With an Aging Population," CBO Working Paper 2013-07 (December 6, 2013), https://www.cbo.gov/publication/44941.

[54] Referring to labor demand in terms of skills instead of workers is a much better framework for analyzing the issue. A country could have an excess supply of certain skills but a labor market undersupply for jobs requiring those skills because wages are artificially depressed. Most of the discussions regarding immigration use the number of workers as the parameter of reference. An immigration policy focused on skills would allow for wages to rise matching the domestic demand if such skills are available.

[55] Not all of these high-skill positions correspond to high-income fields, but there is a certain relation. Logically, a high-paying position would be filled unless there is a scarcity of applicants with the necessary skills to do it. However, there may be some skilled occupations that cannot offer high incomes and, therefore, the excess demand would come either because of the lack of such skills in the area or the skilled workforce working in higher-paying fields.

[56] Additionally, companies resolving their skill shortages will generate more tax revenue by increasing sales and profits.

Box 1-1: Not All Social Security Cuts are Created Equal

The Social Security trust fund is projected to be fully depleted before the end of the next Presidential term.[57] This is not a sudden fiscal shock; since 1990, actuaries have consistently warned that depletion would occur between 2030 and 2045. [58] If the program's structural budget gap remains unaddressed by the time the fund exhausts its reserves, retirees face an immediate, across-the-board benefit reduction of more than 25 percent.[59]

However, if these cuts are evenly distributed, some households would be affected more than others.[60] CBO estimates that, for households in 2022, these cuts would represent on average more than 10 percent of their lifetime wealth.[61] Conversely, the financial impact on the top percentiles would be virtually negligible. As noted earlier, a vast portion of this wealth is derived from passive streams, as the 65-and-older cohort currently holds the majority of national stocks and capital assets.[62]

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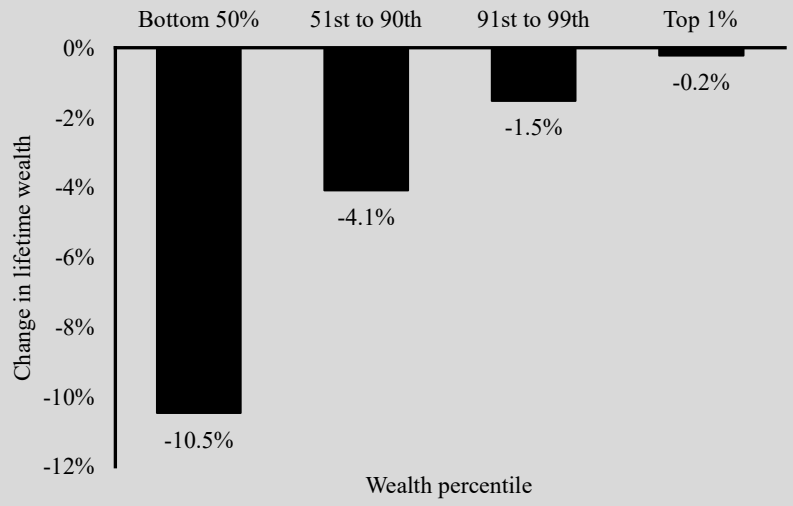
[57] Congressional Budget Office, *The Budget and Economic Outlook: 2026 to 2036*, Appendix B.
[58] Board of Trustees, Federal Old-Age and Survivors Insurance, *The 2025 Annual Report*, Table VI.B1, pp. 177–78; Congressional Budget Office, *The Budget and Economic Outlook: 2026 to 2036*, Appendix B.
[59] Congressional Budget Office, *CBO's 2025 Long-Term Projections for Social Security*.
[60] Office of Congressman David Schweikert, "Schweikert: Congress Has a Moral Obligation to Prevent the Doubling of Senior Poverty," September 14, 2023, https://schweikert.house.gov/2023/09/14/schweikert-congress-has-a-moral-obligation-to-prevent-the-doubling-of-senior-poverty/.
[61] That is, if the present value of the expected future payments from Social Security were considered a wealth asset. Congressional Budget Office, *The Distribution of Household Income, 1989 to 2022* (October 2024), Appendix C, Figure C-3, https://www.cbo.gov/publication/60343.
[62] Although the holdings are relatively concentrated.

Figure 1-11: Change in Lifetime Wealth for 2022 Families after Social Security Reductions



Sources: Congressional Budget Office;[63] JEC calculations

[63] Congressional Budget Office, *The Distribution of Household Income, 1989 to 2022*, Appendix C, Figure C-3.

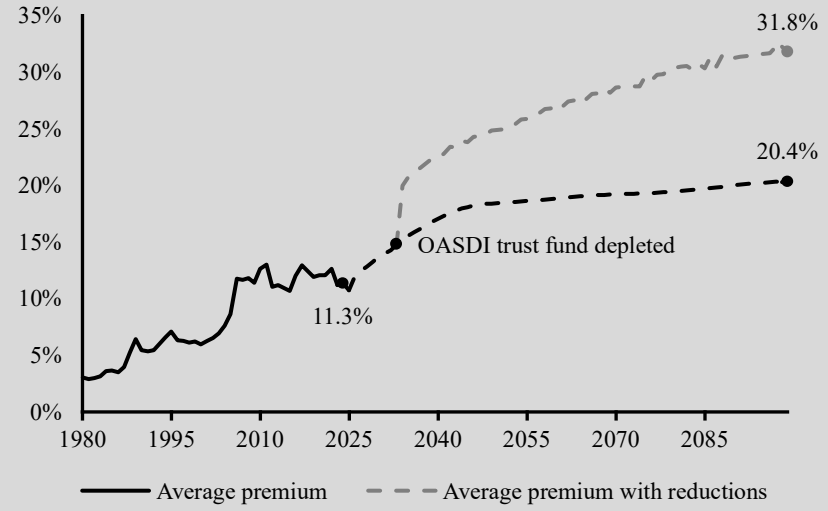
Box 1-2: Premiums, the Rising Costs of Healthcare, and Seniors' Disposable Income

Medicare premiums constitute the largest offsetting receipt for the Federal government.[64] These premiums are income-adjusted. Medicare Parts B and D are structurally designed to cover approximately 25 percent of total program costs.[65] Although most seniors are subject to these premiums, from a generational accounting perspective, this mechanism acts as an intra-generational transfer. They redistribute wealth among seniors themselves, with higher-income beneficiaries subsidizing the system through larger fees.

However, the persistent rise in systemic healthcare costs continues to outpace projected Social Security benefit increases. Consequently, the average Medicare premium will consume an increasingly large share of a senior's monthly benefit check, growing from 11 percent in 2025 to over 20 percent by the end of the century. This dynamic worsens dramatically if the Social Security trust fund depletes in the next decade and payable benefits are constrained to incoming tax revenues.[66] Under that scenario, average Medicare premiums will consume an even larger fraction of the reduced retirement checks, rapidly converging to roughly one-third of a senior's total Social Security income.

[64] Office of Management and Budget, "Offsetting Collections and Offsetting Receipts," Table 09-1.
[65] Boards of Trustees, *The 2025 Annual Report of the Boards of Trustees*, p. 90.
[66] Congressional Budget Office, *The Budget and Economic Outlook: 2026 to 2036*.

Figure 1-12: Average Premium as a Share of Average Social Security Benefits



Source: Boards of Trustees;[67] Congressional Budget Office;[68] JEC calculations

Part of this growth is due to the preventable bloating of the program's cost. Chapter 3 of this *Response* analyzes this program and shortcomings of its current design in detail.

[67] Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds, *The 2025 Annual Report of the Boards of Trustees*, Figure II.F2, p. 39.
[68] Congressional Budget Office, *CBO's 2025 Long-Term Projections for Social Security*, Table 6.

CHAPTER 2: AN UPDATE ON FEDERAL HEALTHCARE POLICY

Since the start of the 119th Congress, healthcare reform has been at the forefront of Federal policy. Aimed at addressing increasing healthcare costs both for individuals and the Federal government, the 119th Congress, in tandem with the Trump Administration, has implemented a number of healthcare reforms. These have sought to reduce healthcare costs and improve the delivery of care while also rooting out waste, fraud, and abuse in our state and Federal health systems. The Joint Economic Committee is tasked with evaluating the recommendations made by the Administration in the *Economic Report of the President* (*Report*) and proposing additional policy recommendations as advisable. Accordingly, the intention of this chapter is to review and analyze the healthcare policy reforms implemented during the 119th Congress and overview further ideas for reform that can achieve the Chairman's goal of properly aligning incentives in healthcare to reduce costs and improve outcomes.

Review of health policy in the 119th Congress

The most significant healthcare policy action in the current Congress came with the enactment of P.L. 119-21 (H.R. 1 in the 119th Congress, commonly known as the Working Families Tax Cuts) on July 4, 2025.[69] The healthcare provisions in P.L. 119-21 are a positive development toward fiscal sustainability in the nation's healthcare programs, advancing a primary goal of the JEC under the leadership of Chairman Schweikert. This section will analyze the largest of those provisions and the extent to which they address structural issues in the U.S. healthcare system.

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[69] *An act to provide for reconciliation pursuant to title II of H. Con. Res. 14*, Pub. L. No. 119-21 (July 4, 2025), https://www.govinfo.gov/content/pkg/PLAW-119publ21/pdf/PLAW-119publ21.pdf.

Work requirements and eligibility verification

One of the core principles of healthcare reform in P.L. 119-21 is the elimination of waste, fraud, and abuse within the U.S. healthcare system. In a March 2025 report by the Government Accountability Office, they estimated that Federal improper payments totaled nearly $162 billion in FY2024.[70] Of that $162 billion, 70 percent was concentrated in four program areas: Medicare ($54.3 billion), Medicaid ($31.1 billion), the Earned Income Tax Credit ($15.9 billion), and the Supplemental Nutrition Assistance Program, or SNAP ($10.5 billion).[71] Due to the nature and magnitude of the payments, a significant portion of aggregate improper payments and fraud are concentrated in healthcare and nutrition programs. In addition to improper payments, the JEC estimates that administrative waste in Federal healthcare programs amounts to between $100 and $200 billion per year, or between 6 and 12 percent of total Federal healthcare spending.[72] In order to sustainably finance these programs, greater fiscal scrutiny is needed.

Fortunately, P.L. 119-21 made a number of program changes intended to prevent fraud and tighten eligibility. One key change was the increase in eligibility requirements for those enrolled in Medicaid. Effective at the end of 2026, new rules require adults in the Medicaid expansion population from ages 19 to 64 to complete 20 hours per week of either work, education, job training, or qualifying community engagement in order to maintain eligibility.[73] Additionally, P.L. 119-21 restricts Medicaid

[70] U.S. Government Accountability Office, "Fraud & Improper Payments," accessed March 17, 2026, https://www.gao.gov/fraud-improper-payments.
[71] U.S. Government Accountability Office, "Fraud & Improper Payments."
[72] U.S. Congress Joint Economic Committee, *The 2024 Joint Economic Report*, S. Rep. 118-183 (2024), p. 18, https://www.govinfo.gov/app/details/CRPT-118srpt183/CRPT-118srpt183.
[73] Pub. L. 119-21, § 71119.

eligibility for most non-citizens and also requires states to perform eligibility checks every six months instead of every year.[74]

Similar eligibility checks were implemented in the ACA Marketplace and nutritional assistance programs. In the ACA Marketplace, eligibility must now be verified before premium tax credits are paid in any given month.[75] Information such as income and residence must now be verified ahead of coverage, which, in turn, supports another provision of P.L. 119-21 that restricts premium tax credits to only specific lawfully present immigrants.[76] Now, premium tax credits are restricted to lawfully admitted permanent residents, certain Cuban and Haitian refugees, and individuals lawfully residing through the Compact of Free Association agreement.[77] Similar eligibility requirements for SNAP were also enacted. P.L. 119-21 tightened work exemptions for SNAP eligibility, narrowed the caregiver exemption, expanded age range requirements, and removed other exemptions.[78]

Prior JEC research has highlighted the benefits of modest work requirements in programs like SNAP.[79] Stable employment lessens dependence on government programs like SNAP and Medicaid, and it supports the intended goal of these programs, which is temporary assistance that leads to permanently improved outcomes.[80]

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[74] Pub. L. 119-21, §§ 71107, 71109.
[75] Pub. L. 119-21, § 71303.
[76] Pub. L. 119-21, § 71301.
[77] Pub. L. 119-21, § 71301.
[78] Pub. L. 119-21, § 10102.
[79] U.S. Congress Joint Economic Committee, *Reconnecting Americans to the Benefits of Work*, SCP Report no. 5-21 (2021), https://www.jec.senate.gov/public/index.cfm/republicans/analysis?id=50C6EBFB-B2C7-4AB2-BF64-DCDBC0C1E869.
[80] U.S. Congress Joint Economic Committee, *Inactive, Disconnected, and Ailing: A Portrait of Prime-age Men Out of the Labor Force*, SCP Report no. 3-18 (2018), https://www.jec.senate.gov/public/index.cfm/republicans/analysis?id=D72FFEAB-DE2D-4F2C-9BCD-670B9B1BE9C3.

Provider taxes

P.L. 119-21 established additional measures aimed at reducing Federal spending on healthcare in areas where dollars are not being spent on additional care. One such measure was the modification of provider taxes, which are a mechanism by which states can draw down additional Federal dollars to fund their state Medicaid program. States are able to levy taxes on certain classes of healthcare providers such as hospitals, nursing homes, or managed care organizations to help state Medicaid financing.[81] This revenue is matched by the Federal government and then states, through a number of mechanisms, can transfer back the tax revenue to providers. In effect, states use an accounting trick to shift more of the Medicaid cost burden to the Federal government.[82] Before P.L. 119-21, states were able to levy provider taxes at a maximum of 6 percent of net patient revenue for a given provider class. The law gradually lowers this threshold to 3.5 percent.[83]

Medicaid is a state-run program that was intended for the indigent population and designed to be administered at the state level,[84] and states are better positioned to understand the healthcare needs of their population than the Federal government. Using an

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[81] Hannah Kim, "How Medicaid Provider Taxes Work: An Explainer," National Association of Medicaid Directors, September 25, 2025, https://medicaiddirectors.org/resource/how-medicaid-provider-taxes-work-an-explainer/.
[82] David Ditch, "Reconciliation Option: Tackling 'Provider Tax' Gimmick in Medicaid," Economic Policy Innovation Center, February 19, 2025, https://epicforamerica.org/social-programs/reconciliation-option-tackling-provider-tax-gimmick-in-medicaid/.
[83] Chani Seals, Eric Levine, and Drew Wood-Palmer, "OBBBA Provider Tax Provisions Impact on Medicaid Stakeholders," Avalere Health, July 22, 2025, https://advisory.avalerehealth.com/insights/obbba-provider-tax-provisions-impact-on-medicaid-stakeholders.
[84] *Social Security Amendments of 1965*, Pub. L. No. 89-97, Title XIX, 79 Stat. 343–353, https://www.govinfo.gov/content/pkg/STATUTE-79/pdf/STATUTE-79-Pg286.pdf.

accounting loophole to shift spending to the Federal government does not necessarily improve care or outcomes, especially when the Federal government has less oversight than states do to ensure program integrity and fraud prevention.[85]

Misaligned incentives continue to drive healthcare costs

Since 2000, the inflation of medical care services has outpaced overall inflation by approximately 56 percentage points.[86] These rising costs are reflected in the premiums individuals pay for health insurance as well as through cost-sharing measures such as co-pays and deductibles.[87] These rising healthcare costs create financial strain for both individuals as well as the U.S. government. Medicare and other healthcare programs made up almost 30 percent of total Federal spending in FY2025 and are projected to demand an increasing share of Federal spending over the next ten years.[88]

Previous legislative efforts, such as the *Affordable Care Act* of 2010 (ACA), have failed to reduce costs for either individuals or the Federal government, as evidenced by the increase in average healthcare spending for individuals' post-ACA and real Federal healthcare spending.

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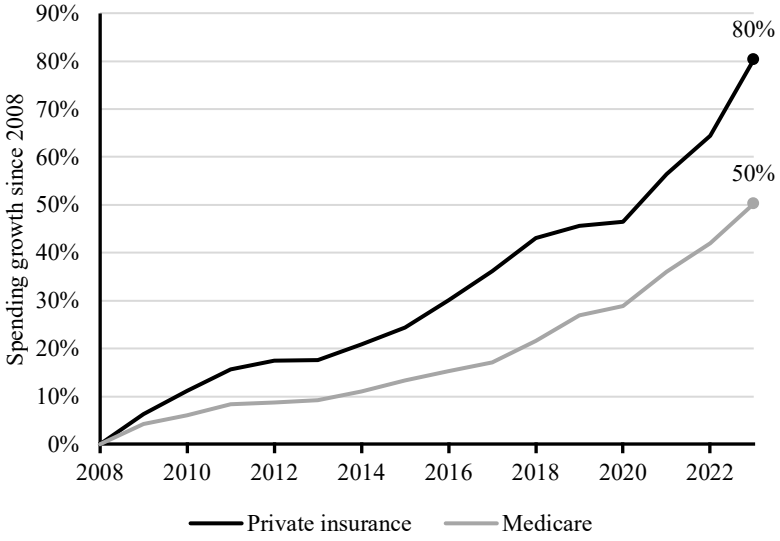
[85] Elizabeth Hinton, Jessica Mathers, and Robin Rudowitz, "5 Key Facts About Medicaid Program Integrity – Fraud, Waste, Abuse, and Improper Payments," KFF, March 18, 2025, https://www.kff.org/medicaid/5-key-facts-about-medicaid-program-integrity-fraud-waste-abuse-and-improper-payments/.
[86] Bureau of Labor Statistics, "Consumer Price Index," https://www.bls.gov/cpi/data.htm; JEC calculations.
[87] Jared Ortaliza et al., "How much and why ACA Marketplace premiums are going up in 2026," Peterson-KFF Health System Tracker, August 6, 2025, https://www.healthsystemtracker.org/brief/how-much-and-why-aca-marketplace-premiums-are-going-up-in-2026/.
[88] Congressional Budget Office, *The Budget and Economic Outlook: 2026 to 2036* (February 2026), https://www.cbo.gov/publication/61882.

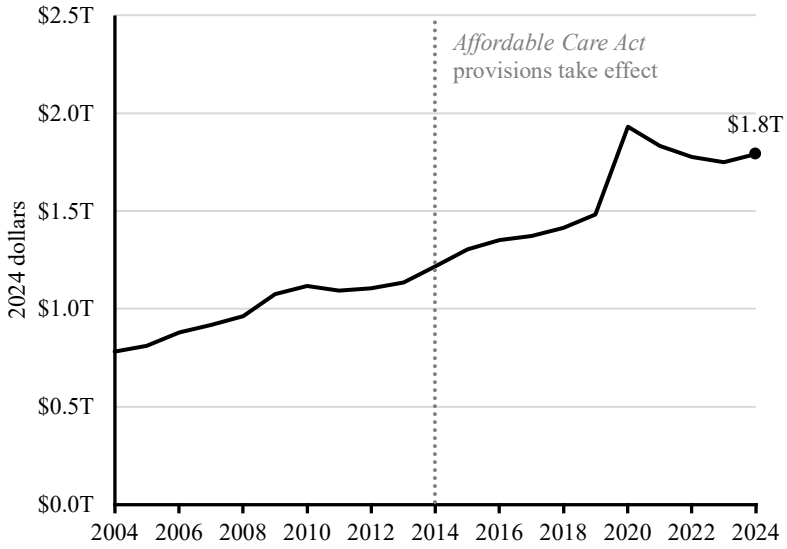
Figure 2-1: Cumulative Growth in Per-Enrollee Spending



Source: KFF[89]

[89] Cynthia Cox et al., "Health Care Costs and Affordability," KFF, October 8, 2025, https://www.kff.org/health-costs/health-policy-101-health-care-costs-and-affordability.

Figure 2-2: Federal Healthcare Expenditures



Source: Centers for Medicare and Medicaid Services[90]

The recent debate surrounding healthcare affordability has focused on the financing of payments rather than meaningful ways to improve aggregate health and subsequently reduce costs. Instead of debating the ratio at which individuals or payers bear healthcare costs, systems should be designed so that payers are incentivized and rewarded for improving long-run health outcomes. Unfortunately, existing structures within our healthcare system fail to reward improved care and, in turn, disincentivize insurers from lowering premiums or other healthcare costs.

Affordable Care Act Marketplace premium tax credits

The ACA created or exacerbated many of these disincentives. For example, the Federal government provides a number of subsidies,

[90] Centers for Medicare and Medicaid Services, "National Health Expenditure Data" (2024), https://www.cms.gov/data-research/statistics-trends-and-reports/national-health-expenditure-data.

including premium tax credits, which are given to individuals with the intention of lowering premiums and overall healthcare costs. These subsidies are typically available for individuals with incomes between 100 and 400 percent of the Federal poverty level; however, eligibility and the value of the benefits were dramatically expanded following the enactment of the *American Rescue Plan Act* (ARPA) in 2021.[91]

ARPA expanded the premium tax credits to increase the monetary value of benefits and expanded eligibility to those with higher incomes.[92] These enhanced premium tax credits, which expired at the end of 2025, were a temporary measure during the COVID-19 pandemic intended to serve as a backstop during a time of healthcare uncertainty. JEC research has found that these had a distortionary effect on the ACA Marketplace and failed to efficiently achieve their goal of lowering premiums. Because premium tax credits are calculated based off the second-lowest-cost premium plan in an area, plans have responded to the credits by loading costs into Silver plans. In 2018, the average premium for the lowest-cost Gold plan was $52.08 higher than the second-lowest-cost Silver plan, but as of 2025 it was only $1.94 higher.[93]

The enhanced premium tax credits were also ineffective at providing premium relief. The JEC found that, for every one dollar spent on the enhanced premium tax credits that ultimately benefitted consumers, two dollars either went to insurers or

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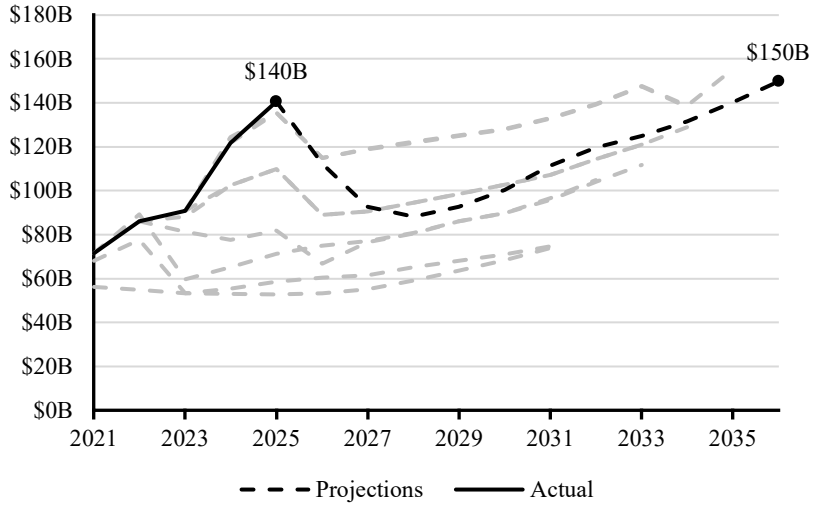
[91] Paul D. Jacobs, "Take-Up of Marketplace Coverage Increased After Enhanced Premium Subsidies," *Journal of Health Care for the Poor and Underserved* 37, no. 1 (2026): 206–18, https://dx.doi.org/10.1353/hpu.2026.a982965.
[92] Committee for a Responsible Federal Budget, "Understanding the ACA Subsidy Discussion," November 5, 2025, https://www.crfb.org/blogs/understanding-aca-subsidy-discussion.
[93] Centers for Medicare and Medicaid Services, Data for 2025 QHP Choice and Premiums in HealthCare.gov States – Appendix Tables, accessed October 2025, https://www.cms.gov/files/document/2025-qhp-premiums-choice-appendix.xlsx.

intermediaries or were wasted due to market inefficiency.[94] Because the subsidies have increased the number of individuals paying $0 premiums in the ACA Marketplace, this has lowered the amount of competition to lower prices in other plans and thus led insurers to increase gross premiums on net.[95] Even without accounting for the fiscal cost to the Federal government, insurers and consumers benefit about equally, with an additional amount lost due to market inefficiency.[96] As a result, premium tax credits ultimately generate negative economic value, and when considering the financing costs of the subsidies, this effect grows even larger.[97]

The money spent on premium tax credits that is going to insurers or being lost to market inefficiencies is money being spent that is not necessarily providing patient care. On top of the opportunity cost, spending on enhanced premium tax credits dramatically exceeded expectations, as shown in Figure 2-3.

[94] U.S. Congress Joint Economic Committee, "Long Overdue: Enhanced Premium Tax Credits Should Expire" (November 2025), https://www.jec.senate.gov/public/vendor/_accounts/JEC-R/issue-briefs/Enhanced%20Premium%20Tax%20Credits%20Should%20Expire.pdf.
[95] U.S. Congress Joint Economic Committee, "Long Overdue."
[96] Maria Polyakova and Stephen P. Ryan, "Subsidy Targeting with Market Power," NBER Working Paper no. 26367 (October 2019), pp. 3, 29–31, https://doi.org/10.3386/w26367; JEC calculations.
[97] Polyakova and Ryan, "Subsidy Targeting with Market Power," pp. 3, 29–31; JEC calculations.

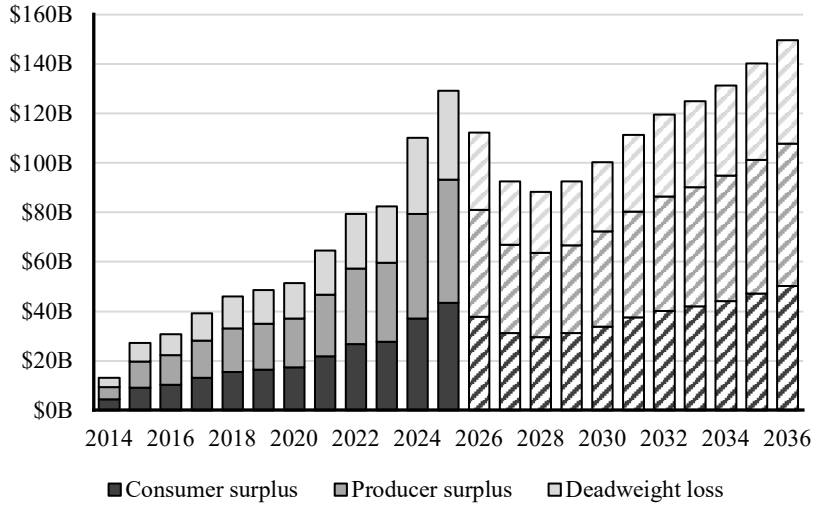
Figure 2-3: Projected Spending on ACA Premium Tax Credits Compared to Actual Spending



Source: Congressional Budget Office[98]

[98] Congressional Budget Office, *The Budget and Economic Outlook: 2021 to 2031* (February 2021), https://www.cbo.gov/publication/56970; Congressional Budget Office, *Additional Information About the Budget Outlook: 2021 to 2031* (March 2021), https://www.cbo.gov/publication/56996; Congressional Budget Office, *An Update to the Budget and Economic Outlook: 2021 to 2031* (July 2021), https://www.cbo.gov/publication/57218; Congressional Budget Office, *The Budget and Economic Outlook: 2022 to 2032* (May 2022), https://www.cbo.gov/publication/57950; Congressional Budget Office, *The Budget and Economic Outlook: 2023 to 2033* (February 2023), https://www.cbo.gov/publication/58848; Congressional Budget Office, *An Update to the Budget Outlook: 2023 to 2033* (May 2023), https://www.cbo.gov/publication/59096; Congressional Budget Office, *The Budget and Economic Outlook: 2024 to 2034* (February 2024), https://www.cbo.gov/publication/59710; Congressional Budget Office, *An Update to the Budget and Economic Outlook: 2024 to 2034* (June 2024), https://www.cbo.gov/publication/60039; Congressional Budget Office, *The Budget and Economic Outlook: 2025 to 2035* (January 2025), https://www.cbo.gov/publication/60870; Congressional Budget Office, *The Budget and Economic Outlook: 2026 to 2036* (February 2026), https://www.cbo.gov/publication/61882.

Figure 2-4: Incidence of Enhanced Premium Tax Credit Subsidy



Source: Congressional Budget Office;[99] JEC calculations

Crafting effective healthcare policy requires carefully weighing fiscal cost with anticipated outcomes. Premium tax credits fail to effectively improve health or lower individual healthcare costs and come at a significant fiscal cost to the Federal government.

Medical loss ratio

Other aspects of the ACA also distort the healthcare marketplace. The medical loss ratio (MLR) is a requirement for health insurers to spend a portion of their premium revenues on patient services.[100] Smaller plans must spend 80 percent of their premium revenues on patient services or quality improvements, and larger groups must meet a ratio of 85 percent. The MLR, in effect, caps insurers' profit margins. Therefore, given a static number of

[99] *Ibid.*
[100] Centers for Medicare and Medicaid Services, "Medical Loss Ratio," last modified March 13, 2026, https://www.cms.gov/marketplace/private-health-insurance/medical-loss-ratio.

beneficiaries, the MLR leaves increasing premiums as the only way for insurers to increase revenue. Research suggests that the MLR discourages plans from lowering or containing premiums.[101] In fact, because many plans are already compliant with the MLR, there is pressure to move spending away from patient care to get closer to the MLR cap and maximize profit.[102]

Insurance brokers

As Federal healthcare spending continues to rise, it becomes increasingly important for policymakers to assess spending that does not directly improve patient care or contribute to reducing healthcare costs. It is estimated that between 15 and 30 percent of all healthcare spending in the U.S. is administrative in nature and that at least half of this spending is ineffective at providing care or is explicitly wasteful.[103] Even beyond administrative costs, which are typically associated with billing and authorization, a significant amount is spent procuring patients in the form of advertising or insurance brokers.

Insurance brokers play a large and growing role in determining the plans in which individuals enroll, with aggregate broker fees totaling over $11 billion in 2024 alone.[104] Insurance brokers play an especially large role in the ACA Marketplace, where fees

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[101] Randolph W. Pate et al., "The Unintended Consequences Of The ACA's Medical Loss Ratio Requirement," *Health Affairs Forefront* (2025), https://doi.org/10.1377/forefront.20251014.467242.
[102] Sandra Renfro Callaghan, Elizabeth Plummer, and William F. Wempe, "Health Insurers' Claims and Premiums Under the Affordable Care Act: Evidence on the Effects of Bright Line Regulations," *Journal of Risk and Insurance* 87, no. 1 (2020), https://doi.org/10.1111/jori.12272.
[103] Health Affairs, "The Role Of Administrative Waste In Excess US Health Spending," October 6, 2022, https://www.healthaffairs.org/content/briefs/role-administrative-waste-excess-us-health-spending.
[104] Centers for Medicare and Medicaid Services, "Medical Loss Ratio Data and System Resources" (2024), last modified March 13, 2026, https://www.cms.gov/marketplace/resources/data/medical-loss-ratio-data-systems-resources; JEC calculations.

totaled over $4.5 billion in 2024. Given the substantial amount spent on brokers every year, it is important to evaluate whether brokers provide commensurate value to consumers, especially as broker fees are healthcare dollars not directly going toward patient care.

Insurance brokers can add value by improving plan choices and helping to match consumers with various plans, which helps to lower transaction costs for consumers. This can be especially beneficial for enrollees who face language barriers, have lower levels of formal education, or have other difficulties navigating complex insurance choices. The purpose of insurance brokers is therefore to help individuals who are typically unfamiliar with the intricacies of health insurance navigate various insurance marketplaces and match them with plans.

However, brokers also face incentives against making the best recommendations for the beneficiary. They have a distortionary impact on insurance marketplaces by artificially influencing plan choices and each risk pool. In order for a health insurance marketplace to function properly, a sufficient number of healthier, often younger, people are needed to offset the costs of sicker people. Brokers are typically paid by insurance carriers and may be incentivized to push in healthier people or push out sicker individuals from certain plans. In a 2025 Department of Justice investigation, prosecutors alleged that insurance brokers were paid hundreds of millions of dollars over the course of several years to illegally place certain individuals into Medicare Advantage plans.[105] In this case, two insurers conspired with brokers to

[105] U.S. Department of Justice, Office of Public Affairs, "The United States Files False Claims Act Complaint Against Three National Health Insurance Companies and Three Brokers Alleging Unlawful Kickbacks and Discrimination Against Disabled Americans," May 1, 2025, https://www.justice.gov/opa/pr/united-states-files-false-claims-act-complaint-against-three-national-health-insurance.

discriminate against disabled Medicare beneficiaries who would have been less profitable and directed them into other plans.

The Centers for Medicare and Medicaid Services (CMS) has reported widespread concerns about improper broker activity in the ACA Marketplace. Between January and August 2024, CMS received more than 90,000 complaints regarding unauthorized plan switches and over 180,000 complaints related to unauthorized enrollments.[106] In response, CMS implemented new safeguards to limit unauthorized enrollment changes and suspended hundreds of brokers suspected of fraudulent or abusive conduct.[107] While this may not reflect the conduct of most brokers, the large and increasing sums spent on broker fees, coupled with limited evidence of sufficient value added, make this an important area for policymakers to address. Congress must ensure that brokers provide value to both beneficiaries and taxpayers, and do not distort insurance marketplaces in ways that raise costs for other enrollees.

Brokers represent a major administrative cost for plans and highlight a structural problem in healthcare: excessive plan switching, or "churn." It is estimated that around 15 to 20 percent of privately or publicly insured individuals either change or drop insurance plans in a given year.[108] This rate varies by type of insurance and is common in Medicare Advantage, where it is

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[106] Centers for Medicare and Medicaid Services, "CMS Update on Actions to Prevent Unauthorized Agent and Broker Marketplace Activity," October 17, 2024, https://www.cms.gov/newsroom/press-releases/cms-update-actions-prevent-unauthorized-agent-broker-marketplace-activity.

[107] Centers for Medicare and Medicaid Services, "CMS Actions to Protect Consumers and Strengthen Exchange Program Integrity," January 28, 2026, https://www.cms.gov/newsroom/fact-sheets/cms-actions-protect-consumers-strengthen-exchange-program-integrity.

[108] Ezekiel J. Emanuel and John A. Graves, "How churn threatens Americans' health," *Stat News*, September 3, 2025, https://www.statnews.com/2025/09/03/health-insurance-churn-deadly-americans/.

estimated that nearly half of enrollees will switch plans within five years of enrollment.[109] While some plan switching will always be necessary, excessive churn creates a number of problems for insurers and, in turn, beneficiaries. Insurance companies constantly compete for beneficiaries, which drives up advertising costs, broker fees, and re-enrollment costs. This is money being spent on administrative costs that could instead be going to patient care.

Additionally, high churn disincentivizes insurers from making investments in patient health. It is often in an insurer's interest to make large upfront investments in a patient's health to prevent larger health problems in the long term and increase the likelihood of savings after years of enrollment. However, if enrollees frequently switch plans, insurers are less likely to adopt this long-term outlook for a given enrollee's health. There is precedent for preventative care that has long-term cost savings, such as in the case of hepatitis C treatment.[110] Even lower-cost preventative treatments such as cancer screenings may no longer be a profitable investment for plans if they anticipate that individual is likely to switch plans soon.[111] If the time horizon for an insurer to profit off a beneficiary is shorter, they have less financial incentive to invest in preventative care or address the root causes of poor health. The following chapter will explore in more detail ways to address these disincentives, including proposals for longer plan years and streamlined enrollment, both of which lessen the need to spend on administrative outlays which do not go directly towards patient care.

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[109] Emanuel and Graves, "How churn threatens Americans' health."
[110] Congressional Budget Office, *Budgetary Effects of Policies That Would Increase Hepatitis C Treatment* (June 2024), https://www.cbo.gov/publication/60237.
[111] Emanuel and Graves, "How churn threatens Americans' health."

While these problems are significant, technology may soon make much of the traditional broker model obsolete. Even six years ago, research found that artificial-intelligence-based decision tools improved plan choice and reduced consumer losses where skilled agents often failed.[112] Given the pace of improvement in the six years since that research, consumers now have access to tools that can likely outperform brokers on the core task of matching people to plans, at lower cost and without incentive problems. As that progress continues, the case for paying large broker fees will continue to grow weaker and may eventually fade into the rearview mirror altogether.

An update on obesity and nutrition

As outlined in the *2025 Joint Economic Report* (*Response*), two of the largest drivers of healthcare spending are chronic diseases and obesity. The JEC calculated that obesity alone is projected to cost between $8.2 and $9.1 trillion over the next ten years due to excess medial expenditures.[113] Obesity and other chronic diseases affect far more than just direct healthcare spending; other JEC research has explored their adverse impact on life expectancy, labor force participation, and labor supply.[114] As more individuals become afflicted by chronic disease, more strain is placed on insurance risk pools, which in turn drives up healthcare costs for everyone. Addressing chronic disease and obesity not only improves outcomes for individuals directly suffering from these diseases but also drives down aggregate costs, which leads to lower premiums.

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[112] Jonathan Gruber et al., "Managing Intelligence: Skilled Experts and AI in Markets for Complex Products," NBER Working Paper no. 27038 (April 2020), https://doi.org/10.3386/w27038.

[113] U.S. Congress Joint Economic Committee, *The 2025 Joint Economic Report*, H. Rep. 119-9 (2025), p. 94, https://www.govinfo.gov/app/details/CRPT-119hrpt9/CRPT-119hrpt9-pt1.

[114] U.S. Congress Joint Economic Committee, "Chapter 4: Reaching Fiscal Solutions Through Healthcare Innovation" in *The 2024 Joint Economic Report*, S. Rep. 118-183 (2024): 359–81, https://www.govinfo.gov/app/details/CRPT-118srpt183/CRPT-118srpt183.

Fortunately, significant developments in the past year have been aimed at addressing obesity and chronic diseases. Glucagon-like peptide-1 (GLP-1) is a natural hormone that is key in regulating blood sugar and appetite, and receptor agonist drugs that mimic this hormone can be used for weight loss. Since the *2025 Response*, notable progress has been made to lower the costs of and improve accessibility to these and other prescription drugs. As was projected in the *Response*, the average price of GLP-1 drugs has fallen dramatically and there have been a number of major technological improvements.[115]

TrumpRx

One of the biggest factors in the reduction of the price of GLP-1 drugs was the launch of the direct-to-consumer prescription drug platform TrumpRx in November 2025.[116] TrumpRx offers discounted prescription drugs by allowing consumers to purchase prescriptions with cash directly through the manufacturer or other approved distribution channels. This had a notable impact on the price of various GLP-1 drugs as the White House specifically negotiated the price of these drugs.

The prices of GLP-1 drugs, for example Ozempic, Wegovy, Zepbound, and Orfoglipron, were reduced from between $1,000 and $1,350 to around $350 per month for individuals purchasing with cash.[117] Additionally the recently approved Wegovy oral GLP-1 drug will also be available for purchase for $150 per

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[115] U.S. Congress Joint Economic Committee, *The 2025 Joint Economic Report*, p. 105.
[116] The White House, "Fact Sheet: President Donald J. Trump Announces Major Developments in Bringing Most-Favored-Nation Pricing to American Patients," November 6, 2025, https://www.whitehouse.gov/fact-sheets/2025/11/fact-sheet-president-donald-j-trump-announces-major-developments-in-bringing-most-favored-nation-pricing-to-american-patients/.
[117] The White House, "Fact Sheet: President Donald J. Trump Announces Major Developments in Bringing Most-Favored-Nation Pricing to American Patients."

month. The White House also negotiated GLP-1 drug prices for Medicare and Medicaid. The Medicare price for the major GLP-1 drugs will be $245 per month with a Medicare co-pay of $50 per month, and state Medicaid programs will also be able to offer them at this price. As of January 2026, only 13 states offer GLP-1 drugs within their Medicaid program, but this negotiation is likely to have a considerable impact on the number of states offering them.[118] As outlined in the *2025 Response*, Medicaid coverage of GLP-1 drugs presents potential for large savings as state Medicaid programs can target these prescriptions to individuals who are severely obese and may be displaced from the workforce due to their condition. This can lead to significant lifetime savings as individuals become healthier and more connected to the workforce and therefore may no longer remain reliant on other Medicaid services.[119]

GLP-1 drug advancements

In addition to the reduced costs of GLP-1 drugs, there have been significant advancements in anti-obesity technology that will likely have a positive impact on uptake and price. Approved by the FDA in April 2026, oral GLP-1 drugs are a daily pill alternative to the weekly self-administered GLP-1 drugs that currently make up the majority of GLP-1 prescriptions.[120] These may offset needle-related discomfort that may also be influencing

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[118] Elizabeth Williams, "Medicaid Coverage of and Spending on GLP-1s," KFF, January 16, 2025, https://www.kff.org/medicaid/medicaid-coverage-of-and-spending-on-glp-1s/.

[119] U.S. Congress Joint Economic Committee, *The 2025 Joint Economic Report*, p. 109.

[120] https://investor.lilly.com/news-releases/news-release-details/fda-approves-lillys-foundayotm-orforglipron-only-glp-1-pill; "GLP-1 Agonists," Cleveland Clinic, last updated July 3, 2023, https://my.clevelandclinic.org/health/treatments/13901-glp-1-agonists.

the uptake and adherence of GLP-1 therapies.[121] Survey data estimating the prevalence of trypanophobia (fear of needles) suggest that approximately 20 to 30 percent of adults experience this fear, and roughly 16 percent report avoiding certain vaccinations as a result.[122] Comparable concerns may affect the use of self-administered GLP-1 injections. The availability of an oral GLP-1 formulation could therefore improve uptake and adherence and accelerate the positive health and fiscal outcomes the JEC has projected in prior *Responses*.

Innovation in GLP-1 drugs has continued to accelerate over the past year, with pharmaceutical companies developing new formulations designed to extend dosing intervals. In particular, companies have experimented with longer-acting GLP-1 injectables intended to be used once a month instead of once a week.[123] Small-molecule GLP-1 drugs, which have the advantage of being easier to produce at scale and not requiring injection, have also been going through clinical trials.[124] These developments highlight a broader industry push to make anti-obesity medication more effective and affordable, which is a response to the overwhelming demand for these drugs over the past decade.

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[121] Kimberly Alsbrooks and Klaus Hoerauf, "Prevalence, causes, impacts, and management of needle phobia: An international survey of a general adult population," *PLoS One* 17, no. 11 (2022), https://doi.org/10.1371/journal.pone.0276814.
[122] Jennifer McLenon and Mary A. M. Rogers, "The fear of needles: A systematic review and meta-analysis," *Journal of Advanced Nursing* 75, no. 1 (2019), 30-42, https://doi.org/10.1111/jan.13818.
[123] Pfizer, "Pfizer's Ultra-Long-Acting Injectable GLP-1 RA Shows Robust and Continued Weight Loss with Monthly Dosing in Phase 2b Trial," February 3, 2026, https://www.pfizer.com/news/press-release/press-release-detail/pfizers-ultra-long-acting-injectable-glp-1-ra-shows-robust.
[124] Oana Cristina Seremet et al., "Small Molecule GLP-1 Receptor Agonists: A Promising Pharmacological Approach," *Medicina* 61, no. 11 (2025), p. 1902, https://doi.org/10.3390/medicina61111902.

Nutrition policy

Efforts to improve public health outcomes can be further strengthened by making reforms to nutrition programs to ensure that they are effectively improving health. Improving nutrition and promoting healthy behaviors have been a priority for the Trump Administration, which has been supportive of proposals to reform nutritional programs. Since May 2025, the Secretary of Agriculture has approved waivers allowing 22 states to remove unhealthy foods from their state SNAP programs.[125] Specific restrictions vary by state, but the waivers allow states to restrict a number of food and beverage purchases, including soda, fruit and vegetable drinks comprised of less than half natural juice, energy drinks, and candy.[126]

Restricting SNAP purchases to only nutritious foods has a two-fold impact. As outlined in the *2024 Response*, before obesity rates began to rise rapidly in the 1980s, poor nutrition was mostly driven by a lack of calories rather than a surplus.[127] Today, poor nutrition

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[125] U.S. Department of Agriculture, Food and Nutrition Service, "Secretary Rollins Signs Six New State Waivers to Make America Healthy Again by Removing Unhealthy Foods from SNAP in Hawai'i, Missouri, North Dakota, South Carolina, Virginia, and Tennessee," December 10, 2025, https://www.fns.usda.gov/newsroom/usda-0241.25; Catherine Douglas Moran, "USDA approves SNAP waivers for 4 more states," Grocery Dive, March 5, 2026, https://www.grocerydive.com/news/usda-approves-4-more-state-snap-waivers/813886/.

[126] U.S. Department of Agriculture, *Waiver Summary: Iowa SNAP Healthy Choice Waiver Demonstration Project* (2025), https://fns-prod.azureedge.us/sites/default/files/resource-files/snap-foodrestriction-waiverApproval-Iowa.pdf; Health Eating Research, "The Current State of Knowledge on SNAP Restrictions and Disincentives" (September 2025), https://healthyeatingresearch.org/wp-content/uploads/2025/09/HER-SNAP-Waivers-Brief.pdf.

[127] Institute of Medicine, *Front-of-Package Nutrition Rating Systems and Symbols: Phase I Report*, ed. Ellen A. Wartella, Alice H. Lichtenstein, and Caitlin S. Boon (National Academies Press, 2010), https://doi.org/10.17226/12957; Chris Edwards, *SNAP: High Costs, Low Nutrition*, Cato Institute Briefing Paper no. 163 (September 1, 2023), https://www.cato.org/briefing-paper/snap-high-costs-low-nutrition.

is more often caused by a surplus, leading to obesity.[128] Restricting SNAP funds to specific food items ensures that nutrition funding is not actively being spent on foods that are known to worsen health outcomes. Restricting SNAP purchases also can help to prevent fraud as a disproportionate amount of fraud occurs at stores more likely to sell mostly unhealthy food. In 2021, the U.S. Department of Agriculture (USDA) estimated that, from 2015 to 2017, there was around $1.0 billion in fraudulent SNAP transfers in each year.[129] Given that SNAP spending has risen dramatically since then, it is likely that the current figure is higher.[130] The USDA found that small and medium-sized grocery stores and convenience stores "accounted for about 15 percent of all redemptions but were estimated to account for just over 95 percent of all trafficking redemptions (99 percent under the current definition)."[131] Smaller stores and convenience are more likely to carry unhealthy food and beverages and shopping at those stores is linked to poorer health outcomes.[132] Restricting SNAP purchases may lower demand for these types of stores which may, in turn, lower fraud and improve outcomes. Some studies have linked SNAP participation to worse health outcomes, although a causal link has not been established.[133] That said, insofar as the

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[128] Dietary Guidelines Advisory Committee, *Scientific Report of the 2020 Dietary Guidelines Advisory Committee* (2020), https://www.dietaryguidelines.gov/2020-advisory-committee-report.
[129] Hoke Wilson, *The Extent of Trafficking in the Supplemental Nutrition Assistance Program: 2015-2017*, U.S. Department of Agriculture (2021), https://fns-prod.azureedge.us/sites/default/files/resource-files/Trafficking2015-2017-3.pdf.
[130] Matthew Dickerson, "Food Stamp Spending is Skyrocketing," Economic Policy Innovation Center, May 17, 2024, https://epicforamerica.org/social-programs/food-stamp-spending-is-skyrocketing/.
[131] Wilson, *The Extent of Trafficking in the Supplemental Nutrition Assistance Program*, p. iv.
[132] Timothy Barnes et al., "Healthfulness of Foods Advertised in Small and Nontraditional Urban Stores in Minneapolis–St. Paul, Minnesota, 2014," *Preventing Chronic Disease* 13 (2016), http://dx.doi.org/10.5888/pcd13.160149.
[133] Danielle Duran and Nasim Ferdows, "A Longitudinal Study on SNAP Participation and Self-reported Health among Diabetic and Non-diabetic Individuals," *Innovation in Aging* 7 (2023): 977–78, https://doi.org/10.1093/geroni/igad104.3141.

Federal government continues to fund a nutrition program, it should ensure that the funds are being used legitimately and on nutritious foods.

CHAPTER 3: THE FISCAL AND ECONOMIC HEALTH OF MEDICARE

Healthcare spending has significantly impacted the nation's fiscal outlook, and policymakers must address rising healthcare costs in Medicaid and Medicare. This chapter will focus on Medicare and the Medicare Advantage program, where there are significant successes, challenges, and opportunities going forward.

Medicare's apparent trilemma

Medicare is at a crossroads. Since 1960, health expenditure growth in the United States has outpaced economic growth in every decade. As the baby-boom generation retires, Medicare enrollment and spending are rising. Hospital Insurance (HI) expenditures are projected to outgrow income, while increases in general-revenue transfers for Supplementary Medical Insurance (SMI) are placing increasing strain on the Federal budget.[134]

The HI trust fund, which relies on payroll taxes, is projected to be depleted by the end of October 2032, at which point payments would be cut roughly 12 percent absent legislative action.[135] The SMI trust fund, which covers Medicare Parts B and D, is automatically financed by general revenues and premiums, making it fiscally balanced but heavily reliant on taxpayer transfers. The Boards of Trustees that oversee these trust funds

[134] Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds, *The 2025 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds* (Centers for Medicare and Medicaid Services, 2025), Figure III.B1, Table III.C4, pp. 53, 89.

[135] Committee for a Responsible Federal Budget, "Medicare Hospital Insurance Trust Fund," accessed April 2026, https://www.crfb.org/our-work/projects/medicare-hospital-insurance-trust-fund.

note that SMI costs will continue growing faster than GDP, placing increasing pressure on the Federal budget.[136]

For beneficiaries, this is an affordability story. As emphasized by recent Joint Economic Committee research, by law, Part B spending is passed through to beneficiary premiums, which are now expected to double over the next decade to about $5,000 per senior.[137] Because these premiums are typically withdrawn directly from Social Security checks, higher Medicare spending shows up not only in Federal ledgers but also in lower net monthly income for more than 50 million seniors. The affordability challenge makes the fiscal challenge even harder to solve.

Medicare Advantage (MA) plays a pivotal role in this context. With over half of Medicare beneficiaries enrolled in MA, the program is already popular, and projections indicate it could approach two-thirds of beneficiaries within the next decade.[138] However, despite its popularity, misaligned incentives have prevented the program from consistently delivering lower-cost care for taxpayers and the Medicare trust funds.[139] Instead, MA currently costs the government more per enrollee than Traditional Medicare (TM, also called fee-for-service Medicare), adding to Federal budget deficits, Part B premiums, and pressure on the HI

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[136] See "Implications of SMI Cost Growth" in Boards of Trustees, *The 2025 Annual Report of the Boards of* Trustees, p. 36.
[137] U.S. Congress Joint Economic Committee, "The Part B Premium Pass-Through: Medicare Advantage Overpayments Inflate Premiums for All" (March 10, 2026), Appendix D, Figure 9, p. 25, https://www.jec.senate.gov/public/index.cfm/republicans/2026/3/jec-brief-finds-medicare-advantage-overpayments-causing-increased-premiums-for-all-seniors.
[138] Congressional Budget Office, "Medicare," Details About Baseline Projections for Selected Programs (February 2026), p. 3, https://www.cbo.gov/system/files/2026-02/51302-2026-02-medicare.pdf.
[139] Medicare Payment Advisory Commission, "The Medicare Advantage program: Status report," chap. 12 in *Report to the Congress: Medicare Payment Policy* (2026), p. 343.

trust fund.[140] Thus, overpayments in MA directly amplify both fiscal strain and beneficiary affordability concerns.

Medicare's financing challenges are of a scale that can no longer reasonably be managed through automatic premium increases, growing general-revenue transfers, and trust-fund drawdowns alone. As a result, the next decade is increasingly likely to be seen as presenting an *apparent trilemma* among three goals: affordability for seniors, fiscal solvency, and access to new technologies and medical innovation.

The current system has been very effective at incentivizing and promoting medical innovation. However, policymakers must recognize that policy has too often failed to translate new technologies into lower costs for seniors or the Federal budget. If costs continue to escalate, policymakers will face growing pressure and may mistakenly pursue blunt cost-control strategies that protect the Treasury in the short run while weakening the incentives that drive medical progress. This would mean fewer new cures and treatments, not only for Americans but also for the world. The U.S. market has an outsized role in financing medical innovation worldwide, accounting for approximately 53 percent of global prescription drug sales revenues in 2022.[141]

However, while these three goals may appear mutually incompatible, they are not—there is a way out. Market forces can reduce Medicare costs in ways that benefit seniors and all taxpayers. As we argue in this chapter, the main vehicle for doing so is MA reform that realigns incentives so that insurers compete

[140] U.S. Congress Joint Economic Committee, "The Part B Premium Pass-Through."
[141] Sonal Parasrampuria and Stephen Murphy, *Comparing U.S. and International Market Size and Average Pricing for Prescription Drugs, 2017-2022*, National Institutes of Health, Office of the Assistant Secretary for Planning and Evaluation (December 2024), https://www.ncbi.nlm.nih.gov/books/NBK611829/.

by improving health and delivering care at lower real cost. MA has important design flaws, but it should be reformed rather than discarded. Neither markets nor innovation will be sufficient to achieve these goals if the payment system continues to reward rent seeking and subsidy capture rather than efficiency gains.

In the following sections, we show the scale of the problems caused by MA overpayments, how they arose, and why addressing them is crucial for both fiscal sustainability and beneficiary affordability. Chairman David Schweikert recently introduced legislation, H.R. 3467, which contains key reforms that would build a considerably more economically and fiscally efficient MA program.[142]

The fiscal cost of the misaligned Medicare Advantage payment system

Medicare Advantage should be the part of Medicare where private provision, innovative care management, and technology lower costs for both beneficiaries and all taxpayers. While MA has delivered important benefits for enrollees (a point which this chapter returns to), taxpayer savings relative to Traditional Medicare have not materialized. Instead, the evidence shows that Medicare still pays more for MA enrollees than it would if those same beneficiaries were covered in TM. The Medicare Payment Advisory Commission (MedPAC) estimates that Medicare will spend 14 percent more on MA enrollees in 2026 than it would spend if those same beneficiaries were in TM. This difference, about $76 billion, is referred to as MA *overpayments*.

The following analysis is based on MedPAC's estimate for several reasons. First, MedPAC produces the estimate with the explicit

[142] *To amend title XVIII to reform the Medicare Advantage program*, H.R. 3467, 119th Cong. (2025), https://www.congress.gov/bill/119th-congress/house-bill/3467.

intention of answering the taxpayer-focused question: how much does Medicare spend, on average, to cover MA enrollees relative to what it would spend if those same enrollees were instead covered in TM? This is, with one caveat, the appropriate question to ask and represents the best available evidence to policymakers on the taxpayer question.[143]

Second, although that question may seem straightforward, much of the confusion surrounding comparisons of MA and TM costs arises because small changes in the econometric specification, especially in the variables the model seeks to hold constant, can shift the analysis away from the taxpayer question and cause otherwise similar studies to answer fundamentally different questions.[144]

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[143] The caveat being the quasi-experimental literature that suggests greater MA penetration may generate spillover effects that reduce spending for non-MA patients, including those covered by TM, a channel MedPAC does not incorporate. Notably, Baicker, Chernew, and Robbins (2013) find that hospital spillovers offset about 12 percent of the associated increase in MA payments. See also Afendulis, Chernew, and Kessler (2017) and Feyman, Pizer, and Frakt (2021). These effects do not displace MedPAC's estimate as the appropriate baseline for the taxpayer-payment comparison used here, but they remain a potentially important omitted channel that warrants more explicit evaluation, including by MedPAC where the relevant spillovers can be credibly bounded or estimated. Baicker, Katherine, Michael E. Chernew, and Jacob A. Robbins, "The Spillover Effects of Medicare Managed Care: Medicare Advantage and Hospital Utilization," *Journal of Health Economics* 32, no. 6 (2013): 1289–1300; Christopher C. Afendulis, Michael E. Chernew, and Daniel P. Kessler, "The Effect of Medicare Advantage on Hospital Admissions and Mortality," *American Journal of Health Economics* 3, no. 2 (2017): 254–79; Yevgeniy Feyman, Steven D. Pizer, and Austin B. Frakt, "The Persistence of Medicare Advantage Spillovers in the Post-Affordable Care Act Era," *Health Economics* 30, no. 2 (2021): 311–27.

[144] A taxpayer-focused analysis asks what Medicare would have spent if the same beneficiaries had instead been enrolled in TM, which requires adjusting for pre-enrollment differences among the beneficiaries who select into MA and quantifying the extent to which differences in diagnosis coding intensity raise MA beneficiaries' risk scores relative to those of otherwise similar beneficiaries in TM, thereby increasing risk-adjusted payments. By contrast, if a model quantifies structural differences between the two programs such as an out-of-pocket cap, it is no longer asking what MA costs relative to TM *as it actually exists*, rather what a hypothetical comparison would look like with a redesigned, more similar benefit structure. Further, if a model credits MA for supplemental benefits or lower cost sharing, it is typically asking

Third, while estimates in the broader academic literature vary by data source, method, and period, our reading is that MedPAC's findings are broadly consistent with a wide range of research.[145]

MedPAC estimates that Medicare will make $76 billion in additional payments to MA plans in 2026, driven primarily by favorable selection and coding intensity. Favorable selection, which MedPAC estimates adds $57 billion, arises because beneficiaries who choose MA tend to have lower medical spending than their risk scores predict. Coding intensity, which MedPAC estimates adds $22 billion, arises because MA insurers have stronger incentives than providers in TM to document diagnoses aggressively, thereby raising risk-adjusted payments.[146] In other words, the central problem is that the payment system rewards insurers for attracting enrollees whose costs fall below what the risk-score model predicts and for investing in diagnosis documentation that makes those enrollees appear sicker, for payment purposes, than they would in TM.

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whether MA delivers more benefits to beneficiaries per government dollar spent. Only the former question is directly informative about MA's cost to taxpayers. For more, see Medicare Policy Initiative, *A Policymaker's Guide to Interpreting Studies That Compare Medicare Advantage and Traditional Medicare Payment*, Center on Health Insurance Reforms, Georgetown University McCourt School of Public Policy (March 2026), https://georgetown.app.box.com/s/1wdsnmajuxd6jtborl1u7ao6qebq8n7m.

[145] For a review of the literature on MA overpayments, see U.S. Congress Joint Economic Committee, "The Part B Premium Pass-Through," pp. 21–24; Zack Cooper et al., *Review of Key Academic Literature Assessing the Medicare Advantage Program*, Health Care Affordability Lab at Yale (March 9, 2026), https://cdn.prod.website-files.com/682cf1c625625bb1fcf9efa1/69b961a3e45c6f07cccdda22_20260309%20Review%20of%20Key%20Academic%20Literature%20Assessing%20the%20Medicare%20Advantage%20Program%20(1).pdf; Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy* (2026), pp. 377–8.

[146] The two components sum to more than $76 billion because MedPAC estimates that, absent favorable selection and coding intensity, MA would be paid about $3 billion less than TM for otherwise similar beneficiaries. Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy* (2026), pp. 377–8.

There are several reforms that address overpayments, but to better harness MA's underlying pro-competition, pro-innovation structure, the focus of this chapter is on fundamental reforms to the program's incentives. To put the scale of potential savings in perspective, this chapter includes counterfactual exercises that consider the fiscal, tax, and premium effects of achieving payment parity, that is, a situation in which covering a beneficiary through MA costs the Medicare program the same as covering that same beneficiary through TM.

However, two points are worth emphasizing. First, the goal of MA reform should not merely be payment parity. By realigning incentives and harnessing market forces, MA can be reformed to provide the same or better healthcare at *lower* cost to both beneficiaries and taxpayers, as was originally intended.[147] Second, counterfactual exercises involving the *financial outcome* of payment parity should not be understood as an endorsement of any particular policy for achieving payment parity, except when the chapter explicitly does so by highlighting policies that would reduce wasteful resource use on capturing higher payments, rather than delivering lower cost care by making beneficiaries healthier.

MA plans are paid based on a capitated amount reflecting their enrollees' average risk score.[148] MA provides a bundled plan that must cover both Part A and B coverage. For 2025, total MA payments are divided between the Hospital Insurance (Part A) trust fund and the Supplementary Medical Insurance (Part B)

[147] Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy* (2026), p. 345; Sandy Christensen to Interested Parties, "Medicare+Choice Provisions in the Balanced Budget Act of 1997," November 12, 1997, Congressional Budget Office, p. 6, https://www.cbo.gov/sites/default/files/105th-congress-1997-1998/reports/1997_11_12_choice.pdf.
[148] Boards of Trustees, *The 2025 Annual Report of the Boards of Trustees*, pp. 160–65.

account, with about 60 percent attributed to Part B.[149] As a result, the $76 billion in overpayments mechanically flow through Medicare's financing structures in distinct ways. The additional expenditure for the Part A trust fund is $30 billion, and for the Part B account it is $46 billion.[150]

These additional expenditures present distinct timing challenges for each trust fund. On the Part A side, the effects are not felt immediately by beneficiaries, but they still matter now because they increase the rate at which the HI trust fund is depleted.

On the Part B side, the impact is gradual and ongoing. Because the SMI account is balanced annually via premiums and general revenue, rising MA costs steadily increase both. Thus, beneficiaries already see the effects of higher premiums, while Federal transfers rise in tandem. The following sections track these channels. First, we examine how the additional cost to Part A accelerates trust fund depletion and increases payroll taxes necessary for solvency once depleted, and then we examine how Part B premiums and borrowing increase over time.

Medicare Advantage overpayments' Part A incidence

Under current law, the HI trust fund is financed primarily through payroll taxes on earnings, supplemented by taxation of Social Security benefits, premiums, and other minor income sources. As discussed, the HI trust fund will be depleted in late 2032.[151]

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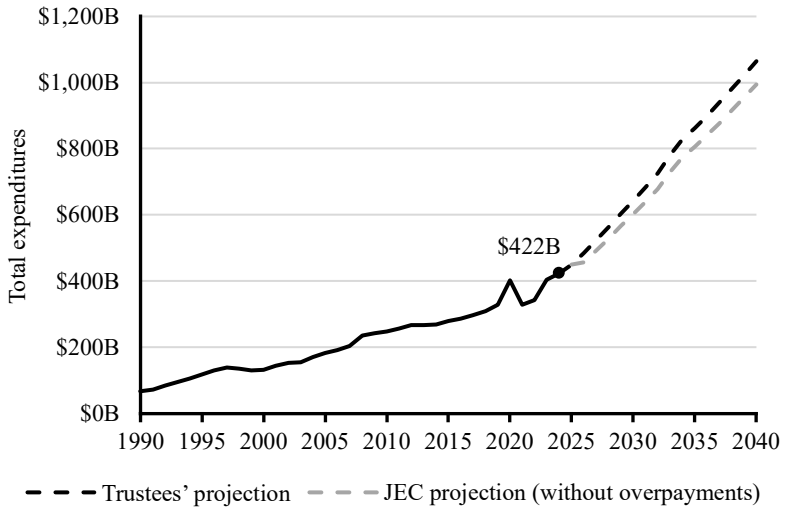
[149] JEC calculations; Boards of Trustees, *The 2025 Annual Report of the Boards of Trustees*, Table IV.C2, p. 163.
[150] JEC calculations.
[151] Boards of Trustees, *The 2025 Annual Report of the Boards of Trustees*, p. 5.

Figure 3-1: Total Expenditures from the Hospital Insurance Trust Fund



Source: Boards of Trustees;[152] JEC calculations

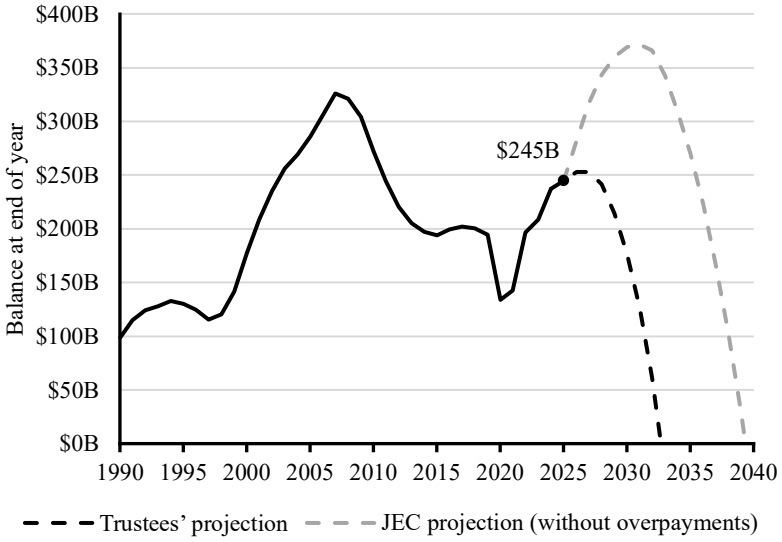
To illustrate the impact MA overpayments have on the HI trust fund's solvency, JEC calculates that eliminating MA overpayments in 2026 would reduce Part A expenditures by about $30 billion, rising to about $56 billion in 2035. JEC estimates this reduction would be enough to extend the HI trust fund's solvency by approximately six to seven years.[153] The estimate assumes that MA payments would otherwise continue to exceed TM costs by

[152] Boards of Trustees, *The 2025 Annual Report of the Boards of Trustees*, Table III.B4, p. 56.

[153] JEC calculations use projections from the 2025 Medicare Trustees Report and assume MedPAC's current 14 percent MA overpayment estimate persists. Because that estimate is measured relative to TM costs, payment parity implies a 12.28 percent reduction in MA payments, calculated as 0.14/1.14, which is applied to projected HI expenditures for MA beneficiaries beginning in 2026. The scenario carries forward higher end-of-year HI trust-fund balances, credits additional interest income using projections of nominal interest rates of 4.125 percent for 2026–2034 and 4.135 percent thereafter. The calculation holds enrollment, utilization, plan bidding, taxable payroll, non-interest income, and other factors constant.

14 percent and credits the resulting higher trust-fund balances with additional interest income.

Figure 3-2: Hospital Insurance Trust Fund Balance



Source: Boards of Trustees;[154] JEC calculations

To further translate the fiscal effects of MA payment parity into economic terms, consider the following thought experiment: if the HI trust fund were exactly solvent, how much could payroll tax rates be reduced while maintaining the trust fund's solvency, and what would the economic effects be?

To answer this hypothetical, let E_t denote HI expenditures in year t, let TP_t denote the HI trust fund's taxable payroll (the tax base for the payroll tax), and let τ_t denote the regular Medicare payroll tax rate. This analysis focuses on the regular Medicare tax under the *Federal Insurance Contributions Act* (FICA), which is

[154] Boards of Trustees, *The 2025 Annual Report of the Boards of Trustees*, Table III.B4, p. 56.

currently 1.45 percent for employees and 1.45 percent for employers, for a total tax rate of 2.90 percent.[155] The additional 0.9 percent Medicare surtax levied on individuals with incomes above $200,000 and married couples with incomes above $250,000, and the revenue it generates, is held constant. Revenues from all other sources, including premiums, are also held constant. Let B_t denote HI revenue from all other sources. The financing identity under maintained solvency is therefore,

$$E_t = \tau_t TP_t + B_t$$

Holding B_t fixed, a reduction in expenditures of ΔE_t allows for a reduction in the payroll tax rate that maintains solvency:

$$\Delta\tau_t = \frac{\Delta E_t}{TP_t}$$

As discussed, the additional expenditure for the Part A trust fund due to MA overpayments is $30 billion. Taxable payroll can be recovered by rearranging ratios provided in the Trustees' Report, estimated to be approximately $13 trillion.[156] This implies that MA payment parity could be used to reduce the 2.90 percent regular Medicare tax by $30 billion divided by $13 trillion, or

[155] *Federal Insurance Contributions Act*, 26 U.S.C. §§ 3101, 3111 (2024).
[156] JEC calculations; Boards of Trustees, *The 2025 Annual Report of the Boards of Trustees*, pp. 46–78. Table III.B1 shows total revenue in Calendar Year 2024 of $451 billion and $7 billion interest income for total 2024 non-interest income of $444 billion. Table III.B7 shows a 2024 income ratio of 3.41 percent. The report describes this ratio as "the non-interest income (from payroll taxes, taxation of OASDI benefits, premiums, general fund transfers for uninsured persons, and monies derived from the fraud and abuse control program) […] expressed as percentages of taxable payroll," where "[t]axable payroll is the total amount of wages, salaries, tips, self-employment income, and other earnings subject to the HI payroll tax." Dividing these two implies the 2024 payroll tax base was approximately $13 trillion.

approximately 0.23 percentage points.[157] Assuming a labor supply elasticity consistent with the Congressional Budget Office's (CBO) range of between 0.1 to 0.3, this tax reduction would yield an employment effect equivalent to between 51,000 and 154,000 additional workers.[158]

Medicare Advantage overpayments' Part B incidence: rising premiums and reduced Social Security checks

The remaining incidence of MA overpayments, about $46 billion, falls on the Part B account of the SMI trust fund. Because Part B is financed through a combination of beneficiary premiums and government contributions, this translates to roughly $33.7 billion in increased contributions from the Federal government and about $12.2 billion in higher Part B premiums.[159] Under Chairman Schweikert's leadership, the Committee has made understanding this burden on seniors, most of whom have Part B premiums deducted automatically from their Social Security checks, a

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[157] The Committee for a Responsible Federal Budget alternatively estimated in January 2026 that a 0.1 percentage point increase in the payroll tax would raise about $13.5 billion per year. This would imply a 0.22 percentage point estimated reduction in the payroll tax from MA payment parity, which is very close to our estimate.

[158] A 0.23 percentage point reduction in the tax rate increases workers' after-tax wages by about (0.0023) / (1 − 0.27) = 0.32 percent, where 27 percent is an estimate of the average marginal federal tax rate on labor income. See Congressional Budget Office, *Marginal Federal Tax Rates on Labor Income: 1962 to 2028* (January 2019), p. 1, https://www.cbo.gov/publication/54911. The labor supply substitution elasticity measures the percentage change in labor supply resulting from a 1 percent change in the after-tax wage, holding income constant. In CBO's assessment, income effects tend to be small, so we ignore them. See Congressional Budget Office, *How the Supply of Labor Responds to Changes in Fiscal Policy* (October 2012), https://www.cbo.gov/publication/43674. CBO's review of the empirical literature finds substitution elasticities ranging from 0.1 to 0.3. See Robert McCleeland and Shannon Mok, "A Review of Recent Research on Labor Supply Elasticities," CBO Working Paper 2012-12 (October 25, 2012), p. 4, https://www.cbo.gov/publication/43675. Applying this range to the 0.32 percent increase in after-tax wages implies a labor supply increase of 0.032 to 0.096 percent. Multiplying by a total employment of about 161 million in 2024, this corresponds to between 51,000 and 154,000 additional workers. See Bureau of Labor Statistics, *Employment Situation, March 2026*, April 3, 2026, p. 4, https://www.bls.gov/news.release/archives/empsit_04032026.pdf.

[159] JEC calculations.

central focus. The following section revisits and extends our recent findings using new data.

In March 2026, the JEC published an issue brief titled "The Part B Premium Pass-Through: Medicare Advantage Overpayments Inflate Premiums for All," which quantified a major, yet largely overlooked, way MA overpayments affect seniors: by increasing Part B premiums.[160] Because Part B premiums are set to finance roughly one-quarter of expected Part B costs, higher MA payments raise premiums for everyone in Part B. In 2025 alone, the Committee estimated that MA overpayments increased Part B premiums by about $212 per enrollee, or about $13.4 billion in total.

Since the publication of "The Part B Premium Pass-Through," MedPAC has published a new estimate of the MA overpayment rate that addresses several long-standing methodological critiques, including the full phase-in of the V28 risk model, updated risk-score data, and the inclusion of the end-stage renal disease (ESRD) population in its MA-versus-FFS comparisons. As shown in Figure 3-3, the estimated excess premium burdens are very similar in the two sets of estimates. The updated estimate is modestly lower in 2025 but slightly higher in other years, and the average difference between the estimates is less than 4 percent over the past decade.

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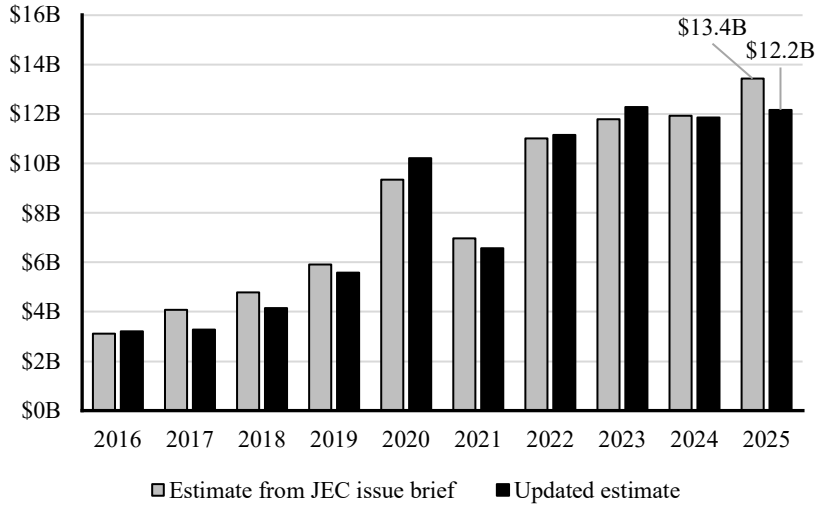
[160] U.S. Congress Joint Economic Committee, "The Part B Premium Pass-Through;" Christopher Weaver and Anna Wilde Mathews, "Seniors Paid Billions in Extra Premiums Due to Alleged Medicare Overpayments," *The Wall Street Journal,* updated March 10, 2026, https://www.wsj.com/health/healthcare/seniors-paid-billions-in-extra-premiums-due-to-alleged-medicare-overpayments-d41f5d79.

Figure 3-3: Additional Medicare Premiums Due to MA Overpayments



Source: JEC calculations[161]

From about $3.2 billion in 2016, excess premiums rose to over $12.2 billion in 2025, roughly a fourfold increase in nominal terms and about threefold after adjusting for inflation.[162] This growth reflects not only MA overpayments and the increasing popularity of MA but also other underlying trends, most notably the rapid growth in Part B spending per person. Looking forward, if the current overpayment rate of 14 percent persists, then current projections for MA payments, Part B spending, and the Part B premium-financing share imply that excess premiums would reach $29.9 billion annually by 2035.[163]

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[161] U.S. Congress Joint Economic Committee, "The Part B Premium Pass-Through;" Centers for Medicare and Medicaid Services, "Medicare Monthly Enrollment," last modified February 19, 2026, https://data.cms.gov/summary-statistics-on-beneficiary-enrollment/medicare-and-medicaid-reports/medicare-monthly-enrollment.
[162] U.S. Congress Joint Economic Committee, "The Part B Premium Pass-Through."
[163] JEC calculations. These calculations are arguably conservative as the current overpayment rate of 14 percent is unusually low by historical standards due to the

Importantly, higher premiums are not confined to MA enrollees. Part B premiums are set nationally, so beneficiaries in TM pay them too. The JEC estimates that roughly $5.5 billion of the 2025 premium increase was borne by TM beneficiaries who may never enroll in MA and therefore do not receive its supplemental benefits. For most seniors, these higher premiums are withheld directly from Social Security checks, reducing take-home benefits month after month.

The Committee also developed a companion data product, the Medicare Affordability Tracker, which quantifies these premium burdens in each state and congressional district and reveals important economic dynamics of MA.[164] The tracker makes clear that MA overpayments are borne by seniors and taxpayers across the country, and it shows how that burden varies with local enrollment patterns and subsidy rates, which is an important consideration given the underlying cross-subsidization from TM to MA. That geographic variation is especially relevant in rural America. In 2024, only 42 percent of Medicare beneficiaries in the most rural areas were enrolled in MA, compared with 56 percent in urban areas, meaning many rural states and districts remain

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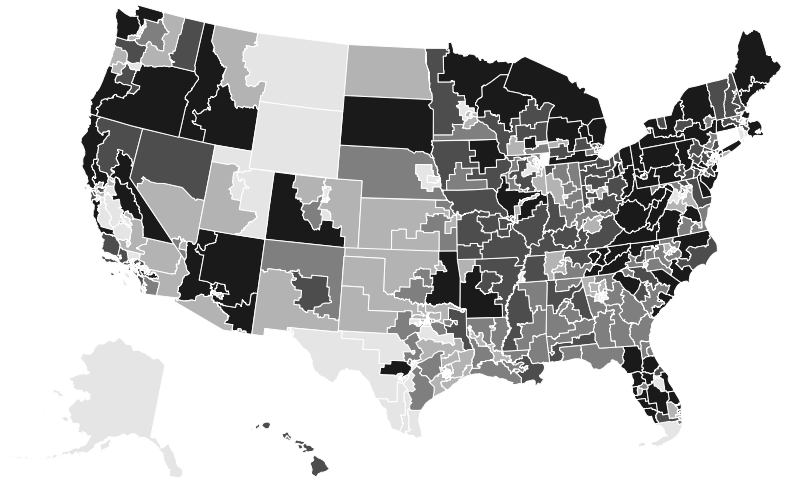
recent introduction of the V28 risk-score model. If we instead calculated future excess premiums by applying the average MA overpayment rate from the past ten years, 16.9 percent, excess premiums would reach approximately $35 billion annually in 2035. See Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy* (2026), p. 377. The other data are from the 2025 Trustees Report, including projections for 2025 to 2034. This includes total payments to MA plans and the Part A and Part B shares of those payments. Boards of Trustees, *The 2025 Annual Report*, Table IV.C2, Figure III.C2, pp. 90, 163. For 2035, we extrapolate linearly from the Trustees' forecast of 2025 to 2034 data to maintain consistency.

[164] U.S. Congress Joint Economic Committee, "Medicare Affordability Tracker," https://www.jec.senate.gov/public/index.cfm/republicans/mat/.

more exposed to the higher national Part B premium and stand to benefit disproportionately from reform.[165]

Figure 3-4: Additional Medicare Premiums due to MA Overpayments by Congressional District, 2025



Source: JEC calculations[166]

Consider the state of Wyoming, where only about 21 percent of Medicare beneficiaries are enrolled in MA. In 2025, individuals and public payers in the state are estimated to have paid about $25 million in excess premiums, with roughly $20 million borne by or on behalf of TM beneficiaries. In effect, TM beneficiaries in Wyoming collectively pay about $770 in excess premiums for every one MA beneficiary in the state.[167] If MA payment levels were brought to (or closer to) parity with TM, states such as

[165] Nancy Ochieng et al., "Key Facts About Medicare Beneficiaries in Rural Areas," KFF, June 11, 2025, https://www.kff.org/medicare/key-facts-about-medicare-beneficiaries-in-rural-areas/.
[166] U.S. Congress Joint Economic Committee, "The Part B Premium Pass-Through."
[167] U.S. Congress Joint Economic Committee, "Wyoming Medicare Affordability Update," https://www.jec.senate.gov/public/index.cfm/republicans/mat/wy-mau/.

Wyoming, where relatively few beneficiaries are enrolled in MA and many remain exposed to the higher national Part B premiums, would see especially large relief.

This affordability problem is set to intensify. The Committee's issue brief found that per-person Part B expenditures are projected to rise from roughly $9,100 in 2025 to more than $18,000 in 2035. Because the standard premium is tied to those costs, baseline premiums are projected to rise from about $2,200 to about $4,500 per year, and average premiums rise further still. If MA continues to cost the Medicare program substantially more than TM does, the additional premium burden will grow as Part B spending grows and reach roughly $395 per beneficiary each year by 2035. That burden is not inevitable. It reflects a policy choice of maintaining a flawed payment system that pays more for MA than for TM. Pro-competitive, pro-innovation policies that align payment levels would directly limit this avoidable premium growth, protecting the Social Security benefits of roughly 50 million Part B beneficiaries.

Taken together, the tracker shows not only where the costs of the current system fall, but also how large the gains from reform could be. Because roughly 80 percent of Americans live in urban areas, where MA enrollment is higher, a Medicare Advantage program that delivers on its potential to improve care and lower costs through greater efficiency could generate enormous economic benefits for households and taxpayers alike.[168]

[168] U.S. Census Bureau, "Nation's Urban and Rural Populations Shift Following 2020 Census," updated March 10, 2023, https://www.census.gov/newsroom/press-releases/2022/urban-rural-populations.html.

Medicare Advantage overpayments' Part B incidence: increased Federal borrowing

Premiums are only one channel through which MA overpayments in Part B affect the economy. Because Part B is financed through a combination of beneficiary premiums and government contributions, the same excess costs that raise premiums also raise Federal outlays. In trust-fund accounting, the SMI trust fund is automatically balanced, with premiums and government contributions reset each year to cover expected costs. However, this automatic balance does not make the added cost disappear. It means instead that higher Part B costs require larger Federal financing flows and, unless offset elsewhere, increase deficits and borrowing.

In 2025, MA overpayments increased Part B costs by about $46 billion.[169] Of that amount, the Federal government financed roughly $33.7 billion directly through larger Federal contributions and about $1.2 billion through federally subsidized premiums, totaling about $35 billion in additional Federal outlays for Part B that year.[170]

We extend those outlays through the ten-year period from 2026 to 2035 to assess the resulting borrowing impacts.[171] Over the

[169] JEC calculations, as discussed in "The financial cost of the misaligned Medicare Advantage payment system."
[170] JEC calculations, as discussed in "Medicare Advantage overpayments' Part B incidence: rising premiums, reduced Social Security checks." Of the $33 billion in Medicare Advantage overpayments financed by the SMI trust fund and not by individuals' Part B premiums, the JEC estimates a portion is financed through public funds, mostly by Medicaid through the Medicare Savings Program. U.S. Congress Joint Economic Committee, "The Part B Premium Pass-Through."
[171] For the premium estimates, see U.S. Congress Joint Economic Committee, "The Part B Premium Pass-Through." Calculations of borrowing estimates below use MedPAC's updated 2025 overpayment estimate, which produces slight differences in the 2025 premium and Federal contribution amounts, if compared to the issue brief. For debt-service calculations, see Congressional Budget Office, *The Budget and*

decade, excess Part B payments increase Federal outlays directly by $573 billion and add an additional $93 billion in debt-service costs, for a total deficit increase of about $665 billion. To put this in perspective, $665 billion amounts to roughly 14.1 percent of the $4.7 trillion in new ten-year debt approved during the Biden Administration. In other words, the Part B premium and borrowing impact of MA overpayments is large even on the scale of recent Federal debt expansion.[172]

To put the opportunity costs of these overpayments in perspective, consider that the CBO estimated that authorizing coverage of GLP-1 medications to treat obesity for nearly 30 million Medicare beneficiaries would add a net cost of roughly $35 billion from 2026 to 2034.[173] In other words, the Federal government spent as much on MA overpayments through Part B in 2025 alone as CBO estimated Medicare coverage of GLP-1 medications for obesity would cost for nearly a decade.

This illustrates the potentially foregone economic benefits when scarce Federal dollars finance excess MA payments. Those excess payments partly finance the increased generosity of MA's supplemental benefits, instead of potentially higher-value prevention. Obesity increases the prevalence of costly chronic conditions, reduces mobility, and raises long-term medical

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Economic Outlook: 2026 to 2036 (February 2026), https://www.cbo.gov/publication/61882. Calculations assume no change in revenues, a mid-year timing factor (0.5), and a blended interest rate where the 3-month Treasury bill is given a 35 percent weight, and the 10-year note is given a 65 percent weight. This produces an effective rate that ranges from 3.83 percent (in 2026) to 3.97 percent (in 2031).

[172] Committee for a Responsible Federal Budget, "How Much Did President Biden Add to the Debt?" April 3, 2025, https://www.crfb.org/blogs/how-much-did-president-biden-add-debt.

[173] Congressional Budget Office, *How Would Authorizing Medicare to Cover Anti-Obesity Medications Affect the Federal Budget?* (October 2024), https://www.cbo.gov/publication/60441.

spending. The opportunity cost has become even more striking as GLP-1 prices have recently fallen sharply. CBO's 2024 analysis cited prices of roughly $1,100 to $1,300 for a four-week supply before discounts and other payments. That range is about four to five times the $245 net monthly price at which participating manufacturers will soon provide eligible GLP-1 drugs through the Medicare GLP-1 Bridge.[174]

The polarized views on MA: a reconciliation of financial and economic efficiencies

Under current payment rules, MedPAC estimates that it is currently 14 percent more costly to the Federal government when a Medicare beneficiary enrolls in MA than in TM. That extra cost, $76 billion, has been almost entirely driven by two dynamics: favorable selection, which has been found to increase the financial cost by $57 billion, and coding intensity, which has been found to account for $22 billion.[175]

Favorable selection refers to the dynamic that the beneficiaries who choose MA tend to have lower medical expenditures than their risk scores predict. Coding intensity refers to the phenomenon that MA insurers are incentivized through the risk adjustment system to document diagnosis codes more aggressively than those beneficiaries would have been coded in TM. This increases the risk scores of their beneficiaries, and thereby the risk-adjusted payments the insurers receive.

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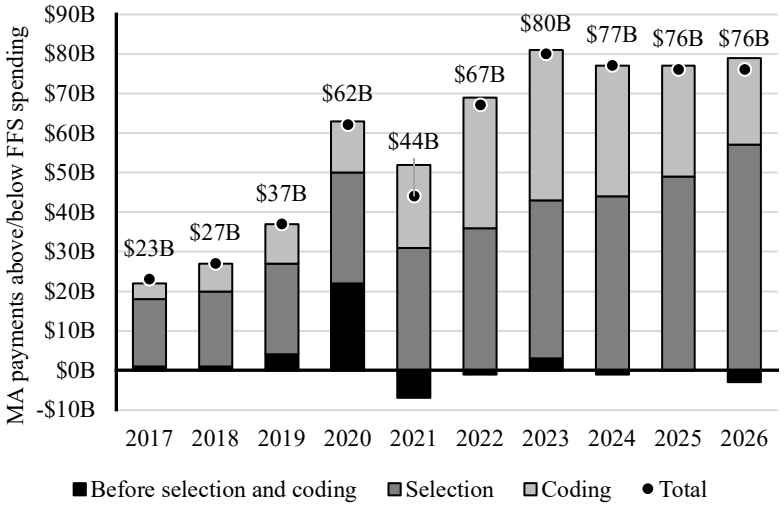
[174] Centers for Medicare and Medicaid Services, "Medicare GLP-1 Bridge," last modified April 8, 2026, https://www.cms.gov/medicare/coverage/prescription-drug-coverage/medicare-glp-1-bridge.

[175] Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy* (2026), p. 377; Medicare Payment Advisory Commission, "The Medicare Advantage program: Status Report," chap. 11 in *Report to the Congress: Medicare Payment Policy* (2025), p. 320.

Figure 3-5: Effect of Coding and Selection on MA Overpayments



Source: Medicare Payment Advisory Commission[176]

That additional cost estimate, however, represents an estimate of *financial inefficiency*, not an analysis of *economic efficiency*. The financial question, what the Federal government pays, and the questions of economic efficiency are separate, and should be treated as such. It is entirely possible for MA to be both *less* financially efficient from the perspective of the Federal government as a payer, and *more* economically efficient from the perspective of consumers or producers.

Economic efficiency has two components: productive efficiency, and allocative efficiency. From the perspective of productive efficiency, the question is whether MA delivers better outcomes using the same amount of real resources, or alternatively, equal outcomes using fewer real resources. From the perspective of

[176] Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy* (2026), Figure 12-6, p. 378.

allocative efficiency, the question is whether MA delivers greater beneficiary value relative to the real resources used.

The analysis that follows therefore separates the financial and economic questions by first asking whether the underlying forces that are driving coding intensity and favorable selection reflect genuine efficiency gains, or wasteful rent seeking. We argue that the evidence for real economic efficiency is weak. An important share of overpayments is dissipated through rent-seeking expenditures devoted to documenting greater apparent sickness, increased churn, and capturing the subsidies, rather than improving health or reducing real resource costs. In fact, an underlying theme is how often the payment structures reduce the incentives for those economically efficient investments in health. Overall, the dynamics behind coding intensity and favorable selection are unlikely to be economically efficient and are better understood as a combination of fiscal transfers and wasteful rent-seeking.

However, our review of the literature on the overall productive and allocative efficiencies of MA indicates MA has greater overall productive efficiency than TM, especially in adopting specific cost-cutting technologies. In this regard, we find clear evidence in favor of the program's efficiencies, indicating that private provision of Medicare services through MA is reducing real healthcare costs. This evidence further motivates reform of the program to better align public and private incentives so that private innovation benefits taxpayers as well as beneficiaries.

Coding intensity, favorable selection, and economic efficiency

Gordon Tullock's seminal analysis of rent seeking illuminates the concept of economic efficiency in MA. Tullock's key insight is that when policy creates a valuable transfer, firms devote real

resources to securing it, and those expenditures can be socially wasteful because they are spent not to create wealth, but instead to capture or defend the transfer.[177] This can create a situation in which, from the payer's (in this case, the government's) perspective, an industry is overpaid, a characterization that appears foreign from the industry's perspective, because a meaningful share of the excess payments is not retained as profit but is instead dissipated through wasteful rent-seeking to capture those rents.

Applied to MA, the relevant question is how the additional payments attributable to coding intensity and favorable selection are generated and used. Some of those payments may go to financing productive diagnosis-capture activities that improve care management or sorting of beneficiaries across plans that better align consumer needs to insurance coverage.[178] Others may finance diagnosis-capture efforts that raise payments without improving health or reducing future resource use. The remainder reflects a transfer from the Federal government to insurers that redistributes resources but does not represent a net social cost.

We can provide a decomposition as,

$$\Delta\text{Payments} = C_P + C_R + \Pi$$

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[177] Gordon Tullock, "The Welfare Costs of Tariffs, Monopolies, and Theft," *Economic Inquiry 5*, no. 3 (1967): 224–32, https://doi.org/10.1111/j.1465-7295.1967.tb01923.x.
[178] Bruce E. Landon et al., "A Comparison of Relative Resource Use and Quality in Medicare Advantage Health Plans Versus Traditional Medicare," *The American Journal of Managed Care* 21, no. 8 (2015): 559–66, https://pmc.ncbi.nlm.nih.gov/articles/PMC6365159/; Bruce E. Landon et al., "Utilization of Services in Medicare Advantage versus Traditional Medicare since the Passage of the Medicare Modernization Act," *Health Affairs* 31, no. 12 (2012): 2609–17, https://doi.org/10.1377/hlthaff.2012.0179; Steven M. Liberman, Paul B. Ginsburg, and Samuel Valdez, "Favorable Selection Ups The Ante On Medicare Advantage Payment Reform," *Health Affairs Forefront* (2023), https://doi.org/10.1377/forefront.20230606.520135.

where $\Delta\text{Payments}$ is the increase in MA payments attributable to dynamics underlying coding intensity and favorable selection, C_P is real resource use devoted to productive activities including productive diagnosis capture, C_R is real resource use devoted to unproductive activities including diagnosis capture for rent-seeking purposes, and Π is the residual transfer to plans. The corresponding welfare effect of the incentives under MA is,

$$\Delta W = B_P - C_P - C_R$$

where B_P is the value of the productive benefits to consumers. Note that Π does not enter the welfare effect because pure transfers are, in this standard framework, wasteful spending from the perspective of the government as a payer, who faces the financial efficiency question as opposed to economic efficiency. On the point of economic efficiency, they are neutral—firms gain a dollar for each dollar the government loses, netting to zero efficiency effect.

MedPAC has estimated that two mechanisms, Health Risk Assessments (HRAs) and chart reviews, account for roughly half of additional payments from coding intensity in recent years.[179] An HRA is a prospective evaluation, often conducted during an in-home visit or structured questionnaire, in which a clinician or vendor collects information on a beneficiary's conditions and may identify new diagnoses that can be submitted for risk adjustment. A chart review is a retrospective process in which a plan or its contractor reviews a patient's medical record to identify diagnoses that were documented by a provider but not submitted on a claim or encounter. The plan or its contractor then submits these

[179] Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy* (2026), p. 401. The commission attributes 53 percent of coding intensity to HRAs and chart reviews in 2022 and 47 percent in 2023.

previously unsubmitted diagnoses, which increases the beneficiary's risk score.

While HRAs and chart reviews may be used as part of good care management to prevent future medical expenditures, available evidence suggests that a substantial share of the payments from diagnosis coding through these channels is not tied to additional care, findings that indicate HRAs and chart reviews are channels that serve more as revenue generators than they do as tools for care management. Specifically, Jung et al. found that 46.6 percent of payments generated by HRAs and 36.1 percent of payments generated by chart reviews were not associated with any increased resource use.[180] They further estimated that such payments increased from $4.7 billion in 2016 to $9.9 billion in 2019. Jacobs reports similar estimates, rising to $15 billion in additional payments by 2021.[181]

It is also unclear whether favorable selection generates real benefits to consumers. It may partly reflect efficient matching, with beneficiaries receiving lower-premium, network-based coverage they value. However, the selection literature also warns that imperfect risk adjustment can induce plans to design benefits, networks, formularies, and marketing strategies to attract beneficiaries whose costs are low relative to their risk scores.[182]

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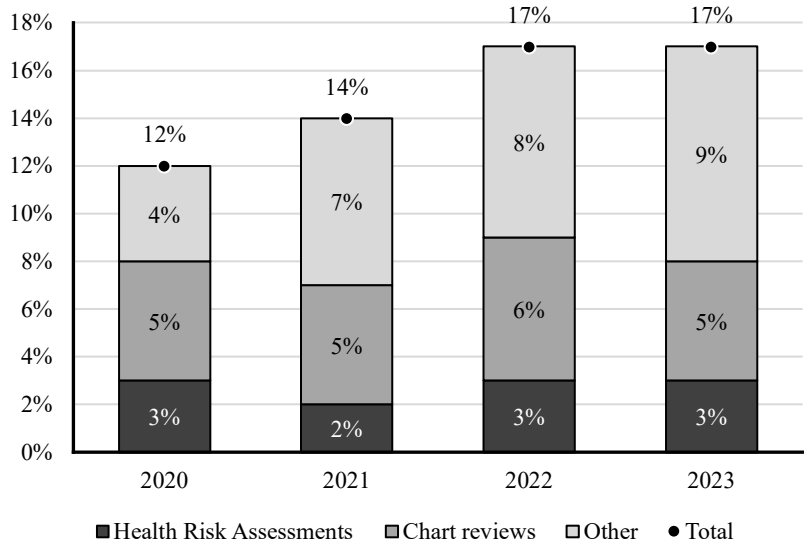
[180] Jeah Jung, Roger Feldman, and Caroline Carlin, "Coding Intensity Through Health Risk Assessments and Chart Reviews in Medicare Advantage: Does It Explain Resource Use?" *Medical Care Research and Review* 80, no. 6 (2023): 641–47, https://doi.org/10.1177/10775587231191169.

[181] Paul D. Jacobs, "In-Home Health Risk Assessments And Chart Reviews Contribute To Coding Intensity In Medicare Advantage," *Health Affairs* 43, no. 7 (2024): 942–49, https://doi.org/10.1377/hlthaff.2023.01530.

[182] Michael Geruso and Timothy J. Layton, "Selection in Health Insurance Markets and Its Policy Remedies," *Journal of Economic Perspectives* 31, no. 4 (2017): 23–50, https://doi.org/10.1257/jep.31.4.23.

Taken together, the evidence on coding intensity and favorable selection suggests that B_P is likely modest, that is, of overpayments, consumers receive only a modest portion of the benefits due to the incentives in MA. It is unclear whether the increased payments due to coding intensity primarily raise Π, increasing MA plan profits as a pure transfer from the government to firms, or are instead dissipated in Tullock-style rent-seeking efforts (C_R), resulting in a welfare loss. Overall, however, it seems likely that $B_P - C_P$ is modest, and C_R may also be modest, and therefore ΔW is small, possibly negative. In short, in addition to being a drain on government resources, the incentives identified that cause MA to be more expensive than TM are unlikely to be economically efficient.

Figure 3-6: Contributors to MA Coding Intensity



Source: Medicare Payment Advisory Commission[183]

[183] Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy* (2026), Figure 12-14, p. 401.

Technology, telehealth, and Medicare Advantage efficiencies

Coding intensity and favorable selection create specific incentives that add substantial amounts to Medicare's cost and are unlikely to have meaningful economic efficiency gains. However, these aspects, as significant as they are, are only a modest portion of the MA program overall. Importantly, MA involves private insurance companies that, despite many misaligned incentives, still face competitive, profit-maximizing pressures to reduce costs, and therefore adopt cost-reducing technologies.

To provide a broad estimate of the savings, using 2010 claims from three large MA insurers, Curto et al. (2019) find that MA insurer revenues were about 30 percent higher than their healthcare spending, yet adjusted healthcare spending per enrollee in MA was 9 to 30 percent lower than in TM.[184] This illustrates a critical point: MA can use fewer resources internally due to private sector competition while still costing the Medicare program more due to poor program design.

Using national MA encounter data and standardized TM prices, Jung, Carlin, and Feldman (2025) find adjusted total resource use was 12.8 to 17.5 percent lower in MA than TM from 2016 to 2019, with better measured quality on several claims-based indicators.[185] Other analysis by Afendulis, Chernew, and Kessler (2017) used "urban floors" as an instrument for MA enrollment. These are minimum benchmarks for MA plans in counties that are part of metropolitan statistical areas with a population of 250,000 or more. The authors found that the induced expansion of MA

[184] Vilsa Curto et al., "Health Care Spending and Utilization in Public and Private Medicare," *American Economic Journal: Applied Economics* 11, no. 2 (2019): 302–32, https://doi.org/10.1257/app.20170295.
[185] Jeah Jung, Caroline Carlin, and Roger Feldman, "Medicare Advantage Has Lower Resource Use and Better Quality of Care Than Traditional Medicare," *American Journal of Health Economics* 11, no. 4 (2025), https://doi.org/10.1086/730436.

reduced market-wide hospitalization and mortality levels, and these findings are a clear indication that MA can and does improve important health outcomes.[186]

One such example in MA is the use of prior authorization, the requirement that a patient or provider get approval before a product or service is provided. Prior authorization is unpopular, but the economic evidence shows why insurers keep using it. Brot-Goldberg et al. find in Medicare Part D that prior authorization reduced drug spending by nearly $10 for every $1 of administrative cost.[187] A study of a national MA insurer found that its use of predictive algorithms led to a 13 percent decline in skilled nursing facility length of stay, driven by large reductions in longer stays, with no observed change in readmissions or mortality.[188]

The lesson is not that seniors or doctors need more bureaucracy, but that private insurers can now use better prediction and care management to lower healthcare costs by identifying those who need more care. The technology for smarter prior authorization is available today and has the potential to reduce low-value care and paperwork burdens, rather than add to them. The current Administration is embracing this development. HHS and CMS have secured voluntary commitments from all major health insurers to streamline prior authorization through standardized

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[186] Afendulis et al., "The effect of Medicare Advantage on Hospital Admissions and Mortality."
[187] Zarek C. Brot-Goldberg et al., "Rationing Medicine Through Bureaucracy: Authorization Restrictions in Medicare," NBER Working Paper no. 30878 (January 2023), https://doi.org/10.3386/w30878.
[188] Jeffrey Marr, "Algorithmic decision-making in health care: Evidence from post-acute care in Medicare Advantage," *Journal of Health Economics* 104 (2025): 103055, https://doi.org/10.1016/j.jhealeco.2025.103055.

electronic submissions, reduced prior-authorization volume, and expanded real-time approvals by 2027.[189]

The *2026 Economic Report of the President* highlights the Administration's efforts to lead in the development of artificial intelligence and modernize the U.S.'s digital health ecosystem.[190] The CMS Interoperability Framework takes an important step toward deeper integration of digital health products into the U.S. healthcare system. It does so by advancing a market-oriented model based on voluntary, standards-based health data exchange among networks, EHRs, providers, payers, and patient-facing applications.[191]

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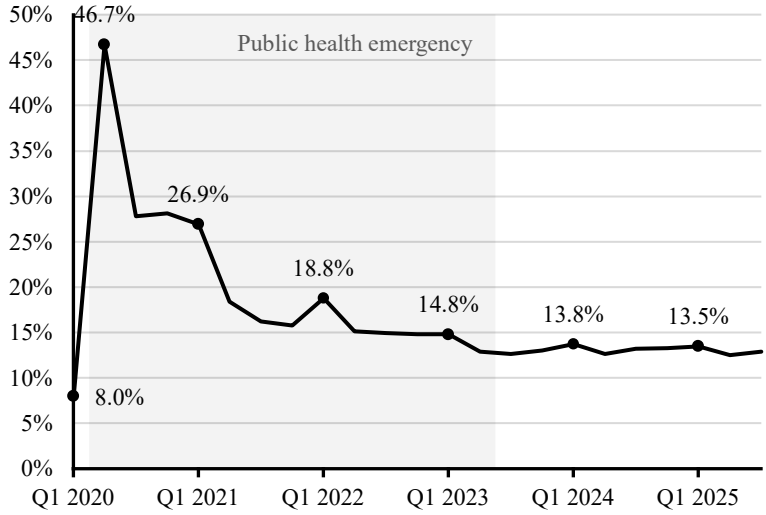
[189] U.S. Department of Health and Human Services, "HHS Secretary Kennedy, CMS Administrator Oz Secure Industry Pledge to Fix Broken Prior Authorization System," June 23, 2025, https://www.hhs.gov/press-room/kennedy-oz-cms-secure-healthcare-industry-pledge-to-fix-prior-authorization-system.htm. CMS is also testing aspects of this approach through the WISeR model, which uses enhanced technology to streamline the review of medical necessity for selected services in order to reduce inappropriate utilization, lower spending, expedite decisions, and ease provider administrative burden. Centers for Medicare & Medicaid Services, "WISeR (Wasteful and Inappropriate Service Reduction) Model," updated January 28, 2026, https://www.cms.gov/priorities/innovation/innovation-models/wiser.

[190] Executive Office of the President, Council of Economic Advisers, *Economic Report of the President* (2026), pp. 226–27, https://www.govinfo.gov/content/pkg/ERP-2026/pdf/ERP-2026.pdf.

[191] Centers for Medicare and Medicaid Services, "Interoperability Framework," last modified July 31, 2025, https://www.cms.gov/health-technology-ecosystem/interoperability-framework.

Figure 3-7: Telehealth Utilization in Traditional Medicare



Source: Centers for Medicare and Medicaid Services[192]

Another example of where MA appears to use technology to achieve savings and improve health outcomes is telehealth. Jiani Yu et al. (2025) provide evidence of positive results from telehealth access in MA. Using encounter data from a 20 percent random sample of MA enrollees, they find that high telehealth access was associated with a 13.4 percent decline in in-person office evaluation and management visits but no increase in total visits, suggesting telehealth substituted for in-person care rather than simply adding volume. They also find a 4.8 percent decline in total emergency department visits, with no increase in hospital admissions. This study suggests that telehealth in MA can reduce costs by improving access and ongoing outpatient management, which may keep some beneficiaries stable enough to avoid

[192] Centers for Medicare and Medicaid Services, "Medicare Telehealth Trends," last modified March 19, 2026, https://data.cms.gov/summary-statistics-on-use-and-payments/medicare-medicaid-service-type-reports/medicare-telehealth-trends.

emergency care.[193] Zaleski et al. (2025) provide similar evidence. In a large national MA plan, virtual-first care was associated with 10 to 24 percent lower episode spending for 6 of 11 common acute conditions, with no condition showing a significant cost increase. The study is observational, but it adds to the evidence that technology-enabled care can resolve many routine problems at lower cost.[194]

Crucially, TM currently pays for home-based telehealth at the same office-based physician fee schedule rate it would pay for an in-person visit, despite the potential for telehealth to reduce facility overhead. However, MA plans are not locked into that parity rule and therefore generally reimburse telehealth below office-based rates or otherwise use contract terms that prevent full in-person-rate payment.[195] Despite this, MA beneficiaries have been found to be more likely to have a provider who offered telehealth services, and have similar utilization rates as TM beneficiaries.[196] MA's flexibility to structure telehealth differently is a prime example for realizing cost savings from new technology.

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[193] Jiani Yu et al., "Utilization and quality among Medicare Advantage beneficiaries with high vs low access to telehealth," *Health Affairs Scholar* 3, no. 4 (2025): qxaf064, https://doi.org/10.1093/haschl/qxaf064.

[194] Amanda L. Zaleski et al., "An episode-based cost analysis of virtual-first versus in-person-first care to treat common acute conditions among members of a large national payor," *BMC Health Services Research* 25 (2025): 994, https://doi.org/10.1186/s12913-025-13154-1.

[195] Medicare Payment Advisory Commission, *Report to the Congress: Medicare and the Health Care Delivery System* (2023), p. 332, https://www.medpac.gov/document/june-2023-report-to-the-congress-medicare-and-the-health-care-delivery-system/.

[196] Sungchul Park, Hye-Young Jung, and Jiani Yu, "Telehealth availability and use among beneficiaries in Traditional Medicare and Medicare Advantage," *Journal of the American Geriatrics Society* 73, no. 2 (2025): 545–51; Sadiq Y. Patel et al., "Variation in telemedicine use and outpatient care during the COVID-19 pandemic in the United States: study examines variation in total US outpatient visits and telemedicine use across patient demographics, specialties, and conditions during the COVID-19 pandemic," *Health Affairs* 40, no. 2 (2021): 349–58.

Beyond telehealth, other categories of digital health can help transform the fiscal outlook in Medicare when paired with a properly realigned MA program. One example is wearable technology, which describes any product worn by a user that uses computing and sensors to collect and display real-time data.[197] In the healthcare context, these devices can monitor exercise activity, vital signs, medication adherence, and other health indicators. When beneficiaries choose to share these data with plans or providers, insurers can identify early warning signs and intervene before a manageable condition becomes a costly emergency-room visit, hospitalization, or complication.

The same data can also help beneficiaries set goals and monitor progress. Evidence suggests that the ability to set and monitor progress toward health targets, or "gamification," can be an important element in incentivizing healthy user behavior.[198] The close monitoring of health data and the modification of health behaviors allow the user to proactively improve their health and prevent future complications through healthier lifestyles and early detection.[199] In addition to changing health behaviors, wearables reduce friction in the provision of healthcare, leading to significant

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[197] Serhat Burmaoglu et al., "Evolution Map of Wearable Technology Patents for Healthcare Field," chap. 14 in *Wearable Technology in Medicine and Health Care* (Academic Press, 2018): 275–90, https://doi.org/10.1016/B978-0-12-811810-8.00014-2.

[198] Lin Chen et al., "Effectiveness of mHealth-Based Gamified Interventions on Physical Activity in Older Adults: Systematic Review," *JMIR Aging* 8 (2025), https://doi.org/10.2196/78686; Alexander C. Fanaroff et al., "Effect of Gamification, Financial Incentives, or Both to Increase Physical Activity Among Patients at High Risk of Cardiovascular Events: The BE ACTIVE Randomized Controlled Trial," *Circulation* 149, no. 21 (2024): 1639–49, https://doi.org/10.1161/circulationaha.124.069531.

[199] Paolo Bonato, "Wearable Sensors and Systems: From Enabling Technology to Clinical Applications," *IEEE Engineering in Medicine and Biology Magazine* 29, no. 3 (2010): 25–36, https://doi.org/10.1109/memb.2010.936554.

cost reductions.[200] Altogether, this technology can increase efficiency and lower costs in healthcare, which presents an opportunity for transformative savings in Medicare.

Lower-cost and more efficient chronic care in MA is another positive element. Regarding chronic care delivery costs, in a matched observational study of MA health maintenance organization (HMO) enrollees with diabetes or cardiovascular disease, Landon et al. (2015) report lower price-standardized resource use and higher quality in MA than in TM. For diabetes, spending was $5,223 in MA versus $6,413 in TM, and emergency department use was 567 versus 719 visits per 1,000 enrollees, suggesting that MA plans were delivering chronic care more efficiently rather than merely shifting costs.[201]

These positive elements are encouraging. Taken together, it appears MA is often more efficient than TM in the delivery of care, yet it remains more expensive for the government under current payment rules. The case for MA reform is therefore stronger than ever. Properly structured, MA can be the part of Medicare that drives technology and competition. It can better incentivize lower real healthcare costs and be the solution to Medicare's mounting pressures to maintain affordability for beneficiaries, sustainability for taxpayers, and innovation for the betterment of all—resolving the apparent trilemma. This is an argument for reform, not retreat. The answer is not to abandon a program that is misaligned, but to reform it to ensure private market forces work for both enrollees and taxpayers.

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[200] Itzik Fadlon et al., "Equity and Efficiency in Technology Adoption: Evidence from Digital Health," NBER Working Paper no. 32992 (September 2024), https://doi.org/10.3386/w32992.

[201] Landon et al., "A comparison of relative resource use and quality in Medicare Advantage health plans versus traditional Medicare."

Medicare Advantage reform

Realigning MA incentives can achieve all three goals: better protection for seniors, less pressure on the Federal budget, and a healthcare system in which Americans realize the benefits of new technologies that improve their health at lower cost. The imperative, then, is not merely to cut MA overpayments. It is to reform MA into what it was intended to be: a system in which competition and innovation improve health and lower costs at the same time.

H.R. 3467 would fundamentally realign the MA program by directly addressing the distorted incentives that lead to higher MA costs.[202] H.R. 3467 would save on the order of $200 billion over the ten-year window by eliminating payments for the quality-bonus program, which has repeatedly been found does not meaningfully improve quality. This reform would end the payment for diagnoses found exclusively through stand-alone HRAs and require the Centers for Medicare and Medicaid Services (CMS) to use a two-year diagnostic window,[203] aspects that alone conservatively would save the government around $155 billion over a ten-year budget window.[204]

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[202] H.R. 3467, 119th Cong. (2025).

[203] A two-year diagnosis window would also reduce wasteful pressure on insurers to repeatedly document chronic conditions every year to preserve revenue. In that sense, a two-year diagnostic window is not only a saver for taxpayers, but also a saver for plans insofar as it reduces the return to annual recoding activity that adds administrative cost without improving care.

[204] Congressional Budget Office, "Modify Payments to Medicare Advantage Plans for Health Risk," in *Options for Reducing the Deficit: 2025 to 2034* (December 2024), https://www.cbo.gov/budget-options/60907; Committee for a Responsible Federal Budget, "Budgets Offsets Bank," January 8, 2025, https://www.crfb.org/our-work/issues/budget-offsets-bank. See "Options for Medicare Savings and to Close the HI Shortfall." However, MedPAC found $15 billion in payments during the plan year 2023 for diagnoses only identified through HRAs. This implies the savings over a ten-year budget window would be larger.

Similarly, this reform would end payments found exclusively on retrospective chart reviews, a component of coding intensity that has grown significantly and accounted for $24 billion of payments to MA plans in 2023, or about 6 percent of MA payments that year. Notably, this is one area where CMS appears to have begun, albeit cautiously, to move in the Chairman's direction. In the 2027 Advance Notice, the agency proposed eliminating payment for diagnoses from unlinked chart reviews, a change the agency estimated would save $7.1 billion in 2027.[205]

Importantly, these reforms would do more than reduce overpayments; they would begin to correct a deeper distortion in MA.[206] The current system rewards plans for specializing in short-term coding gains, which can raise revenue quickly. Conversely, plans that invest in improving beneficiaries' long-term health are disadvantaged because they may not keep those enrollees long enough to realize the resulting reductions in costs. When the return to better health can be captured by a rival plan down the road, the

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[205] MedPAC estimates that about 42 percent of chart reviews are unlinked but found that 80 to 86 percent are likely linkable because the same beneficiary had an encounter record in the same data file with the same or overlapping dates of service. That suggests the practical savings from CMS's proposal would likely fall below the agency's already modest estimate of a 1.53 percent risk-score reduction, or $7.12 billion in 2027 to the Medicare Trust Funds. Michael E. Chernew to Mehmet Oz, comments regarding CMS-2026-0034, February 25, 2026, Medicare Payment Advisory Commission, https://www.medpac.gov/wp-content/uploads/2026/02/02252026_MedPAC_MA_Part-D-AN-CY-2027_comment-letter_v3_SEC.pdf; Chris Klomp and Jennifer Wuggazer Lazio to Medicare Advantage Organizations, Prescription Drug Plan Sponsors, and Other Interested Parties, "Advance Notice of Methodological Changes for Calendar Year (CY) 2027 for Medicare Advantage (MA) Capitation Rates and Part C and Part D Payment Policies," January 26, 2026, Centers for Medicare and Medicaid Services, https://www.cms.gov/files/document/2027-advance-notice.pdf.

[206] Christopher Weaver, Anna Wilde Matthews, and Tom McGinty, "UnitedHealth's Army of Doctors Helped It Collect Billions More From Medicare," *The Wall Street Journal,* December 29, 2024, https://www.wsj.com/health/healthcare/unitedhealth-medicare-payments-doctors-c2a343db; Tara Bannow et al., "Inside UnitedHealth's strategy to pressure physicians: $10,000 bonuses and a doctor leaderboard," *STAT News*, October 16, 2024, https://www.statnews.com/2024/10/16/united-health-optum-care-medicare-advantage-strategy-dashboard-emails-documents/.

market will tend to underinvest in prevention and long-term care management. This helps to explain the growing and encouraging interest in longer plan periods, such as the three-year terms proposed in H.R. 3467.[207]

A longer enrollment period would help to realign those incentives. By giving plans greater confidence that they will still be responsible for a beneficiary's costs in future years, a three-year term increases the return on investments that improve health gradually, such as better management of diabetes, hypertension, heart failure, and medication adherence. It also reduces the resources spent on the churn itself, for example on agents and broker fees, which are approaching $10 billion annually.[208] When beneficiaries frequently switch plans, insurers have weaker reason to make long-term investments whose returns may be captured by a competitor, and both beneficiaries and plans incur repeated search, onboarding, and administrative transition costs. These concerns are not theoretical. Dong et al. found that 15.6 percent of new MA enrollees had changed insurance within one year, 37.0 percent by three years, and 49.2 percent by five years.[209] In this sense, longer plan periods are a key step to shifting competition toward the more economically valuable task of keeping beneficiaries healthier at lower real cost over time.

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[207] U.S. House Committee on Ways and Means, "Six Key Moments: Hearing on Medicare Advantage: Past Lessons, Present Insights, Future Opportunities," July 24, 2025, https://waysandmeans.house.gov/2025/07/24/six-key-moments-hearing-on-medicare-advantage-past-lessons-present-insights-future-opportunities/.

[208] U.S. Senate Committee on Finance, *Pushing Medicare Advantage on Seniors: Unraveling the Complex Network of Marketing Middlemen* (March 25, 2025), https://www.finance.senate.gov/ranking-members-news/wyden-investigation-finds-rapid-growth-in-spending-on-marketing-middlemen-among-medicare-advantage-plans; David J. Meyers et al., "Trends in Broker Enrollment and Spending in Medicare Advantage," *JAMA Internal Medicine* (forthcoming).

[209] Jeffrey Dong et al., "Turnover Among New Medicare Advantage Enrollees May Be Greater Than Perceived," *The American Journal of Managed Care* 28, no. 10 (2022): 539–42. https://doi.org/10.37765/ajmc.2022.89251.

H.R. 3467 would also make MA the default enrollment option for new beneficiaries. Specifically, any individual who enrolls would by default be enrolled in the *lowest-premium* MA plan available in their area. Beneficiaries could opt into TM, or a different MA plan of their choice, but those who are enrolled would have a three-year term to their plan, with switching only permitted in cases of hardship. H.R. 3467 would therefore *expand* MA enrollment while also building aggressive price competition among MA plans to be the lowest-premium plan in an area. This would induce price competition far stronger than in the current system, and start driving premiums toward marginal costs. Given the evidence cited earlier that MA plans are, in fact, more efficient in production than TM, there are substantial efficiencies that this competition could reallocate to seniors and taxpayers.

The trilemma is no longer a distant warning, it is an imminent threat. Medicare Advantage reform that realizes the program's potential offers the best chance at achieving all three objectives: affordability for seniors, fiscal sustainability, and access to new technologies and medical innovation.

CHAPTER 4: DRIVING PRODUCTION THROUGH HUMAN CAPITAL AND INNOVATION

To fulfill the promises the Federal government made to its aging population and preserve economic prosperity for its citizens, the United States must have strong economic growth. Growth plays a critical role in generating the tax receipts that fund senior benefits and help the country manage its growing Federal debt levels, which can raise financing costs for housing, cars, and business equipment. Key drivers of economic growth are the supply of labor and the productivity of industry. The supply of labor can increase through births. However, fertility rates have continuously failed to reach replacement level across the Western world, and interventions have thus far been ineffective. Productivity can increase through education, training, and, in particular, technological advancements.

Labor supply

Demographic challenges

The global population is expected to peak in 2084, and the Congressional Budget Office projects U.S. population growth will fall to 0.0 percent in 2048 and will not recover for the foreseeable future.[210] The composition of the U.S. population will also shift older. The median U.S. age is projected to rise from 39.4 years in 2025 to 45.5 years in 2056, with the percent of individuals aged 65 and over rising from 15 percent to 23 percent.[211] As detailed in Chapter 1, Federal benefits for retirees are funded through

[210] Congressional Budget Office, *The Demographic Outlook: 2026 to 2056* (January 2026), https://www.cbo.gov/publication/61994; Monolo Corichi, Sofia Hernandez Ramones, and Skylar Thomas, "5 facts about how the world's population is expected to change by 2100," Pew Research Center, July 9, 2025, https://www.pewresearch.org/short-reads/2025/07/09/5-facts-about-how-the-worlds-population-is-expected-to-change-by-2100/.
[211] Congressional Budget Office, *The Demographic Outlook: 2026 to 2056*.

intergenerational transfers; workers pay the taxes used to provide the benefits seniors use, such as Social Security and Medicare. The demographic challenges of a slowing workforce growth rate and a contracting ratio of workers to retirees are headwinds to economic growth and restraining fiscal deficits.

Theoretically, correcting the declining ratio of workers to retirees could occur through higher fertility rates. The total fertility rate (TFR) is the average number of children a woman would have by the end of her childbearing years assuming she experiences present age-specific fertility rates over that time.[212] At 1.59,[213] the U.S. currently has a TFR well below the replacement rate,[214] a trend which is a significant contributor to the shrinking workforce. Unfortunately, interventions in other countries to increase birth rates have been ineffective and often expensive.[215] For example, South Korea saw its fertility rates drop to record lows even after spending 1.5 percent of GDP on pro-family policies.[216]

Increased fertility as a solution also comes with near- and mid-term increases in government outlays (for example, public education, government-subsidized healthcare, and supplemental nutrition),[217] while the fiscal benefits arise in the long-term.

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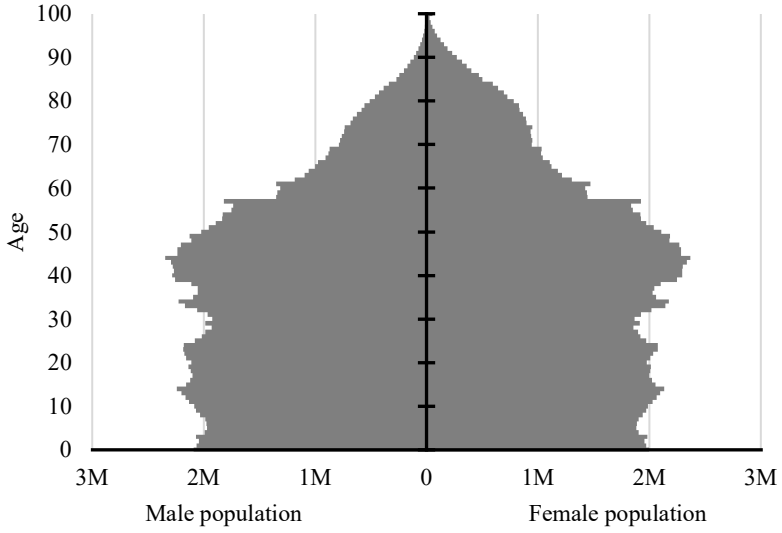
[212] Organisation for Economic Co-operation and Development, "Fertility rates," accessed April 17, 2026, https://www.oecd.org/en/data/indicators/fertility-rates.html.
[213] Congressional Budget Office, *The Demographic Outlook: 2026 to 2056*.
[214] Generally stated to be 2.1 live births per woman. J. Craig, "Replacement Level Fertility and Future Population Growth," *Population Trends* no. 78 (1994): 20–22, https://pubmed.ncbi.nlm.nih.gov/7834459/.
[215] Chelsea Follett, "The World Needs Children, Not Child Subsidies," Cato Institute, February 22, 2025, https://www.cato.org/commentary/world-needs-children-not-child-subsidies.
[216] Michael Lokshin, "What's needed to encourage larger families?" Brookings Institute, May 16, 2025, https://www.brookings.edu/articles/whats-needed-to-encourage-larger-families/.
[217] Per-capita early-life public spending is far outweighed by post-retirement public spending, with post-retirement spending consuming about five times the per-capita outlays for children in 2019, see Lisa Dettling and Luke Pardue, "Low Fertility and

Children born now will not be productive for at least 16 years and will consume a great magnitude of public benefits in their childhood and early adulthood.[218] Increased outlays on childhood investment resulting from a "baby boom" would occur concurrently with already increasing outlays on a growing senior population, with retirees consuming five times the benefits value that children consume per capita per year.[219] Thus, increasing fertility alone is insufficient to support an aging population and address the nation's fiscal trajectory.

Figure 4-1: U.S. Population Pyramid, 2005



Source: U.S. Census Bureau[220]

Fiscal Sustainability: The Effects of Past and Future Fertility Rates on the US Federal Budget Outlook," in *Demographic Headwinds: The Economic Consequences of Lower Birth Rates and Longer Lives*, ed. Milissa S. Kearney and Luke Pardue (Aspen Economic Strategy Group, 2026), https://www.economicstrategygroup.org/publication/demographic-headwinds/.

[218] Dettling and Pardue, "Low Fertility and Fiscal Sustainability."

[219] Dettling and Pardue, "Low Fertility and Fiscal Sustainability."

[220] U.S. Census Bureau, "Population and Housing Unit Estimates Datasets," last modified January 13, 2026, https://www.census.gov/programs-surveys/popest/data/data-sets.html.

Figure 4-2: U.S. Population Pyramid, 2025

Source: U.S. Census Bureau[221]

The problem of slowing birth rates, dwindling labor supply, and an aging population is global. This dynamic sets up a worldwide competition for individuals most likely to contribute to a country's success. China, India, and every OECD country except Israel also has a TFR under replacement.[222] Consequently, all these countries will likely suffer from a shortage of high-skilled labor in the next 20 years. Other nations have already initiated efforts to recruit high-skilled talent, such as the United Kingdom's Global Talent and High Potential Individual Visas,[223] Canada's Tech Talent

[221] U.S. Census Bureau, "Population and Housing Unit Estimates Datasets."
[222] Organisation for Economic Co-operation and Development, *Society at a Glance 2024: OECD Social Indicators* (OECD Publishing, 2024), https://doi.org/10.1787/918d8db3-en.
[223] GOV.UK, "Apply for the Global Talent Visa," accessed March 2, 2026, https://www.gov.uk/global-talent; GOV.UK, "High Potential Individual (HPI) visa," accessed March 2, 2026, https://www.gov.uk/high-potential-individual-visa.

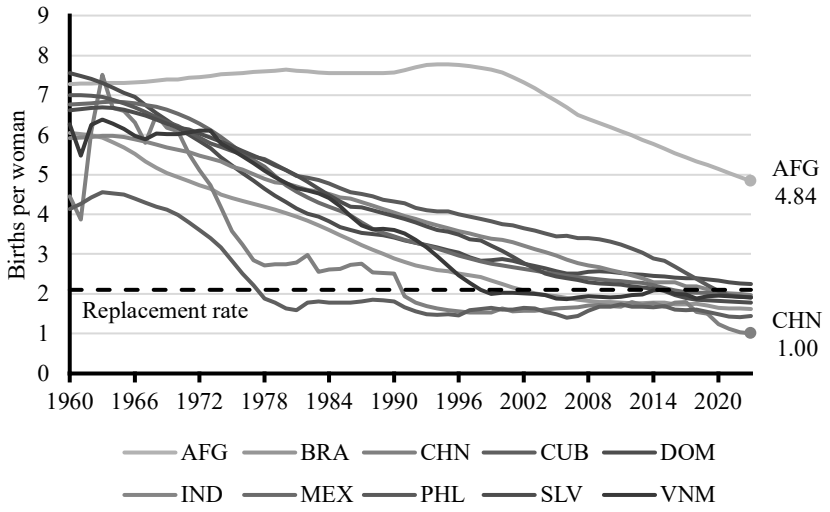
Strategy (TTS),[224] and China's nonimmigrant K visa.[225] Some programs have demonstrably siphoned talent away from the U.S. Canada was able to redirect 10,000 skilled immigrants from the U.S. within 24 hours of launching its TTS program,[226] and it is likely that other wealthy, aging countries could accomplish the same with similar programs. The U.S. must position itself well in this contest for skills and talent.

Notwithstanding the imperative, attracting talent from other countries is an insufficient long-term solution to counter population decline. Of the ten countries that currently produce the most immigrants to the U.S.,[227] eight are themselves below replacement.[228] This suggests that in the long term (30 years or more in the future), if population growth, or even population stability, is to continue, domestic TFR must increase. To support family growth in the long term, policymakers should consider pro-family policies. This need not entail aggressively pro-natalist spending or regulation—some improvements in TFR can be attained simply by eliminating superfluous rules in zoning or

[224] Government of Canada, "Minister Fraser launches Canada's first-ever Tech Talent Strategy at Collision 2023," last modified June 27, 2023, https://www.canada.ca/en/immigration-refugees-citizenship/news/2023/06/minister-fraser-launches-canadas-first-ever-tech-talent-strategy-at-collision-2023.html.
[225] Eduardo Baptista, "China's new K visa beckons foreign tech talent as US hikes H-1B fee," *Reuters*, September 29, 2025, https://www.reuters.com/sustainability/sustainable-finance-reporting/chinas-new-k-visa-beckons-foreign-tech-talent-us-hikes-h-1b-fee-2025-09-29/.
[226] Government of Canada, "H-1B visa holder work permit," last modified October 23, 2025, https://www.canada.ca/en/immigration-refugees-citizenship/services/work-canada/special-instructions/h1b.html.
[227] World Population Review, "US Immigration by Country 2026," accessed March 2, 2026, https://worldpopulationreview.com/country-rankings/us-immigration-by-country.
[228] Exceptions are the Dominican Republic and Afghanistan. World Bank, "Fertility rate, total (births per woman)."

parenting.[229] Further improvements likely require cultural changes.

Figure 4-3: Total Fertility Rate in Top 10 Countries of Origin for Immigration to U.S.



Source: World Bank;[230] World Population Review[231]

Reforming immigration to a merit-based, demand-dependent system

Recognizing that (1) population growth is slowing against a backdrop of below-replacement fertility rates; (2) labor force growth drives economic growth; (3) labor force growth increases receipts that pay for government spending, particularly for the senior population; and (4) other nations are actively seeking skilled labor for themselves to address their population trajectory,

[229] U.S. Congress Joint Economic Committee, "Cars, Kids, and Unintended Costs," October 5, 2020, https://www.jec.senate.gov/public/index.cfm/republicans/2020/10/cars-kids-and-unintended-costs.
[230] World Bank, "Fertility rate, total (births per woman)."
[231] World Population Review, "US Immigration by Country 2026."

U.S. policy should modernize to meet near-term fiscal and economic needs. Making each unit of labor more productive through technological innovations such as artificial intelligence (AI) and other technologies is part of the solution (and is discussed later in this chapter) but is insufficient on its own.[232] The U.S. should also reform its immigration system to ensure every migrant it admits fulfills the needs of the country and optimally contributes to its economic and fiscal strength.

Any reforms should account for the opportunity costs of admitting one migrant over another, as well as fiscal and social costs of each migrant and in the aggregate. In a quota-limited immigration system, any immigrant outside of the most qualified applicant in their field will have an opportunity cost greater than their own contribution. Any system that is either effectively lottery-based (like the Diversity Immigrant Visa Program) or "first-come, first-served" (such as the current employment-based (EB) system) will almost certainly result in high opportunity cost, even though they generally recruit immigrants with an aggregate positive fiscal impact.

The H-1B program should be replaced due to the opportunity cost arising from its lottery structure and its observed propensity to displace workers, effective limitations on labor mobility, and demonstrated history of fraud. H-1B visas facilitate a supply of high-skilled talent on a temporary basis; however, they are sub-optimally distributed through a lottery rather than a meritocratic process. Furthermore, H-1B workers are often preferred to native-born workers due to their captive status, making the program unpopular with displaced domestic workers, especially during difficult job markets. While workers on these visas are not legally

[232] Other technologies include automation, industrial robotics, synthetic biology, and advancements in agriculture.

required to remain with their initial sponsor employer,[233] there are practical problems that prevent portability. The greatest of these is that in the current first-come, first-served visa system, re-filing a green card application with a new employer can add a lengthy delay to an already cumbersome process. In a situation where backlogs can be decades long, this is untenable.

Abuse of the H-1B program is well documented. A September 2008 report from the Department of Homeland Security (DHS) that sampled 246 H-1B petitions found at least one disqualifying violation in 20.7 percent of cases, consisting of fraud in 13.4 percent of cases and technical violations in 7.3 percent.[234] Examples of fraud included the use of forged or falsified documents, the use of illegitimate shell companies that did not extend legitimate job offers to candidates, misrepresentation of job roles or a petitioner's H-1B status, and cases where petitioners or beneficiaries were currently under investigation by Immigration and Customs Enforcement (ICE), among others.[235] Accounting, human resources, sales, and advertising had the highest fraud rate of 42 percent, and managerial, art, and computer professional jobs also had high rates between 27 and 33 percent.[236]

Some immigrants have a net-negative Federal fiscal impact beyond opportunity cost. In particular, family reunification visas for older relatives of U.S. citizens or green card holders result in a

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[233] In fact, there are several clauses intended to make job-changing easier to facilitate. Immigration and Nationality Act, 8 U.S.C. § 1184.
[234] U.S. Citizenship and Immigration Services, "H-1B Benefit Fraud & Compliance Assessment," September 2008, https://lawandborder.com/wp-content/uploads/2008/10/h-1b-benefit-fraud-assessment.pdf.
[235] U.S. Citizenship and Immigration Services, "H-1B Benefit Fraud & Compliance Assessment," pp. 9–11.
[236] U.S. Citizenship and Immigration Services, "H-1B Benefit Fraud & Compliance Assessment," p. 13.

net-negative impact on average.[237] They typically never generate returns that allow the government to offset their fiscal costs. Therefore, they should be de-emphasized and reduced in quantity.

While certain forms of immigration have net costs, immigration also brings benefits. High-skilled employment-based immigration in particular has produced a great quantity of jobs, fostered innovation,[238] and bolstered entrepreneurship.[239] Employment-based immigration can alleviate contemporary labor shortages, growing the economy and buttressing American benefits programs. Immigrants also tend to be highly entrepreneurial. At least one study indicates that foreign-born aliens selected for admission to the U.S. are more likely to file and receive patents on innovations than native-born entrepreneurs are.[240] Innovation and entrepreneurship contribute to U.S. economic strength.

Some immigrants bring greater value than others, and the mosaic of non-meritocratic pathways to migrate to the U.S. should be replaced with a system that limits admissions to applicants expected to provide the greatest economic value. An ordinal points system provides a convenient proxy variable for this future value. Such a system identifies the most qualified visa applicants, based on factors such as age, education, and English fluency. The characteristics of potential admittees can then be analyzed with

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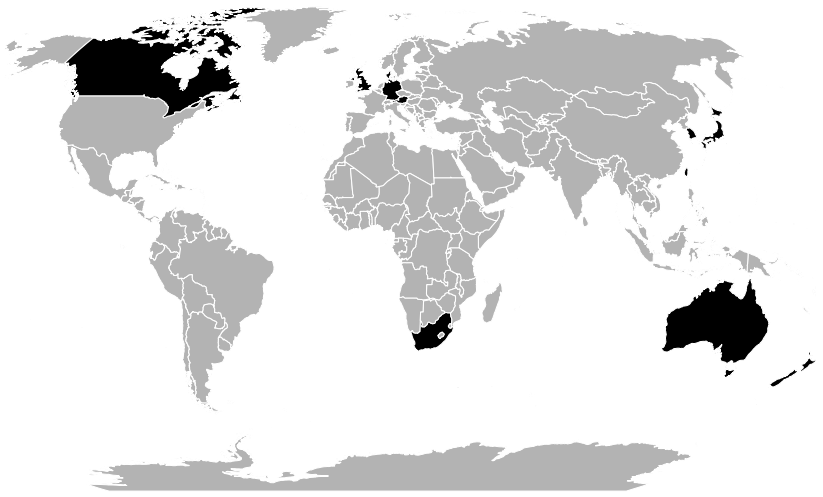
[237] Daniel Di Martino, *The Fiscal Impact of Immigration (2025 Update),* Manhattan Institute (October 23, 2025), https://manhattan.institute/article/the-fiscal-impact-of-immigration-2025-update; JEC calculations.
[238] Shai Bernstein et al., "The Contribution of High-Skilled Immigrants to Innovation in the United States," NBER Working Paper no. 30797 (December 2022), https://doi.org/10.3386/w30797.
[239] Pierre Azoulay et al., "Immigration and Entrepreneurship in the United States," NBER Working Paper no. 27778 (September 2020), https://doi.org/10.3386/w27778.
[240] Saheel A. Chodavadia et al., "Immigrant Entrepreneurship: New Estimates and a Research Agenda," NBER Working Paper no. 32400 (May 2024), https://doi.org/10.3386/w32400.

government economic data, including labor supply and demand, to determine which applicants should receive visas.

While Canada, Australia, and several other countries already have points-based systems which assign visa quotas based on industrial need, industrial need in those countries is determined subjectively by political operatives rather than by an expert-monitored, data-driven process. In doing away with first-come, first-served and lottery processes and purposefully selecting individuals that meet the country's needs through a points-based system, the U.S. can better position itself for the global competition for talent and address its fiscal challenges.

Figure 4-4: Countries with Points-Based Immigration Systems



Source: various national government sources[241]

[241] Global Legal Research Directorate, *Points-Based Immigration Systems* (LL File no. 2013-009046, The Law Library of Congress, 2013), https://tile.loc.gov/storage-services/service/ll/llglrd/2013404868/2013404868.pdf; Immigration New Zealand, "Skilled Migrant Category to Open on 9 October 2023," October 2, 2023,

Box 4-1: Millionaires and Gold Cards

It is imperative to amend the structure of "millionaire" visas like the EB-5 investor visa to prevent fraud and to generate capital for the U.S. Treasury. This visa as currently written allows foreigners and their families to immigrate to the U.S. if they:

1. Make a recoverable investment of $1,050,000 into an American business (this amount decreases to $800,000 if the investment is made in a targeted employment area[242]).
2. Create or preserve ten jobs for American citizens.[243]

This allows the immigration of many economically helpful aliens, but it also can enable bad actor individuals and organizations to prey on would-be immigrants. These bad actors attract international millionaires with the promise of low-risk returns on investments and easy acquisition of a green card. However, once funds are sent, the individual or organization can vanish, leaving

https://www.immigration.govt.nz/about-us/news-centre/skilled-migrant-category-to-open-on-9-october-2023/; Migration and Home Affairs, European Commission, "Highly-Qualified Worker in Austria," April 1, 2025, https://home-affairs.ec.europa.eu/policies/migration-and-asylum/eu-immigration-portal/highly-qualified-worker-austria_en; South African Government, Immigration Act, 2002: Points-Based System, GN 5448 of GG 51416 (October 18, 2024); Federal Ministry of the Interior of Germany, "Opportunity Card ('Chancenkarte') Introduced," May 31, 2024, https://www.bmi.bund.de/SharedDocs/kurzmeldungen/EN/2024/05/chancenkarte.html; Korea Immigration Service, "Skilled Worker Points System Visa," accessed April 2, 2026, https://www.immigration.go.kr/immigration_eng/1852/subview.do.

[242] These are rural areas and areas that have experienced significantly higher-than-average unemployment; U.S. Citizenship and Immigration Services, "About the EB-5 Visa Classification," last updated November 18, 2025, https://www.uscis.gov/working-in-the-united-states/permanent-workers/employment-based-immigration-fifth-preference-eb-5/about-the-eb-5-visa-classification.

[243] U.S. Citizenship and Immigration Services, "EB-5 Immigrant Investor Program," last updated March 1, 2023, https://www.uscis.gov/working-in-the-united-states/permanent-workers/eb-5-immigrant-investor-program.

their victim without either a green card or their money.[244] This fraud is harmful to the would-be immigrant, the government, and the community that the alien intended to join.

The "gold card" instituted by President Trump's Executive Order 14351 solves part of this problem by tightly regulating payments made for millionaire visas and ensuring that money spent on these ends up in the hands of the American people, not fraudsters and other criminals.[245] It further ensures that aliens petitioning for a visa receive the ability to come to the U.S. and are not cheated out of this privilege.

Macroeconomic model

Immigration supports economic growth, which, in turn, helps to lower the U.S.'s debt-to-GDP ratio and support an aging population. A larger economy can stem from a larger supply of labor, an increased output per unit of labor as a result of innovation and productivity-enhancing technologies, or a combination of both. The direct positive economic effect of immigration comes from augmenting higher- and lower-skilled labor stocks. Below this paragraph, there is a Cobb-Douglas production function for U.S. GDP (Y_t) that has three primary inputs:

- Capital, K_t (which largely is immutable through workforce or productivity changes)

[244] Office of U.S. Senator Chuck Grassley, "Newly-Discovered EB-5 Scam Highlights Fraud, National Security Weaknesses, Need for Long-Term Reform," April 21, 2017, https://www.grassley.senate.gov/news/news-releases/newly-discovered-eb-5-scam-highlights-fraud-national-security-weaknesses-need; U.S. Citizenship and Immigration Services, "Combatting Fraud and Abuse in the EB-5 Visa Program," last updated March 18, 2019, https://www.uscis.gov/scams-fraud-and-misconduct/report-fraud/combating-fraud-and-abuse-in-the-eb-5-visa-program.
[245] Executive Order 14351 of September 19, 2025, "The Gold Card," *Federal Register* 90 (September 24, 2025): 46031–33, https://www.govinfo.gov/content/pkg/FR-2025-09-24/pdf/2025-18602.pdf.

- Unskilled labor, L_t
- Skilled labor, S_t

$$Y_t = K_t^{\beta_k} L_t^{\beta_l} S_t^{\beta_s} e^{\omega_t + \varepsilon_t}$$

The labor variables L_t and S_t are notable here, as those are the variables which may be directly influenced through immigration and immigration policy. L_t may trivially be boosted through most immigration schemes, while raising S_t requires the targeting and design described in earlier sections.

The Cobb-Douglas model is appropriate for conceptual illustration because in log form,[246] all the inputs are additively separable and easy to comprehend (for small values, logs may be interpreted as "percent changes". For example, log capital k_t can be thought of as "percent change in level value K_t").[247] Ergo:

$$y_t = \beta_k k_t + \beta_l l_t + \beta_s s_t + \omega_t + \varepsilon_t$$

Thus, there is a simple and intuitive equation by which one can understand effects of labor changes on output. A 1 percent increase in stock of skilled labor is associated on average with a β_s percent

[246] Eric Miller, "An Assessment of CES and Cobb-Douglas Production Functions," Congressional Budget Office Working Paper 2008-05 (June 2008), https://www.govinfo.gov/app/details/GOVPUB-Y10-PURL-LPS121761; David Baqaee and Emmanuel Farhi, "The Microeconomic Foundations of Aggregate Production Functions," NBER Working Paper no. 25293 (November 2018), https://doi.org/10.3386/w25293; Werner Roeger, "The Production Function Approach to Calculating Potential Growth and Output Gaps: Estimates for EU Member States and the US," paper prepared for a workshop organized by Banque de France and the Bank of Canada, April 24–25, 2006, https://www.banqueducanada.ca/wp-content/uploads/2010/08/roeger.pdf.

[247] While the Cobb-Douglas model suffers some problems, such as its inability to model capacity constraints or nonlinear interactions between inputs, it is generally sufficient for illustrating macroeconomic effects. The more flexible constant-elasticity-of-substitution (CES) model is less accessible to lay observers and will simplify to the Cobb-Douglas model under some conditions.

increase in GDP, while a 1 percent increase in stock of unskilled labor is associated on average with a β_l percent increase in GDP. Both increases can have a pronounced impact on the Federal deficit, spending, and support for senior benefits.

Increasing fertility rates and implementing selective immigration policies each offer partial solutions to demographic and fiscal challenges. To sustainably restore fiscal stability and rein in debt, it is also critical to more efficiently provide benefits and services to retirees as well as produce more output per worker to fund these provisions. Policymakers should evaluate how technology can facilitate such critical reforms.

Productivity

As identified earlier, the U.S. can increase labor quantity through immigration, population growth, and upskilling. One can observe which variables of production can be shifted by growing the workforce in the Cobb-Douglas function described earlier:

$$y_t = \beta_k k_t + \beta_l l_t + \beta_s s_t + \omega_t + \varepsilon_t$$

The U.S. can also improve total productivity through technology. By implementing mechanized or automated tools, better legal and professional services software, or quantum computing, output can be increased without adding new workers or facilities. This change in output comes from *total factor productivity* (ω_t).

$$y_t = \beta_k k_t + \beta_l l_t + \beta_s s_t + \omega_t + \varepsilon_t$$

Total factor productivity (TFP) is often cited in technological progress literature.[248] The difference between labor productivity and TFP can be explained thus: increased labor productivity means more output per unit of labor supplied, while increased TFP indicates increased output unrelated and independent of changes in capital or labor.[249] The two are difficult to separately identify,[250] so analysis of productivity change generally only explores one or the other. For ease of illustration, this section focuses on TFP.

Artificial intelligence

Improvements to productivity can be made through a variety of technologies, but investment and public interest are currently heavily focused on artificial intelligence (AI). AI is a branch of computer science that simulates human intelligence with machines, thereby increasing productivity and growth. Capital expenditures on AI have recently represented 0.8 percent of GDP and are expected to grow.[251]

AI has been successfully deployed to improve performance across the economy, including in customer service, professional services, and product design. Econometric research indicates that in call

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[248] Chen Fan, Xuehui Liao, and Xin Yang, "Artificial intelligence and enterprise total factor productivity: A human capital requirement perspective," *International Review of Economics & Finance* 104 (2025): 104661, https://doi.org/10.1016/j.iref.2025.104661; Alexander Arnon, "The Projected Impact of Generative AI on Future Productivity Growth," Penn Wharton Budget Model, September 8, 2025, https://budgetmodel.wharton.upenn.edu/p/2025-09-08-the-projected-impact-of-generative-ai-on-future-productivity-growth/; Christoph Görtz, Christopher Gunn, and Thomas A. Lubik, "What Can News Shocks Tell Us About the Effects of AI?," Economic Brief No. 25-16, Federal Reserve Bank of Richmond, April 2025, https://www.richmondfed.org/publications/research/economic_brief/2025/eb_25-16.
[249] Ulrich Doraszelski and Jordi Jaumandreu, "Measuring the Bias of Technological Change," *Journal of Political Economy* 126, no. 3 (2018), https://doi.org/10.1086/697204.
[250] Doraszelski and Jaumandreu, "Measuring the Bias of Technological Change."
[251] "Why AI Companies May Invest More than $500 Billion in 2026," Goldman Sachs, December 18, 2025, https://www.goldmansachs.com/insights/articles/why-ai-companies-may-invest-more-than-500-billion-in-2026.

centers, AI-assisted providers can perform more efficiently and resolve more issues per hour than their unassisted counterparts (by a full 15 percent, on average). Moreover, this appears to have an equalizing effect, with the largest gains in both speed and quality observed for the workers that initially were the least productive (up to 31 percent). There was also a lower failure rate among AI-assisted agents in this study; customers asked for a manager less frequently and reportedly behaved qualitatively more politely when interacting with augmented assistance.[252] This equalizing effect has also been observed in professional services, where generative AI can decrease the time required per writing task by 40 percent while increasing output quality and reducing the productivity gap between least- and most-productive workers.[253] In materials science, generative AI can be used to create ultra-reflective surfaces through design of novel thermal meta-emitters, allowing construction of passively-cooled structures in desert or tropical climates.[254]

AI can be taxonomized into two nested categories, generative and agentic. Generative AI can inform a user how to complete a task in theory, while agentic AI (a subset of generative) can complete the task in practice. It can book a flight, send an email, compile code, or ship a product with minimal human interface.[255] Provision for physical applications of artificial intelligence will likely come

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[252] Erik Brynjolfsson, Danielle Li, and Lindsey Raymond, "Generative AI at Work," *The Quarterly Journal of Economics* 140, no. 2 (2025): 889–942, https://doi.org/10.1093/qje/qjae044.

[253] Shakked Noy and Whitney Zhang, "Experimental Evidence on the Productivity Effects of Generative Artificial Intelligence," *Science* 381, no. 6654 (2023): 187–92, https://doi.org/10.1126/science.adh2586.

[254] Chengyu Xiao et al., "Ultrabroadband and band-selective thermal meta-emitters by machine learning," *Nature* 643 (2025): 80–88, https://doi.org/10.1038/s41586-025-09102-y.

[255] Deepak Bhaskar Acharya, Karthigeyan Kuppan, and B. Divya, "Agentic AI: Autonomous Intelligence for Complex Goals—A Comprehensive Survey," *IEEE Access* 13 (2025): 18912–36, https://doi.org/10.1109/ACCESS.2025.3532853.

from agentic rather than purely generative AI. This will provide a leap from using AI predominantly for research and miscellaneous knowledge to ubiquitous enterprise applications, particularly in robotics and licensed digital services like law, arbitration, and accounting.

Agentic AI will cause disruption in the physical commerce space, particularly in transportation and shipping. Self-driving cars are spreading across the U.S., reducing accidents and precipitating new questions and decisions in liability law.[256] Similarly, automated shipping will impact interstate trucking. When drivers' home preferences are nullified, prices in driver-rich areas increase disproportionately.[257] Maritime transportation systems will also be impacted. Seaports around the world have become more automated, and this has produced a dramatic competitive advantage over those which have not updated their technology.[258]

Outside of physical labor, agentic AI can also be expected to revolutionize licensed white-collar work. While it continues to suffer some hiccups and drawbacks such as repeated hallucination,[259] legal-specific LLMs today are used by over 500 legal firms and continue to proliferate.[260] In the field of

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[256] Jonathan Slotkin, "The Data on Self-Driving Cars Is Clear. We Have to Change Course," *The New York Times,* December 2, 2025, https://www.nytimes.com/2025/12/02/opinion/self-driving-cars.html.
[257] Ron Yang, "(Don't) Take Me Home: Home Preference and the Effect of Self-Driving Trucks on Interstate Trade," paper presented at NBER Economics of Artificial Intelligence Conference, September 22, 2022, https://conference.nber.org/conf_papers/f173721.pdf.
[258] World Bank, *The Container Port Performance Index 2020 to 2024: Trends and Lessons Learned* (2025), https://doi.org/10.1596/43744.
[259] Varun Magesh et al., "Hallucination-Free? Assessing the Reliability of Leading AI Legal Research Tools," *Journal of Empirical Legal Studies* 22, no. 2, (2025): 216–42, https://doi.org/10.1111/jels.12413.
[260] Suzi Ring, "How a former junior lawyer created a $5bn AI legal start-up," *Financial Times,* September 14, 2025, https://www.ft.com/content/49d00498-9a15-4d26-b10c-938bd7e893c6.

commodities trading, AI commodities traders can often outperform human traders because of their superior speed and, interestingly, their tendency to collude with one another unprompted, leading to greater profits.[261]

Quantum computing, a technology that harnesses the principles of quantum mechanics to solve complex problems, can accelerate improvements already made by AI. By evaluating immense matrices using quantum superpositions, quantum computers can solve problems many orders of magnitude faster than conventional computers can. Current quantum computers can also operate orders of magnitude faster than past generations. Specifically, fifth-generation quantum computers are estimated to be 260,000,000 times more powerful than the fourth generation.[262] However, quantum computing continues to suffer from practical issues, such as consistently high error rates and drawbacks in each type of qubit.[263] Despite this concern, quantum computing has myriad applications in various subfields of AI, particularly in optimization, machine learning, and cryptography.[264] While quantum computing can accelerate the advances made in AI, positive influence can also work in the other direction: data-driven

[261] Winston Wei Dou, Itay Goldstein, and Yan Ji, "AI-Powered Trading, Algorithmic Collusion, and Price Efficiency," NBER Working Paper no. 34054 (July 2025), https://doi.org/10.3386/w34054.
[262] *Frontier Technologies, Industrial Efficiency, and Pro-Innovation Policies, Before the U.S. Congress Joint Economic Committee,* 119th Cong. (2025) (response of Niccolo de Masi, CEO of IonQ, to questions).
[263] National Institute of Standards and Technology, "Quantum Computing Explained," last updated March 30, 2026, https://www.nist.gov/quantum-information-science/quantum-computing-explained.
[264] Vanessa García Pineda et al., "Integrating artificial intelligence and quantum computing: A systematic literature review of features and applications," *International Journal of Cognitive Computing in Engineering* 7 (2026): 26–39, https://doi.org/10.1016/j.ijcce.2025.08.002.

techniques pioneered in AI are ideal for the high-dimensional problems that quantum computing presents.[265]

Macroeconomic effect of AI and policy implications

Given sector-by-sector uncertainties around the direction of AI's future development, it is difficult to identify how much macroeconomic growth AI can provide. Deutsche Bank's Research Institute compiled a short list of estimates,[266] which range from Daron Acemoglu's 0.0 to 0.1 percent to Aghion and Bunel's more optimistic 1.3 percentage points.[267] The Yale Budget Lab and Penn Wharton Budget Model have similarly divergent conclusions.[268] Yale suggests the difference in the national occupational mix before and after AI adoption is not large or necessarily induced by AI, while Penn claims that "40 percent of current GDP could be substantially affected by generative AI." AI implementation will affect every sector and industry differently. A model that accommodates the input-output relationships between each industry and considers sectoral effects could replicate network interactions more accurately than one that

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[265] Yuri Alexeev et al., "Artificial intelligence for quantum computing," *Nature Communications* 16 (2025): 10829, https://doi.org/10.1038/s41467-025-65836-3.
[266] Matthew Luzzetti et al., "Omni debita solventur?," Deutsche Bank Research Institute, October 22, 2025, https://www.dbresearch.com/PROD/IE-PROD/PDFVIEWER.calias?pdfViewerPdfUrl=PROD0000000000606735&rwnode=REPORT.
[267] Daron Acemoglu, "The Simple Macroeconomics of AI," NBER Working Paper no. 32487 (May 2024), https://doi.org/10.3386/w32487; Philippe Aghion and Simon Bunel, "AI and Growth: Where Do We Stand?" Federal Reserve Bank of San Francisco (June 2024), https://www.frbsf.org/wp-content/uploads/AI-and-Growth-Aghion-Bunel.pdf.
[268] The Budget Lab at Yale, "Evaluating the Impact of AI on the Labor Market: November/December CPS Update," January 28, 2026, https://budgetlab.yale.edu/sites/default/files/page_to_pdf/1334/publication_1334.pdf; Alexander Arnon, "The Projected Impact of Generative AI on Future Productivity Growth," Penn Wharton Budget Model, September 8, 2025, https://budgetmodel.wharton.upenn.edu/p/2025-09-08-the-projected-impact-of-generative-ai-on-future-productivity-growth/.

instead treats the economy monolithically, and a sectoral model may project larger impacts to growth than others.[269]

Synthetic biology and anti-obesity medications

While AI has received much attention, advancements in other sciences also have the potential to increase productivity and generate growth and savings. As this and past *Joint Economic Reports* highlight, healthcare costs are a significant driver of Federal outlays. Advancements in healthcare, such as synthetic biology, could therefore materially affect U.S. fiscal health.

Synthetic biology involves redesigning organisms to have new abilities.[270] Lab-created organic compounds, viruses, and cells can affect productivity, sometimes in tandem with AI. For example, artificially designed bacteriophages may be leveraged to combat antibiotic-resistant bacteria such as MRSA or certain strains of *E. coli*.[271] The combined use of these technologies can thus increase the speed and output of national research and reduce development costs of medicine. In turn, the resulting treatments can decrease temporary or permanent worker loss from antibiotic-resistant microbes.

In addition to synthetic biology, anti-obesity medications such as GLP-1 drugs are also useful for improving productivity and eliminating absenteeism or presenteeism losses brought about by

[269] Vasco M. Carvalho et al., "Supply Chain Disruptions: Evidence from the Great East Japan Earthquake," *The Quarterly Journal of Economics* 136, no. 2 (2021): 1255–1321, https://doi.org/10.1093/qje/qjaa044.
[270] National Human Genome Research Institute, "Synthetic Biology," last updated August 14, 2019, https://www.genome.gov/about-genomics/policy-issues/Synthetic-Biology.
[271] Katie Kavanagh, "World's first AI-designed viruses a step towards AI-generated life," *Nature* 646, no. 16 (2025), https://doi.org/10.1038/d41586-025-03055-y.

obesity.[272] As obesity also negatively impacts reproductive health in both men and women,[273] weight reduction through GLP-1 drugs could also positively affect birth rates.

Policy implications of technology

Technology provides a tailwind for economic growth and another lever to address the nation's precarious fiscal picture, and Federal policies can hinder or incent their development and adoption. Policymakers must not unduly restrict the advancement of promising technologies with burdensome laws. In particular, they should scrutinize efforts by organized labor and incumbent businesses to preserve their business models through demands for innovation-stifling, unnecessary regulatory barriers that rob the public of cost savings. Past legislation has restricted Federal funds from being allocated to port development projects that would result in a net loss of jobs.[274] Other legislation has restricted Federal funding to fund the purchase of only "human-operated equipment or human-maintained technology."[275] These actions induce asymmetries with higher-efficiency international competitors.

Policymakers should ensure that innovation is not made illegal and reject the imposition of high barriers to entry for startups. They should also pursue regulatory sandboxes, legal frameworks that

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[272] U.S. Congress Joint Economic Committee, *The 2025 Joint Economic Report*, H. Rep. 119-9 (2025), p. 94, https://www.govinfo.gov/app/details/CRPT-119hrpt9/CRPT-119hrpt9-pt1.

[273] Konstantina Barbouni et al., "When Weight Matters: How Obesity Impacts Reproductive Health and Pregnancy-A Systematic Review," *Current Obesity Reports* 14, no. 1 (2025): 37, https://doi.org/10.1007/s13679-025-00629-9.

[274] *National Defense Authorization Act for Fiscal Year 2022*, Pub. L. No. 117-81 § 3501(a)(12), 135 Stat. 2237 (December 26, 2021), https://www.govinfo.gov/app/details/PLAW-117publ81; World Bank, *The Container Port Performance Index 2020 to 2024*.

[275] *An act to provide for reconciliation pursuant to title II of S. Con. Res. 14*, Pub. L. No. 117-169 § 60102(d)(4), 136 Stat. 2065 (August 15, 2022), https://www.govinfo.gov/app/details/PLAW-117publ169.

encourage innovators to test new technologies by reducing the legal risk and uncertainty associated with novel approaches. Any policy enacted by Congress should be flexible enough to allow innovation, entrepreneurship, and growth.

Conclusion

Consider once more the production function described in this chapter,

$$y_t = \beta_K k_t + \beta_l l_t + \beta_s s_t + \omega_t + \varepsilon_t$$

There are many ways to increase national GDP. Policymakers can directly increase the supply of labor through education and training and selective immigration. Development and implementation of novel technologies can increase TFP. These include generative and agentic artificial intelligence, automation, quantum computing, and synthetic biology. By increasing productivity and output, the U.S. can address its debt-to-GDP ratio, which would help hold down interest rates, facilitating future growth and preserving fiscal flexibility.[276]

Ultimately, policymakers must prioritize legislation that quickly and reliably induces positive feedback loops at the observable microeconomic level. Well-executed STEM education raises human capital and increases the size of the workforce. Research and development produces novel technologies which make the workforce more productive even if no new workers are added. Frivolous spending must be reined in, but targeted policies that

[276] Jack Salmon and Veronique de Rugy, "Debt and Growth: A Decade of Studies," Mercatus Center Research (April 2020), http://doi.org/10.2139/ssrn.3690510; Tobias Adrian, Vitor Gaspar, and Pierre-Olivier Gourinchas, "The Fiscal and Financial Risks of a High-Debt, Slow-Growth World," *IMFBlog*, March 28, 2024, https://www.imf.org/en/blogs/articles/2024/03/28/the-fiscal-and-financial-risks-of-a-high-debt-slow-growth-world.

precipitate growth should be encouraged, celebrated, examined, and potentially repeated. The next chapter examines how tax policy can help achieve these goals.

CHAPTER 5: PUTTING INNOVATION AT THE CENTER OF PRO-GROWTH TAX POLICY

With little expected growth in the labor force, productivity improvement through innovation is the main remaining margin to expand the economic tax base. Tax policy shapes the incentives to innovate, and current policy can be reformed to be more effective. The foundational principle is to "broaden the base and lower the rate," as a complicated non-neutral tax code favors incumbents, thereby preventing creative destruction. In the limited cases where targeted provisions are warranted, policymakers should take great care in correctly designing policy, ensuring that it promotes genuine innovation rather than merely transferring rents to politically favored incumbents.

We next summarize the pro-growth provisions in P.L. 119-21 (H.R. 1 in the 119th Congress, commonly known as the Working Families Tax Cuts), then describe the broader innovation imperative confronting U.S. tax policymakers.

P.L. 119-21 prevented a massive tax hike and extended and expanded pro-growth tax provisions

Many of the pro-growth tax provisions of the *Tax Cuts and Jobs Act of 2017* (TCJA) were to sunset at the end of 2025, which would have led to one of the largest tax hikes in American history. Hence, this Congress immediately began work on tax policy reform to maintain American economic dominance. P.L. 119-21 provided, on average, $3,818 of tax relief per filer in 2026 and a present value of tax relief through 2035 of $25,413.[277] The bill maintained

[277] These calculations discount 2026 through 2035 reductions to 2026 at a 5 percent annual rate. Garrett Watson, "US Taxpayers to See a Nearly $2,300 Average Tax Cut in 2026 Under the Big Beautiful Bill," Tax Foundation, February 24, 2026, https://taxfoundation.org/data/all/federal/obbba-average-tax-cuts-impact-map/; JEC calculations.

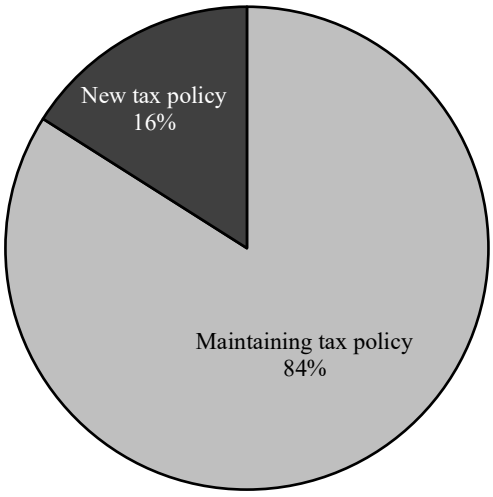
the expiring pro-growth tax provisions of the TCJA by making many of them permanent, a favorable outcome for business investment planning.[278] Figure 5-1 describes the share of the bill's revenue effects due to maintaining tax policy versus new tax policy, using estimates from the Joint Committee on Taxation (JCT).

Beyond preventing a major tax increase, P.L. 119-21 extended and expanded several provisions that directly lower the cost of domestic investment and innovation. The law restored immediate expensing of research and experimental (R&E) expenditures under Section 174. The restored expensing now applies only to research conducted within the U.S., creating an incentive to innovate in the U.S., not abroad. P.L. 119-21 also restored and extended full expensing for equipment investment (Section 168(k)), reducing the user cost of capital for a broad range of business investment. It also extended expensing to certain classes of real property investments under the Qualified Production Property provision (Section 168(n)), lowering the cost of domestic manufacturing investments. The law also expanded the Qualified Small Business Stock (QSBS) exclusion under Section 1202, a critical and effective pro-innovation tax provision that we discuss later in this chapter. Taken together, P.L. 119-21 did not merely cut taxes, it also tilted after-tax returns toward R&D, investment, and startups—critical factors that drive economic growth. Furthermore, because many tax parameters are now enacted in law

[278] That policy uncertainty can delay business investment is an important lesson from real options theory: Robert S. Pindyck, "Irreversibility, Uncertainty, and Investment," *Journal of Economic Literature* 29, no. 3 (1991): 1110–48, http://www.jstor.org/stable/2727613. TCJA provisions made permanent include: lower rates, increased standard deduction, expanded child tax credit, the home mortgage interest limitation, increased alternative minimum tax exemption, increased estate and lifetime gift tax exemption, domestic R&D expensing, 100 percent bonus depreciation on short-lived assets (for example, equipment and machinery), the Section 199A deduction for qualified business income, EBITDA rather than EBIT for interest deduction limitation, the New Markets Tax Credit, and Opportunity Zones.

without expiration dates, they provide the policy stability that firms need to justify large, irreversible investment commitments.

Figure 5-1: New Policy as a Share of OBBBA Provisions



Source: Joint Committee on Taxation;[279] JEC calculations

Looking ahead: the innovation imperative

P.L. 119-21, while a significant win, was mostly defensive—it prevented large impending tax hikes. This opens the opportunity for future tax reforms to pivot more to the offensive. In particular, we emphasize the critical need for pro-growth tax reforms.

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[279] Calculated by comparing current law ($4.475 trillion) baseline estimates and current policy ($0.715 trillion) baseline estimates from JCT. Joint Committee on Taxation, "Estimated Revenue Effects Relative to the Present Law Baseline of the Tax Provisions in 'Title VII – Finance' of the Substitute Legislation as Passed by the Senate to Provide for Reconciliation of the Fiscal Year 2025 Budget," JCX-35-25 (July 1, 2025), https://www.jvct.gov/publications/2025/jcx-35-25/; Joint Committee on Taxation, "Estimated Revenue Effects Relative to the Current Policy Baseline of the Tax Provisions in 'Title VII – Finance' of the Substitute Legislation as Passed by the Senate to Provide for Reconciliation of the Fiscal Year 2025 Budget," JCX-34-25 (July 1, 2025), https://www.jct.gov/publications/2025/jcx-34-25/.

The deteriorating U.S. fiscal position demands a change in trajectory. Correcting course requires both restraining spending and growing revenues. Growing revenues without raising already high tax rates means growing the tax base by growing the economy.[280] With labor force growth projected to slow substantially over the coming decades, the remaining margin for achieving faster economic growth is via labor productivity, the primary driver of which is innovation. We thus arrive at the *innovation imperative*: policy must allow, facilitate, and encourage widespread improvements in and adoption of technology. Federal tax policy is far from the only lever available to policymakers in this regard, but it plays a significant role in shaping the incentives for innovation, and tax reforms are available that can improve the economy's long-run trajectory.

The first and most important principle for facilitating innovation through tax reform is to eliminate narrow tax preferences and use the resulting revenue to lower overall statutory rates: "broaden the base and lower the rate."[281] Narrow tax preferences distort the allocation of resources. They often favor incumbent firms and established industries over potential entrants and disruptive technologies. Removing them accomplishes two objectives simultaneously: it levels the playing field so that market forces determine where resources flow, and it generates revenue that can finance lower tax rates. Some candidates for base-broadening that have been proposed by commentators include: the exclusion for employer-sponsored insurance, the capital gains exemption for

[280] U.S. tax rates are already at or above international norms. For example, the U.S. combined federal-state corporate rate of approximately 25.63 percent is higher than the OECD average of approximately 23.85 percent, even after the TCJA. Christina Enache, "Corporate Tax Rates Around the World," Tax Foundation, December 17, 2024, https://taxfoundation.org/data/all/global/corporate-tax-rates-by-country-2024/.
[281] U.S. Department of the Treasury, Office of the Secretary, *Tax Reform for Fairness, Simplicity, and Economic Growth* (1984), https://home.treasury.gov/system/files/131/Report-Tax-Reform-v1-1984.pdf.

primary residences, the mortgage interest deduction, like-kind exchanges under Section 1031, the state and local tax deduction, premium tax credits for health insurance, the preferential rate on carried interest, the Work Opportunity Tax Credit, and no tax on tips and overtime, to name only a few.

"Broaden the base, lower the rate" remains the foundational pillar of pro-growth reform. When tax rates are uniform and low, resources naturally flow toward their highest-valued use, which in a market economy means toward high-growth opportunities. However, there is a well-established case, grounded in the economics of externalities, that certain forms of innovation may be systematically underprovided by private markets. Because innovators cannot fully capture the social returns to their discoveries, there is a potential role for well-designed tax preferences to bring private investment closer to the social optimum. The critical qualifier is "well-designed." Governments have a long and well-documented history of corrupting sound policy ideas into vehicles for rent-seeking and the subsidization of unproductive incumbents.[282] A very high bar should therefore be set for any departure from the foundational pillar.

With this background, the remainder of this chapter discusses the role of tax policy in affecting innovation. We proceed in four steps. First, we present the Schumpeterian growth framework, which demonstrates that taxes on innovative activity reduce not merely the *level* of output but its *growth rate*. Second, we argue that when fiscal support for innovation is desirable, tax credits are superior to direct appropriations. Within the class of tax credits, we further argue that nonrefundable credits are generally preferable to

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[282] Josh Lerner, *Boulevard of Broken Dreams: Why Public Efforts to Boost Entrepreneurship and Venture Capital Have Failed—and What to Do About It* (Princeton University Press, 2009).

refundable ones. Third, we examine R&D taxation in light of international tax competition. Fourth, having established these general principles, we apply them in considering three existing or potential innovation-related policies: semiconductor manufacturing subsidies under the *CHIPS and Science Act*, the QSBS exclusion, and the extension of Section 199A qualified business income (QBI) deduction to business development companies (BDCs).

Creative destruction and R&D taxation

It is widely accepted in the study of economic growth that technological change is the primary factor driving growth in the long-run, especially in advanced economies such as the U.S. However, standard models of the economy used by various agencies and think tanks (for example Congressional Budget Office (CBO) and Tax Foundation), do not address this root cause of growth, focusing instead on the effects of capital accumulation—which, in these models, have only level effects on output in the long-run.

This disconnect became especially clear during the development of P.L. 119-21, where the standard models were unable to meaningfully clarify the growth effect ranking between R&D expensing, which is widely believed to be an effective way to reduce the effective tax rate on innovative activity, versus equipment expensing, which reduces the effective tax rate on capital investment.[283] To be clear, both policies are pro-growth and both were adopted in P.L. 119-21—a testament to the growth-

[283] Akusti Leino, "Improving Tax Treatment of R&D Would Boost Productivity and Growth," Tax Foundation, May 7, 2025, https://taxfoundation.org/blog/us-rd-tax-full-expensing/; Erica York et al., *Options for Navigating the 2025 Tax Cuts and Jobs Act Expirations*, Tax Foundation (May 2024), figure 2, https://taxfoundation.org/wp-content/uploads/2024/05/Options-for-Navigating-the-2025-Tax-Cuts-and-Jobs-Act-Expirations.pdf.

forward ambitions of this Congress. However, the inability of the standard models to effectively separate these two policies, similar in style but arguably very different in substance, raises concerns about their ability to adequately quantify the effects of other pro-innovation policies that are more controversial in policy discourse, such as the QSBS exclusion.

Coincidentally, these flaws in the standard models came to the forefront in the same year as the 2025 Nobel Prize in Economics was awarded in part to Philippe Aghion and Peter Howitt for foundational contributions to modeling economic growth through creative destruction.[284] Unlike most prior growth models, creative destruction models explicitly capture the efforts of entrepreneurs to overturn incumbents in concentrated markets via a competitive process in which winners earn economic profits. Creative destruction models capture formally the intuition that innovation occurs through new entry and the overturning of incumbent firms, or alternatively the overturning of incumbent processes within firms.

We present the math for the one-sector Schumpeterian growth framework in Box 5-1 (near the end of this chapter), with the addition of two types of taxes: taxes on R&D inputs, with example policy levers including R&D expensing and the Research and Experimentation (R&E) tax credit; and taxes on business profits, with example policy levers including the corporate (C-corporation) income tax (CIT) rate, the individual rates and brackets, the Section 199A QBI deduction, and the QSBS exclusion. Our model is adapted from the baseline Schumpeterian

[284] The Nobel Prize, "Press Release," October 13, 2025, https://www.nobelprize.org/prizes/economic-sciences/2025/press-release/.

model presented in chapter 4 of Philippe Aghion and Peter Howitt's book *The Economics of Growth* (2009).[285]

The model captures two important results. First, taxes on R&D inputs lower the growth *rate* of GDP, rather than having only long-run level effects. In particular, in the model, the relative reduction in the growth rate from a tax increase on R&D inputs is captured by the following formula,

$$\frac{\text{GDP growth rate with R\&D tax increase}}{\text{GDP growth rate without tax increase}} = \left(\frac{\text{R\&D user cost before tax increase}}{\text{R\&D user cost after tax increase}}\right)^{\frac{\sigma}{(1-\sigma)}}$$

where σ is a parameter capturing the sensitivity of innovation with respect to entrepreneurial R&D investments.

Second, the model teaches us that taxes on business profits are distortionary. This is counter to the traditional view of a pure profits tax as being non-distortionary.[286] In the model, taxes on business profits are distortionary because the entrepreneur cannot deduct their R&D expenditures when their venture fails. This distortion could be addressed through refundable tax credits for R&D spending, but doing so yields its own inefficiencies, some of which we discuss later in this chapter.

Returning to the first result, Section 174 R&D amortization was essentially a tax increase on R&D inputs; returning to full

[285] Philippe Aghion and Peter Howitt, "Chapter 4: The Schumpeterian Model" in *The Economics of Growth* (Cambridge, MA: MIT Press, 2009).
[286] "A tax on pure economic rent should not induce a business to change any of its activities or prices." Michael P. Devereux et al., *Taxing Profit in a Global Economy* (Oxford University Press, 2021), p. 27. The book also discusses models where this common intuition is violated.

expensing of R&D expenditure under P.L. 119-21 was therefore a tax cut.[287] Calibration of σ in the equation is nontrivial, but for illustration we will choose σ to match Tax Foundation's estimated GDP level effect of R&D expensing ten years after enactment; Box 5-1 provides mathematical details. Note that Tax Foundation uses a Solow framework to estimate this effect, and therefore, a tax cut on innovation only affects long-run levels of GDP in their model, not long-run growth rates. In the Schumpeterian model, R&D expensing affects long-run growth rates. This calibration yields an estimate $\sigma = 0.113$.

Table 5-1 shows the results of our illustrative calibration. The model is calibrated to match the Solow framework in year 10. In years 20, 30, and 50, the Solow (capital accumulation) growth model predicts almost no additional growth in GDP from the pro-innovation tax cut, while the Schumpeter (creative destruction) model predicts a continuously higher growth rate of GDP. It is the qualitative difference—levels versus growth—that is the major distinguishing feature of these two frameworks.

[287] R&D expensing enjoyed widespread support among JEC members, with at least half of current JEC membership sponsoring or cosponsoring bills to restore R&D expensing prior to its adoption in P.L. 119-21.

Table 5-1: Effects of R&D Expensing on the Level of GDP, Solow versus Schumpeter Model

	Solow (Tax Foundation)	Schumpeter (Aghion-Howitt)
Year 1	—	+0.01%
Year 5	—	+0.05%
Year 10 (calibrated to match)	+0.11%	+0.11%
Year 20	—	+0.22%
Year 30	—	+0.33%
Year 50	+0.13%[288]	+0.55%

Source: JEC calculations[289]

The core takeaway of the Schumpeterian model is that tax reform should prioritize cutting taxation on innovation. This includes reducing tax rates on entrepreneurial inputs through policies such as R&D expensing and the R&E tax credit. Also, lower business taxes reduce tax rates on economic profits and hence increase entrepreneurial effort. Policies lowering business taxes take the form of lower individual income tax rates, lower corporate income tax rates, and additional tax cuts for business income such as via the Section 199A QBI deduction. We discuss a natural pro-innovation extension of Section 199A later in this chapter. Those policies can also take targeted forms, such as the QSBS exclusion.

Empirical evidence on R&D, taxation, and economic growth

Economists often argue that private markets systematically underprovide R&D because innovators capture only a small fraction of the value they create. Congressional Research Service (CRS) researchers recently surveyed the empirical literature on R&D spillovers, finding that the total economic returns to R&D are typically estimated at two to four times the private return to

[288] Tax Foundation's Solow model converges to 0.13 percent greater GDP in the long run. Tax Foundation estimates are only available for years 10 and 50 (assumed to be long-run convergence).
[289] JEC calculations are detailed in Box 5-1.

firms.[290] In other words, for every $1 of total economic value generated by R&D investments, innovators capture only $0.50 or $0.25. These estimates are derived from empirical studies of the economic output effects of R&D. In other words, these spillovers manifest though economy-wide growth rates.[291] They do not account for the welfare effects of innovation that do not operate via increased measured economic output.[292] A full accounting of the welfare effects of innovation would likely imply much larger spillover estimates.

Time and again econometric decompositions suggest a significant share of economic growth is attributable to innovation. Robert M. Solow (1956) was an early contribution to this literature and attributed a large share of growth to "residual" factors, interpreted as technological change.[293] Modern estimates, often provided by the Bureau of Labor Statistics (BLS), benefit from decades of measurement improvements and attribute a larger share to capital accumulation, but the composition of that capital tells an interesting story. Table 5-2 displays BLS's estimate of labor productivity growth in the private nonfarm business sector from 1987 to 2023 decomposed by source. Capital intensity taken all

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[290] Jane G. Gravelle and Mark P. Keightley, *The Federal Research and Development (R&D) Tax Credit*, Congressional Research Service Report no. R48848 (February 6, 2026), https://www.congress.gov/crs-product/R48848.

[291] Spillover estimates are commonly based on models that use the real value of firm sales as the primary outcome measure. Thus, the estimates are based on measures of real output. Brian Lucking, Nicholas Bloom, and John Van Reenen, "Have R&D Spillovers Declined in the 21st Century?" *Fiscal Studies* 40 (2019): 561–90, https://doi.org/10.1111/1475-5890.12195.

[292] In the mid-1990s, Nordhaus famously found that economic output measures can massively understate the welfare effects of technological change, using the history of the cost of light as an example. William D. Nordhaus, "Do Real-Output and Real-Wage Measures Capture Reality? The History of Lighting Suggests Not," in *The Economics of New Goods,* ed. Timothy F. Bresnahan and Robert J. Gordon (University of Chicago Press, 1996): 27–70, http://www.nber.org/chapters/c6064.

[293] Robert M. Solow, "A Contribution to the Theory of Economic Growth," *The Quarterly Journal of Economics* 70, no. 1 (1956): 65–94, https://doi.org/10.2307/1884513.

together contributed 0.8 percentage points per year to the 2.0 percent annual growth rate. Of that 0.8, however, only 0.2 percentage points came from structures and other traditional capital. The remainder came from innovation-embodying capital. Combining that remainder with the 0.9 percentage points attributed directly to productivity (the "residual"), innovation and innovation-embodying investment together account for roughly 75 percent of U.S. labor productivity growth from 1987 to 2024, with traditional capital accumulation contributing only about 10 percent (0.2 out of 2.0 percentage points per year).[294]

Table 5-2: Sources of U.S. Labor Productivity Growth, 1987–2024

Source	Percentage points per year	Share of total labor productivity growth
Total labor productivity growth	**2.0**	**100%**
Total Factor Productivity (residual)	0.9	45%
Innovation-embodying capital *(IPE + R&D + IPP)*	0.6	30%
Labor composition *(education, experience)*	0.3	15%
Traditional capital *(structures, other equipment)*	0.2	10%

Source: Bureau of Labor Statistics[295]

Given the importance of R&D to economic growth, it is important to understand how policymakers can encourage it. Research indicates that U.S. tax policy has been highly effective at spurring R&D activity. CRS surveyed the empirical literature on the

[294] For more on the notion that innovation is often embodied in capital investment, see Benjamin F. Jones and Xiaojie Liu, "A Framework for Economic Growth with Capital-Embodied Technical Change," *American Economic Review* 114, no. 5 (2024): 1448–87, https://doi.org/10.1257/aer.20221180.

[295] Bureau of Labor Statistics, "Total factor productivity, 2025," Table B, March 19, 2025, https://www.bls.gov/news.release/prod3.nr0.htm. Private nonfarm business sector estimates reported. "Innovation-Embodying Capital" aggregates BLS sub-components: information processing equipment (IPE), research and development (R&D), and intellectual property products excluding R&D (IPP). "Traditional Capital" is the BLS residual category "capital input excluding IPP & IPE."

responsiveness of R&D investment to tax incentives and reports that early studies estimated an elasticity of around -1.0, but recent studies using more rigorous methods find considerably larger elasticities, ranging from -2.0 to -4.0.[296] At these higher elasticities, the R&E tax credit and expensing together increase R&D investment by an estimated 17 to 34 percent, and with the added benefits of debt financing, by 37 to 50 percent.[297] To put these figures in context, U.S. business sector own-source funded R&D totaled $635 billion in 2023,[298] so a 17 to 34 percent increase due to tax policy represents roughly $108 to $216 billion in additional research activity in the U.S., which is comparable to the entire annual R&D expenditure of the economies of Germany (about $143 billion) or Japan (about $145 billion).[299]

Combining the spillover estimates, which occur largely via economic growth effects, with the elasticity estimates suggests that R&D is currently under-subsidized in the U.S. This is despite R&D being "the most favored type of investment in the Federal tax code."[300] Based on CRS estimates, the current Federal R&E tax credit would need to be doubled or even tripled to fully internalize the gap between the benefits to society and the benefits captured by businesses and innovators.[301] Of course, there are

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[296] An elasticity of -1 means that a 1 percent reduction in the user cost of R&D causes a 1 percent increase in R&D spending.
[297] Gravelle and Keightley, *The Federal Research and Development (R&D) Tax Credit*.
[298] National Center for Science and Engineering Statistics, "Business R&D Performance in the United States Increases to $722 Billion in 2023," NSF 25-353 (September 29, 2025), https://ncses.nsf.gov/pubs/nsf25353.
[299] Gravelle and Keightley write "large industrialized economies with comparable levels of R&D spending include Japan (3.44%) and Germany (3.13%)." In 2023, the GDP of Germany was $4.56 trillion, and Japan's was $4.2 trillion. Gravelle and Keightley, *The Federal Research and Development (R&D) Tax Credit*; International Monetary Fund, "GDP, current prices," updated October 2025, https://www.imf.org/external/datamapper/NGDPD@WEO/OEMDC/ADVEC/WEOWORLD?year=2023.
[300] Gravelle and Keightley, *The Federal Research and Development (R&D) Tax Credit*.
[301] Gravelle and Keightley, *The Federal Research and Development (R&D) Tax Credit*.

alternative ways to provide preferential tax treatment for R&D besides the tax credit, some of which we discuss later in this chapter.

Advantages of (nonrefundable) tax credits over appropriations

The economic growth effects of R&D can justify preferential tax treatment, but policymakers should take great care in choosing the correct instruments. We argue that nonrefundable tax credits are, in general, the best instrument for the job.

The economic case for tax credits over direct appropriations rests on a simple but powerful information asymmetry: the government does not know which firms and technologies will prove productive, and the price system aggregates that dispersed private knowledge far more efficiently than any central allocator can. This is Friedrich Hayek's insight applied to innovation policy. Following Hayek's analogy, each entrepreneur is the "man on the spot," possessing unique knowledge no government official can observe. Tax credits use this private information to society's advantage by functioning as matching grants: because the subsidy lowers the marginal cost of R&D, only firms whose private information tells them a project is worthwhile will increase their own co-investment to claim the credit. Unproductive firms find it unprofitable to expand R&D even at a subsidized price, so the subsidy automatically flows toward its highest-value use. This intuition is captured in recent economic analysis by Ufuk Akcigit, Douglas Hanley, and Stefanie Stantcheva (2022), who study a dynamic mechanism design problem and find that a linear corporate income tax combined with a nonlinear R&D subsidy

performs nearly as well as the theoretically unrestricted optimal policy.[302]

We argue that, by contrast, direct appropriations, such as providing grants to "champion firms," require the government to identify promising firms *ex ante*, something at which it tends to perform poorly. We present two illustrative models capturing these arguments in Box 5-2 (near the end of this chapter), which together formalize a layered argument for our preferred policy instrument, and the design historically favored in U.S. tax policy: nonrefundable tax credits.

The Pillar Two minimum tax threat

The U.S.'s use of superior nonrefundable credits as an innovation policy instrument, however, faces a threat from the Undertaxed Profits Rule (UTPR) of the Pillar Two global minimum tax framework. Because the Pillar Two framework treats nonrefundable and refundable credits asymmetrically in the computation of a jurisdiction's effective tax rate (ETR), it would have penalized nonrefundable credits.

Specifically, the proposed Pillar Two model rules compute the jurisdiction-specific ETR for a multinational enterprise by treating nonrefundable credits as a reduction in covered taxes, while treating (qualified) refundable tax credits as additional income. To formalize this, let Π denote pre-tax profits of the firm, and T denote covered taxes. For a nonrefundable credit of value C, the Pillar Two model rules calculated the ETR as,

[302] Ufuk Akcigit, Douglas Hanley, and Stefanie Stantcheva, "Optimal Taxation and R&D Policies," *Econometrica* 90, no. 2 (2022): 645–84, https://doi.org/10.3982/ECTA15445.

$$ETR_{\text{nonrefundable}} = \frac{T - C}{\Pi}$$

while for a refundable tax credit of the same value C, the credit is treated as additional income (effectively like a government grant), and thus,

$$ETR_{\text{refundable}} = \frac{T}{\Pi + C}$$

In both cases, the tax credit reduces the firm's ETR, but it reduces it by much more in the nonrefundable case. This disadvantages the nonrefundable approach, which is the superior approach and, incidentally, an approach often taken in U.S. tax policy. A simple example illustrates the stakes. Consider a U.S. multinational with pre-tax profits of Π = \$1 billion and covered taxes of T = \$200 million, yielding a baseline ETR of 20 percent, comfortably above the Pillar Two minimum of 15 percent. Now suppose the firm claims a C = \$100 million R&E credit. If the credit is nonrefundable, as in the U.S. case, the ETR falls to (\$200 − \$100) / \$1,000 = 10 percent, well below the 15 percent minimum, triggering a 5 percentage-point top-up tax that foreign governments may collect via the UTPR. Hence, the U.S. innovation incentive is effectively being clawed back by *foreign* governments. If instead the identical \$100 million credit were structured as a refundable credit, the ETR would be \$200 / \$1,100 ≈ 18.2%, safely above the 15 percent minimum, and no top-up tax would apply.

A nonrefundable credit is thus at a clear disadvantage under a global minimum tax regime. This extends beyond the R&E credit to several nonrefundable U.S. business credits, including the

Orphan Drug Credit and the Low-Income Housing Tax Credit, although the R&E credit is the most prominent example.[303]

This Congress responded decisively to this international threat through legislative efforts, culminating in Section 899, which was initially included in but ultimately removed before passage of P.L. 119-21. Despite Section 899 not being included in the law, the threat of its inclusion led to negotiations and a side-by-side agreement that corrected most of the disadvantage given to nonrefundable credits in Pillar Two. Especially critical in this regard were the efforts of Joint Economic Committee member Representative Ron Estes (R-KS).[304]

International competitiveness

Firms make R&D location decisions by comparing after-tax returns across countries. Considering this, the U.S. tax system's treatment of R&D is markedly less favorable relative to its major competitors. Moreover, the U.S. tax focus on origin-based business income taxation creates incentives for multinational enterprises to move both paper profits and real R&D activity offshore. A border adjustment can eliminate those incentives and strengthen U.S. international competitiveness. We discuss these issues of international competitiveness in this section.

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[303] For more on this issue, see Peter R. Merrill et al., *Where Credit Is Due: Treatment of Tax Credits Under Pillar 2*, TaxNotes Special Report (March 20, 2023), https://www.taxnotes.com/special-reports/credits/where-credit-due-treatment-tax-credits-under-pillar-2/2023/03/17/7g743.

[304] Ron Estes, "Taxing Countries That Are Targeting US Companies Isn't 'Revenge,'" *Bloomberg Tax,* June 17, 2025, https://news.bloombergtax.com/tax-insights-and-commentary/taxing-countries-that-are-targeting-us-companies-isnt-revenge.

U.S. tax treatment of R&D is less favorable than major international competitors

Because countries have a plethora of policies related to the tax treatment of R&D spending, it is difficult to make direct comparisons. To compare the generosity of R&D tax treatment across countries, Organisation for Economic Cooperation and Development (OECD) economists estimate an implied tax subsidy rate: the amount of pre-tax loss per dollar of R&D investment that a firm can sustain and still break even, given the full array of a country's tax provisions.[305] A higher value indicates more favorable treatment. This is not a perfect measure, but these estimates provide a useful point of comparison. Table 5-3 reports these estimates for the U.S. and four other countries for selected years.

Table 5-3: Implied R&D Tax Subsidy Rates for Large, Profitable Firms

Country	2015	2019	2024
United States	$0.06	$0.07	$0.03
China	$0.15	$0.23	$0.32
France	$0.45	$0.43	$0.36
United Kingdom	$0.10	$0.11	$0.18
Germany	–$0.02	–$0.02	$0.22
OECD Average	*$0.14*	*$0.15*	*$0.16*

Source: Organisation for Economic Cooperation and Development[306]

[305] Silvia Appelt, Fernando Galindo-Rueda, and Ana Cinta González Cabral, "Measuring R&D tax support: Findings from the new OECD R&D Tax Incentives Database," OECD Science, Technology and Industry Working Paper no. 2019/06 (October 2019), https://doi.org/10.1787/d16e6072-en.

[306] Larger values indicate more favorable R&D tax treatment. China is not an OECD member. Estimates are for a representative large, profitable firm with sufficient tax liability to fully utilize available credits, including nonrefundable credits such as the U.S. R&E credit. Organisation for Economic Co-operation and Development, "Implied tax subsidy rates on R&D expenditures," OECD Data Explorer, last updated November 25, 2025, https://data-explorer.oecd.org/vis?lc=en&df[ds]=dsDisseminateFinalDMZ&df[id]=DSD_RDTAX%40DF_RDSUB&df[ag]=OECD.STI.STP.

In 2024, a U.S. firm making an R&D investment could sustain a pre-tax loss of only 3 cents per dollar before the investment became unprofitable, far below the OECD average of 16 cents. The 2022 shift from immediate R&D expensing to five-year amortization under Section 174 reduced the U.S. implied subsidy rate from $0.07 to $0.03. Meanwhile, international competitors were aggressively moving in the opposite direction. Germany's implied subsidy rate increased by 24 percentage points between 2019 and 2024. China's has roughly doubled since 2015, driven by successive expansions of its "super deduction."[307]

P.L. 119-21's restoration of full R&D expensing was a critical correction that will improve the U.S. competitive position. However, even with expensing restored, the U.S. implied subsidy rate rises only to approximately $0.07, still well below the OECD average of $0.16, and a fraction of the rates offered by France, China, and Germany.

Earlier in this chapter, we mentioned estimates from CRS suggesting that estimated economic spillover effects from R&D imply a larger R&E tax credit could be beneficial on net. Interestingly, CRS estimates suggest an optimal implied subsidy rate close to the OECD average of $0.16.

Border tax adjustment would promote U.S. innovation

Border adjustment achieves several of the objectives of tariffs, but through a more growth-oriented framework.[308] One commonly

[307] Kevin Zolriasatain and Paul McVoy, "Lawmakers Introduce Bill to Retroactively Fix R&D 174 Expensing," KBKG, March 14, 2025, https://www.kbkg.com/feature/lawmakers-introduce-bill-to-retroactively-fix-rd-174-expensing.

[308] U.S. Congress Joint Economic Committee, "JEC Chairman Schweikert on SCOTUS Tariffs Ruling, Need for Border Adjustment Tax," February 20, 2026, https://www.jec.senate.gov/public/index.cfm/republicans/newsroom?ID=BBA3EF48-

overlooked benefit of border adjustment is its potential to improve U.S. innovation outcomes. Under the current source-based tax system, U.S. multinationals have strong incentives to locate their intangible assets, such as patents, in low-tax jurisdictions.[309] One conventional interpretation of this behavior is that it reflects only "paper" profit shifting, that is, firms are merely moving the legal ownership of patents offshore while keeping the "real" research activity in the U.S. However, this interpretation is likely mistaken.

Studies of pharmaceutical industry location decisions focusing on Puerto Rico under Section 936 and its phase-out provide strong evidence that intangible-asset-driven tax preferences generate large real effects on innovative activity and employment. Section 936, enacted in 1976 and amended in the 1980s, effectively exempted U.S. possessions income of U.S. corporations from Federal taxation, under certain conditions. This created, in the context of U.S. domestic tax law, something analogous to a zero-rate source-based jurisdiction under U.S. sovereignty but outside the U.S. tax system—a ripe opportunity for profit shifting.

The pharmaceutical industry was the overwhelming beneficiary of Section 936. Meng-Ting Chen and Zadia M. Feliciano (2024) study Puerto Rico and report that pharmaceuticals accounted for approximately 50 percent of all Section 936 tax credits awarded

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6C17-46AC-B3E5-76CB7C73D454; U.S. Congress Joint Economic Committee, "Border Tax Adjustment Would
Curtail Profit Shifting and Provide Other Benefits, With Limited Transition Effects," March 11, 2026, https://www.jec.senate.gov/public/index.cfm/republicans/2026/3/jec-brief-outlines-economic-benefits-of-border-adjustment-reforms-for-american-consumers-and-businesses.

[309] Scott Dyreng and Michelle Hanlon, "Tax Avoidance and Multinational Firm Behavior," paper presented at the Brookings Institution, December 19, 2019, https://www.brookings.edu/wp-content/uploads/2019/12/Dyreng-Hanlon-12.14.19.pdf.

and 20 percent of employment under the program.[310] They further estimate that the phaseout and elimination of Section 936 reduced survival rates of pharmaceutical and medical devices establishments by an additional 3.5 to 6.2 percentage points relative to other manufacturing. In other words, these were not paper effects, they were real losses in productive capacity and high-paying jobs in the Puerto Rican pharmaceutical and related sectors.

The current U.S. source-based tax system provides strong incentives for intangible-heavy multinationals to offshore their intellectual property. By removing imports and exports from the calculation of U.S. taxable income, and thereby curtailing these profit shifting opportunities, border adjustment would substantially weaken this incentive. As illustrated by the real effects of Section 936 in Puerto Rico, this would likely have more than paper effects. Thus, border adjustment is not only a revenue measure and a tool against profit shifting, it is also a pro-innovation reform.

Proposed and enacted pro-innovation preferential tax treatment

We now apply the lessons discussed thus far to three specific policies.

Semiconductor manufacturing subsidies

The *CHIPS and Science Act of 2022* created two parallel subsidy instruments for semiconductor manufacturing: $39 billion in direct grants administered by the Commerce Department's CHIPS Program Office, and the Advanced Manufacturing Investment Credit (AMIC) under IRC Section 48D, originally a 25 percent

[310] Meng-Ting Chen and Zadia M. Feliciano, "Intangible Assets, Corporate Tax Credits and Pharmaceutical Establishments," *Emerging Markets Review* 60 (2024): 101141, https://doi.org/10.1016/j.ememar.2024.101141.

refundable investment tax credit for qualified property placed in service at advanced manufacturing facilities.[311] Recent policy changes have moved the program toward the tax credit and away from the discretionary grants, exactly the direction our framework argues is superior. P.L. 119-21 raised the AMIC from 25 to 35 percent for property placed in service after December 31, 2025, although the deadline to begin construction for AMIC eligibility remains at the end of 2026.[312]

Meanwhile, the grants program has been met with increasing skepticism. The Trump Administration established an "Investment Accelerator" to renegotiate Biden-era awards, with Commerce Secretary Howard Lutnick calling some Biden-era grants "overly generous."[313] The Intel renegotiation presents a cautionary tale: the Biden Administration awarded Intel nearly $8 billion in grants, thereby picking a domestic champion in which private markets appeared to have little confidence (its stock had lost more than half its value over five years), and the Trump Administration renegotiated the grants into a 10 percent government equity stake.[314] The grants have also been used to pursue unrelated policy

[311] McKinsey & Company, "The CHIPS and Science Act: Here's what's in it," October 4, 2022, https://www.mckinsey.com/industries/public-sector/our-insights/the-chips-and-science-act-heres-whats-in-it; Stephen Ezell, "U.S. Semiconductor Manufacturing Tax Credits Need To Be Extended and Broadened," Information Technology & Innovation Foundation, June 10, 2025, https://itif.org/publications/2025/06/10/us-semiconductor-manufacturing-tax-credits-must-be-extended-and-broadened/.
[312] Dylan Butts, "Chipmakers get larger tax credits in Trump's latest 'big beautiful bill,'" *CNBC,* July 2, 2025, https://www.cnbc.com/2025/07/02/chipmakers-get-bigger-tax-credits-in-trumps-latest-big-beautiful-bill.html.
[313] Aimee P. Ghosh et al., "Trump Launches $1 Billion Plus Investment Fast Track with New Executive Order," Pillsbury, April 4, 2025, https://www.pillsburylaw.com/en/news-and-insights/trump-launches-one-billion-plus-investment-fast-track-executive-order.html; "Trump Administration Reportedly Reconsiders CHIPS Act Subsidies, Touts TSMC as Model," *TrendForce News,* June 5, 2025, https://www.trendforce.com/news/2025/06/05/news-trump-administration-reportedly-reconsiders-chips-act-subsidies-touts-tsmc-as-model/.
[314] Annie Palmer and Chris Eudaily, "Lutnick says Intel has to give government equity in return for CHIPS Act funds," *CNBC,* August 19, 2025,

objectives, such as DEI hiring and access to childcare facilities for workers, which has been criticized as "everything bagel" policymaking.[315]

The AMIC's performance to date illustrates the matching-grant advantages at work. While much attention has been focused on the grants, the tax credit was "even more important, yet comparatively unsung,"[316] because companies knew they could claim the credit as soon as they placed qualifying property in service, without going through a bureaucratic process. The size of the AMIC reflects the substantial increase in investment. CBO originally projected the AMIC to cost $24.25 billion over five years, but Peterson Institute researchers estimated in March 2025 that if investments continued at prevailing levels, the credit's cost could exceed $73 billion, roughly triple the original projection.[317] Figure 5-2 illustrates the recent surge in U.S. semiconductor manufacturing investment through 2024. Given that only $6.72 billion in grants had been finalized by late 2024,[318] it is unlikely the grants were the primary factor behind this surge, rather, the AMIC has likely had a more meaningful effect.

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https://www.cnbc.com/2025/08/19/lutnick-intel-stock-chips-trump.html; Rishi Lyengar, "What to Know About Trump's Deal With Intel," *Foreign Policy,* August 27, 2025, https://foreignpolicy.com/2025/08/27/trump-intel-deal-ceo-tan-china-chips-act/.

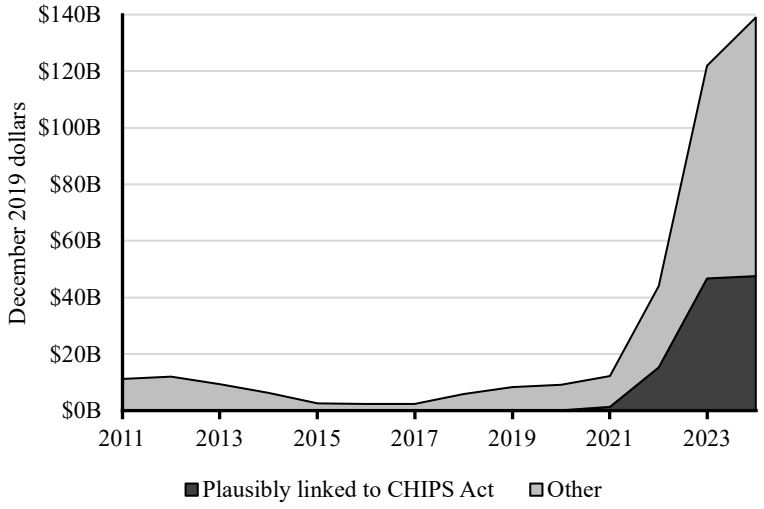
[315] Ezra Klein, "The Problem With Everything-Bagel Liberalism," *The New York Times,* April 2, 2023, https://www.nytimes.com/2023/04/02/opinion/democrats-liberalism.html.

[316] Stephen Ezell, "U.S. Semiconductor Manufacturing Tax Credits Need To Be Extended and Broadened."

[317] Martin Chorzempa, "The CHIPS Act already puts America first. Scrapping it would poison the well for US investment," Peterson Institute for International Economics, March 27, 2025, https://www.piie.com/blogs/realtime-economics/2025/chips-act-already-puts-america-first-scrapping-it-would-poison-well.

[318] U.S. Department of Commerce, Office of Public Affairs, "Biden-Harris Administration Announces CHIPS Incentives Award with TSMC Arizona to Secure U.S. Leadership in Advanced Semiconductor Technology," November 15, 2024, https://www.commerce.gov/news/press-releases/2024/11/biden-harris-administration-announces-chips-incentives-award-tsmc.

Figure 5-2: U.S. Investment in Construction of Electronics Facilities



Source: Peterson Institute for International Economics[319]

AMIC is both predicted to be, and appears to have been, much more successful than the discretionary program. However, AMIC has a significant design flaw: its refundability. AMIC permits an "elective payment" election that allows any taxpayer, including entities with zero U.S. tax liability, to receive a direct cash payment from the U.S. Treasury equal to the credit amount.[320] On one hand, policymakers might argue that this is an important design choice since foreign manufacturers, such as TSMC, lack sufficient U.S. tax liability to use a nonrefundable credit. However, this is a poor argument, since unused general business credits can be carried forward for 20 years,[321] and if a foreign

[319] Chorzempa, "The CHIPS Act already puts America first," Figure 1.
[320] Scott Mackay, Tom Fraase, and Susan Grais, "CHIPS Act final regs. offer many taxpayer-friendly provisions," The Tax Adviser, June 30, 2025, https://www.thetaxadviser.com/issues/2025/jun/chips-act-final-regs-offer-many-taxpayer-friendly-provisions/.
[321] Gravelle and Keightley, *The Federal Research and Development (R&D) Tax Credit*.

manufacturer indeed successfully produced highly profitable chips in the U.S.—as is the intent of the *CHIPS Act*—the firm would have sufficient U.S. tax liability to take advantage of the credits. Therefore, for a firm that successfully produces in the U.S. in the long run, it is only an issue of timing, and as we have argued earlier in this chapter, nonrefundability provides an important screening mechanism, ensuring the credits only go to companies that anticipate future U.S. tax liability. Indeed, those are exactly the companies that should take advantage of the incentives. A simple improvement would be to reform the credit and make it nonrefundable (and nontransferable). This could be done as part of a timeline extension.

Qualified Small Business Stock (QSBS) expansion and improvement

The Qualified Small Business Stock (QSBS) exclusion encourages investment in small startup businesses with high growth potential by allowing investors to exclude the capital gains from the sale of stock under certain conditions. The conditions include a gross asset limit at the time of stock issuance, C corporation form, and a holding period. P.L. 119-21 significantly expanded the QSBS exclusion under IRC Section 1202.[322] This makes QSBS meaningfully more generous for founders, early employees paid in equity, and other investors in startup C corporations.

The QSBS expansion has attracted criticism from an unusual coalition of experts. For example, researchers at the Washington Center for Equitable Growth and the American Enterprise Institute, describing themselves as "two tax experts from opposite

[322] Ryan Nance, "QSBS gets a makeover: What tax pros need to know about Sec. 1202's new look," ed. Michael J. Mondelli, The Tax Adviser, November 30, 2025, https://www.thetaxadviser.com/issues/2025/nov/qsbs-gets-a-makeover-what-tax-pros-need-to-know-about-sec-1202s-new-look/.

ends of the ideological spectrum," co-authored an article provocatively titled "Congress Should Have Eliminated, Not Expanded, the QSBS Exclusion."[323] The Tax Foundation argued that QSBS violates the principles of neutrality and simplicity.[324] Meanwhile, the Institute on Taxation and Economic Policy criticizes the policy for its distributional effects.[325]

These criticisms confuse policy objectives. The primary objective of QSBS is to channel investment toward high-risk domestic startups that will lead to economic growth, not achieve distributional goals. They also miss recent empirical evidence suggesting QSBS works, they miss its distinct advantage in its targeting of small C corporations, and they fail to make important international comparisons.

Starting with the empirical evidence, Jun Chen and Joan Farre-Mensa (2026) exploit the 2010 expansion of the QSBS exclusion to 100 percent and find that it increased new firm formation by 10 percent and patenting by 23 percent.[326] They also point out that the expansion increased startups' use of equity compensation, strengthening their ability to compete for talent against established incumbents. Indeed, their study highlights that one key way in which the QSBS startup tax preference affects real economic

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[323] Kyle Pomerleau and David S. Mitchell, "Congress Should Have Eliminated, Not Expanded, the QSBS Provision," *Tax Notes Federal* 189 (2025): 315–20, https://www.aei.org/wp-content/uploads/2025/10/2025tnf41-10-1.pdf.
[324] Aleksei Shilov, "Quite the Skewed Business Subsidy: QSBS Exclusion Is a Poor Way to Encourage Investment," Tax Foundation, December 11, 2025, https://taxfoundation.org/blog/qualified-small-business-stock-qsbs-exclusion/.
[325] Sarah Austin and Nick Johnson, "Quite Some BS: Expanded 'QSBS' Giveaway in Trump Tax Law Threatens State Revenues and Enriches the Wealthy," Institute on Taxation and Economic Policy, October 2, 2025, https://itep.org/qsbs-trump-tax-law-threatens-state-revenues-enriches-wealthy/.
[326] Jun Chen and Joan Farre-Mensa, "Capital Gains Tax Relief and Entrepreneurship: Evidence from the QSBS Exemption," HKU Jockey Club Enterprise Sustainability Global Research Institute Working Paper (2026), http://dx.doi.org/10.2139/ssrn.4482626.

activity is by making equity compensation relatively more valuable, which is a major resource startups use to bid scarce engineers and scientists away from incumbents. Prior research by Alexander Edwards and Maximilian Todtenhaupt found that the 2010 QSBS expansion increased investment in startup firms per funding round by 12 percent.[327] Finally, recent research by Murillo Campello and Guilherme Junqueira (2025) examine how the QSBS expansion affected venture capital (VC) risk-taking behavior, and found that VCs shifted their portfolios toward riskier, earlier-stage ventures in tax-eligible sectors.[328] The evidence suggests QSBS has real economic effects, and overall advantages high-growth startups over incumbents.

Now consider the C-corporation requirement, which some critics single out as a distortion, and others single out as inequitable.[329] This is a feature, not a bug. The empirical literature on startup growth finds a striking fact: firms organized as C corporations are dramatically more likely to achieve high growth than firms in other organizational forms. Catherine Fazio, Jorge Guzman, and Scott Stern (2020) report that startups founded as corporations are approximately 390 percent more likely to grow.[330] Jorge Guzman and Scott Stern (2015) find that corporations are more than six

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[327] Alexander Edwards and Maximilian Todtenhaupt, "Capital gains taxation and funding for start-ups," *Journal of Financial Economics* 138, no. 2, (2020): 549-571, https://doi.org/10.1016/j.jfineco.2020.06.009.
[328] Murillo Campello and Guilherme Junqueira, "Tax Incentives and Venture Capital Risk-Taking," CBT Doctoral Conference 2025, Saïd Business School, University of Oxford, working paper no. 2025-10 (2025), https://oxfordtax.sbs.ox.ac.uk/sitefiles/wp25.10-guilherme-junqueira.pdf.
[329] Shilov, "Quite the Skewed Business Subsidy: QSBS Exclusion Is a Poor Way to Encourage Investment;" Austin and Johnson, "Quite Some BS: Expanded 'QSBS' Giveaway in Trump Tax Law Threatens State Revenues and Enriches the Wealthy."
[330] Catherine Fazio, Jorge Guzman, and Scott Stern, "The Impact of State-Level Research and Development Tax Credits on the Quantity and Quality of Entrepreneurship," *Economic Development Quarterly* 34, no. 2 (2020): 188–208, Table 1, https://doi.org/10.1177/0891242420920926.

times more likely to grow than noncorporations.[331] These findings are not unexpected. Choosing the C-corporation form is not an arbitrary legal technicality, it is the legal structure that is built to scale. QSBS targets capital gains relief to exactly the legal form that the innovation literature identifies as the vehicle for transformative growth. Considering other research suggesting C corporations are potentially somewhat disadvantaged by the tax code,[332] QSBS's C-corporation focus is an appropriate targeting strategy.

Taking an international perspective, Canada, the United Kingdom, Australia, and Ireland all maintain similar capital gains preferences for early-stage business investment, despite different tax systems and political environments. Table 5-4 provides several facts about QSBS and similar programs across these countries. The U.S. is not an outlier in providing preferential tax treatment for startup investment.

[331] These studies use state-level records to study business legal forms, and their data record only a corporation indicator variable and cannot formally distinguish C corporations from S corporations. However, it is practically impossible to imagine their results are being driven by S corporations, as S corporations face a strong set of legal constraints to growth. Jorge Guzman and Scott Stern, "Where Is Silicon Valley? Forecasting and mapping entrepreneurial quality," *Science* 347, no. 622 (2015): 606–609, https://doi.org/10.1126/science.aaa0201.

[332] Kyle Pomerleau, *Section 199A and "Tax Parity,"* American Enterprise Institute (September 12, 2022), https://www.aei.org/research-products/report/section-199a-and-tax-parity/.

Table 5-4: Early-Stage Equity Investment Tax Incentives in Select Countries

Country (Program)	Incentives provided	Qualification method	Holding period
United States (QSBS)	At exit	As-of-right	5 years (3-4 partial)
Canada (Lifetime Capital Gains Exemption)	At exit	As-of-right	2 years
United Kingdom (SEIS or EIS)	Both at investment and at exit	As-of-right	3 years
Australia	At exit	As-of-right	15 years (for full benefit)
Ireland (EIIS)	At investment	Discretionary	4 years

Source: Tax Foundation[333]

While QSBS is economically sound and pro-growth, there are clear opportunities for improvement. For example, the trust-multiplication strategies that allow well-advised taxpayers to exclude far more than the statutory cap are an abuse of the provision's intent and should be curtailed.[334] However, the case for reducing the tax burden on entrepreneurial risk-taking via QSBS is grounded in the economics of innovation and the specific QSBS policy is supported by the empirical evidence.

Extending IRC Section 199A to business development companies

The *Tax Cuts and Jobs Act of 2017* (TCJA) introduced the Section 199A qualified business income (QBI) deduction, permitting individual taxpayers to deduct up to 20 percent of pass-through business income. P.L. 119-21 made Section 199A permanent. In general, under Section 199A, qualified business income for

[333] Aleksei Shilov (Research Software Developer, Tax Foundation), in discussion with the author. QSBS information reflects P.L. 119-21 changes in 2025.
[334] Jesse Drucker and Maureen Farrell, "A Lavish Tax Dodge for the Ultrawealthy Is Easily Multiplied," *The New York Times,* December 28, 2021, https://www.nytimes.com/2021/12/28/business/tax-break-qualified-small-business-stock.html.

sufficiently low-income taxpayers qualifies for the deduction, as does qualified business income for high-income taxpayers not from a "specified service trade or business" (SSTB). SSTBs generally include labor-intensive businesses such as law firms, medical practices, and consulting. Non-SSTBs include relatively more capital-intensive businesses such as manufacturing, retail, construction, and real estate.

The Section 199A deduction is also provided for dividends received from Real Estate Investment Trusts (REITs), recognizing that REITs are analogous to pass-through entities for real estate investments. For example, REIT dividends often do not qualify for preferential qualified rates, and REITs are required to distribute at least 90 percent of taxable income.[335] However, a closely analogous class of firms was excluded: business development companies (BDCs). The *Small Business Investor Tax Parity Act of 2025* (H.R. 652), introduced by JEC member Representative Jodey Arrington (R-TX), would close this gap by extending Section 199A favorable tax treatment to BDCs.[336]

BDCs were created by Congress in 1980 through the *Small Business Investment Incentive Act*, which amended the *Investment Company Act of 1940* to channel public market capital to small and middle-market private companies underserved by traditional bank lending.[337] BDCs are designed to be small business analogues to REITs: they must invest at least 70 percent of their

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[335] Chris Mangin Jr. and Nicole Kati Wong, "REIT All About It: One Big Beautiful Bill — Tax Updates for REITs," Paul Hastings, July 18, 2025, https://www.paulhastings.com/insights/client-alerts/reit-all-about-it-one-big-beautiful-bill-tax-updates-for-reits.

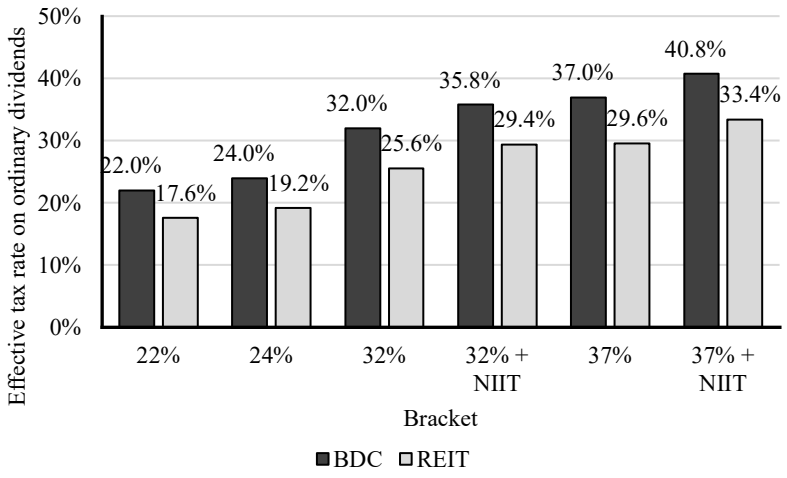
[336] Small Business Investor Tax Parity Act of 2025, H.R. 652, 119th Cong. (2025); "House Bill Would Level Playing Field for BDC Investors," Small Business Investor Alliance, January 24, 2025, https://sbia.org/2025/01/24/sbia-expresses-support-for-bdc-tax-parity-bill-119.

[337] "BDC Primer," BDC Reporter, accessed April 7, 2025, https://bdcreporter.com/bdc-primer/.

total assets in "eligible portfolio companies," which are generally private U.S. firms, or public companies with small market capitalizations. BDCs must also offer managerial assistance to their portfolio companies. Moreover, most BDCs elect to eliminate entity-level taxation by distributing at least 90 percent of taxable income as dividends.[338] This structure is analogous to that of REITs: both are pass-through vehicles, and both distribute the vast majority of income. The primary material difference is the underlying asset class: real estate for REITs and private small business lending for BDCs. Not extending Section 199A to BDCs creates a substantial tax asymmetry. For example, at the top marginal individual income tax rate, REIT ordinary dividends are effectively taxed at approximately 29.6 percent after the Section 199A deduction, while BDC ordinary dividends face the full 37 percent marginal rate. Figure 5-3 shows the tax gap between dividends from the two investment firm types more broadly than the top marginal tax rates. The tax gaps at lower rates are relevant because both investment vehicles provide ample opportunities for middle-income retail investors to allocate their savings to these asset classes.

[338] Stuart E. Leblang, Michael J. Kliegman, and Amy S. Elliott, "Tax Bill's Section 199A Expansion Would Boost BDCs," Akin Gump Strauss Hauer & Feld LLP, May 23, 2025, https://www.akingump.com/en/insights/tax-insights/tax-bills-section-199a-expansion-would-boost-bdcs.

Figure 5-3: Tax Asymmetry Between Business Development Companies (BDCs) and REITs under Current Law (Section 199A)



Source: JEC calculations[339]

Extending Section 199A to BDCs is pro-innovation. BDC dividends derive from interest income on loans to operating small businesses, many of which are developing new products, expanding into new markets, or scaling operations. Indeed, recent academic research finds that "BDCs fill a niche that allows capital to reach middle-market firms—often firms with high growth opportunities and lack of sustainable funding sources—thereafter stimulating firm growth and innovation," and that "firms' access to BDC funding stimulates their employment growth and patenting activity."[340] Thus, the *Small Business Investor Tax Parity Act* is a pro-growth tax reform, and this Section 199A

[339] NIIT = 3.8 percent Net Investment Income Tax (IRC §1411), applies above $200K/$250K MAGI. Section 199A deduction reduces taxable income base by 20 percent; NIIT applies to full investment income (not reduced by Section 199A).
[340] Tetiana Davydiuk, Tatyana Marchukb, and Samuel Rosen, "Direct Lenders in the U.S. Middle Market," *Journal of Financial Economics* 162 (2024), https://doi.org/10.1016/j.jfineco.2024.103946.

extension to BDCs should be incorporated into future tax legislation.[341]

Box 5-1: Taxes in a Schumpeterian Growth Model

This box presents a one-sector Schumpeterian growth model, following Philippe Aghion and Peter Howitt (2009, Section 4.2).[342] The model illustrates how the taxation of R&D inputs can lead to lower long-run growth, and how the taxation of business profits can create a distortion that most likely also lowers long-run growth rates.

Final good production. A competitive sector produces a final good using labor L (fixed) and an intermediate good x_t via production function,

$$Y_t = L^{1-\alpha} A_t^{1-\alpha} x_t^{\alpha}$$

where A_t is the productivity of the intermediate good and $\alpha \in (0,1)$. Note that this production function is constant returns to scale in labor and the intermediate input.

GDP is final output net of intermediate inputs: $\text{GDP}_t = Y_t - x_t$. All prices are in units of the final good.

[341] While the House-passed H.R. 1 would have increased the Section 199A deduction rate to 23 percent and extended it to BDCs, the Senate version reduced this back to 20 percent and omitted the BDC extension. While a case could be made for a larger Section 199A tax deduction as a way to lower business income taxes, we argue that parity between BDCs and REITs is certainly justified. KPMG, *Passthrough tax provisions in "One Big Beautiful Bill Act,"* (May 2025), https://kpmg.com/kpmg-us/content/dam/kpmg/taxnewsflash/pdf/2025/05/kpmg-report-passthroughs-one-big-beautiful-bill-may-16-2025.pdf.

[342] Philippe Aghion and Peter Howitt, "Chapter 4: The Schumpeterian Model" in *The Economics of Growth*.

Intermediate good monopolist. Each period, the intermediate good is produced by a monopolist with quality (technology) A_t, using units of the final good as input on a one-for-one basis. The competitive final good producers pay the marginal product of the intermediate input, so the monopolist faces inverse demand,

$$p_t = \alpha(A_t L)^{1-\alpha} x_t^{\alpha-1}$$

Maximizing monopoly profit $\Pi_t = p_t x_t - x_t$ yields the monopolist's chosen intermediate quantity and equilibrium profit,

$$x_t^* = \alpha^{2/(1-\alpha)} A_t L$$
$$\Pi_t^* = \pi A_t L$$

where $\pi \equiv (1-\alpha)\alpha^{(1+\alpha)/(1-\alpha)}$ is a constant. Substituting back, GDP is proportional to technology A_t,

$$\text{GDP}_t = \alpha^{2\alpha/(1-\alpha)}(1-\alpha^2) A_t L \propto A_t$$

This is the key structural feature: GDP grows at the same rate as A_t. A_t grows through innovation, to be specified next.

Innovation. Each period, an entrepreneur attempts to replace the incumbent intermediate good monopolist through *drastic innovation* (that is, *creative destruction*). If successful, the productivity of the intermediate good rises to $A_t = \gamma A_{t-1}$, where $\gamma > 1$ is the innovation step size, and the entrepreneur displaces the monopolist for one period.[343] Otherwise, $A_t = A_{t-1}$.

[343] The entrepreneur is replaced the following period by a randomly drawn firm with access to the new technology, so there is no continuation value. This keeps the model simple.

The entrepreneur chooses how many units of the final good R_t to invest in research. The probability of successful innovation is assumed to be the following function,

$$\mu_t = \lambda \left(\frac{R_t}{\gamma A_{t-1}} \right)^{\sigma}$$

where $\lambda > 0$ is a productivity parameter and $\sigma \in (0,1)$ governs the elasticity of research output with respect to research input. Research spending is normalized by γA_{t-1} to prevent the increasing scale of the economy from mechanically increasing growth rates over time—this is a standard normalization in Schumpeterian models, used to yield a constant growth rate.

The entrepreneur's expected payoff is:

$$\mathbb{E}\left[\text{Profits}_{\text{Entrepreneur}}\right] = \lambda \left(\frac{R_t}{\gamma A_{t-1}} \right)^{\sigma} \pi \gamma A_{t-1} L - R_t$$

The first-order condition yields normalized research intensity $n^* \equiv R_t/(\gamma A_{t-1})$:

$$n^* = (\sigma \lambda \pi L)^{1/(1-\sigma)}$$

and the equilibrium innovation rate:

$$\mu^* = \lambda^{1/(1-\sigma)} (\sigma \pi L)^{\sigma/(1-\sigma)}$$

Economic growth. Since GDP is proportional to A_t, the expected growth rate of GDP equals the probability of innovation times the size of the multiplicative innovation step:

$$g = \mu^*(\gamma - 1) = \lambda^{1/(1-\sigma)}(\sigma\pi L)^{\sigma/(1-\sigma)}(\gamma - 1)$$

The economy's growth rate is *endogenous*. Any policy that changes the incentives to invest in research will in general affect the growth rate.

Taxing R&D inputs. Now suppose the government levies a tax at rate τ on research inputs. To purchase R_t units of research inputs, the entrepreneur must pay $(1+\tau)R_t$. The entrepreneur's problem becomes:

$$\mathbb{E}\left[\text{Profits}_{\text{Entrepreneur}}\right] = \lambda\left(\frac{R_t}{\gamma A_{t-1}}\right)^{\sigma} \pi\gamma A_{t-1} L - (1+\tau)R_t$$

The first-order condition now gives:

$$n^*(\tau) = \left(\frac{\sigma\lambda\pi L}{1+\tau}\right)^{1/(1-\sigma)}$$

The innovation rate becomes:

$$\mu(\tau) = \lambda^{1/(1-\sigma)}\left(\frac{\sigma\pi L}{1+\tau}\right)^{\sigma/(1-\sigma)}$$

and the growth rate is:[344]

$$g(\tau) = \lambda^{1/(1-\sigma)}\left(\frac{\sigma\pi L}{1+\tau}\right)^{\sigma/(1-\sigma)}(\gamma - 1)$$

[344] With taxation of R&D inputs, GDP includes government tax revenue: $\text{GDP}_t = Y_t - x_t + \tau R_t$. Since $R_t = n^*(\tau)\gamma A_{t-1}$, tax revenue is proportional to A_{t-1} and thus grows at the same rate as A_t. The growth rate of GDP is therefore still equal to the growth rate of A_t.

The tax on R&D inputs unambiguously reduces the long-run growth *rate* of the economy. The growth rate with the tax relative to the growth rate without the tax is:

$$\frac{g(\tau)}{g(0)} = \left(\frac{1}{1+\tau}\right)^{\frac{\sigma}{1-\sigma}}$$

More generally, for a tax rate increase from τ to $\tau + \Delta\tau$,

$$\frac{g(\tau+\Delta\tau)}{g(\tau)} = \frac{\frac{g(\tau+\Delta\tau)}{g(0)}}{\frac{g(\tau)}{g(0)}} = \frac{\left(\frac{1}{1+\tau+\Delta\tau}\right)^{\frac{\sigma}{(1-\sigma)}}}{\left(\frac{1}{1+\tau}\right)^{\frac{\sigma}{(1-\sigma)}}}$$

$$= \left(\frac{1+\tau}{1+\tau+\Delta\tau}\right)^{\frac{\sigma}{(1-\sigma)}}$$

$$= \left(\frac{\text{R\&D user cost before tax increase}}{\text{R\&D user cost after tax increase}}\right)^{\frac{\sigma}{(1-\sigma)}}$$

the last expression is obtained by noting that in the model, the user cost for R&D investment is 1 (the price to the private sector) plus taxes paid.

The business income tax is not a pure profits tax. A common intuition in public finance is that a tax on pure economic profits (rents) is non-distortionary. Indeed, if the government takes a fixed share of a firm's net income (revenues minus all costs including normal rates of return to equity), the tax simply scales down the profit function without changing the profit-maximizing decision. This intuition fails in the Schumpeterian growth model. A straightforward way to capture this in the one-sector Schumpeterian model is to trace through the implications of the

entrepreneur not being able to deduct the cost of research investment R_t against its profits when the venture fails.[345]

If the entrepreneur wins (probability μ), the startup becomes the monopolist, the R&D costs are on the firm's books, and the entrepreneur earns after-tax profit $(1-\tau)(\Pi_t^* - R_t)$, where τ is the business tax rate. If the entrepreneur loses (probability $1-\mu$), the startup has no revenue. It has accumulated net operating losses (NOLs) equal to R_t, but these losses are largely stranded.[346] The entrepreneur's expected payoff therefore becomes,

$$\mathbb{E}\left[\text{Profits}_{\text{Entrepreneur}}\right] = \mu_t(1-\tau)(\Pi_t^* - R_t) + (1-\mu_t)(-R_t)$$

which is not proportional to the entrepreneur's expected profit without taxation. Therefore, the business income tax is not a pure profits tax: it distorts firm behavior. The actual distortion depends on parameter values. The most plausible effect is that the entrepreneur's research effort will be reduced, and therefore, economic growth will be lower due to business income taxation.

Calibrating taxing R&D inputs. To calibrate the taxing R&D inputs equation in the one-sector creative destruction model,

[345] More broadly, entrepreneurial effort is not fully deductible, an additional asymmetry that also breaks the pure economic profits intuition.

[346] Internal Revenue Code Sections 269, 382, and 383 are designed to curtail the transferability of losses to profitable firms (including losses accumulated via tax credits). For a discussion of how these asymmetries disadvantage entrepreneurs, see *The Tax Code as a Barrier to Entrepreneurship*, *Testimony Before the U.S. House Committee on Small Business,* 115th Cong. (2017) (statement of Kyle Pomerleau, Director of Federal Projects, Tax Foundation), https://taxfoundation.org/testimony/tax-code-barrier-entrepreneurship/.

$$\frac{\text{GDP growth rate with R\&D tax increase}}{\text{GDP growth rate without tax increase}} = \left(\frac{\text{R\&D user cost before tax increase}}{\text{R\&D user cost after tax increase}}\right)^{\frac{\sigma}{(1-\sigma)}}$$

we first need estimates of R&D user costs before and after the tax increase. Using a recent CRS report,[347] we find R&D amortization shifted the user cost by the ratio of 0.2221/0.2125 = 1.045.[348] Because σ is difficult to calibrate, we choose σ to match Tax Foundation's estimate of the GDP level effects of R&D expensing in year 10, which is approximately 0.11 percent greater GDP.[349] With a baseline growth rate of $\bar{g}$ with expensing, the equation to match is therefore,

$$gap_{10} = 1 - \left(\frac{1 + \bar{g} \cdot \left(\frac{1}{1.045}\right)^{\frac{\sigma}{1-\sigma}}}{1 + \bar{g}} \right)^{10} = 0.0011$$

This sets the model-implied year-10 GDP loss from the amortization tax equal to Tax Foundation's estimate, with $\overline{g}$ given and σ as the unknown to solve for.

Supposing $\overline{g} = 0.02$ as the baseline growth rate,[350] this reduces to,

[347] Gravelle and Keightley, *The Federal Research and Development (R&D) Tax Credit*.
[348] The R&D credit "basis adjustment" provisions were also changed in TCJA and P.L. 119-21. We exclude the change from our analysis and consider the effects on the user cost of capital holding basis adjustment fixed at the pre-TCJA and post-P.L. 119-21 policy. This is consistent with the Tax Foundation's model.
[349] Garrett Watson (Director of Policy Analysis, Tax Foundation), in discussion with the author. Their latest estimates for R&D expensing include a 10-year GDP effect of +0.11 percent, and a long-run effect of +0.13 percent.
[350] This is close to CBO's baseline real GDP growth rate. Congressional Budget Office, *CBO's Current View of the Economy From 2025 to 2028* (September 2025), https:/www.cbo.gov/publication/61236.

$$gap_{10} = 1 - \left(\frac{1 + 0.02 \cdot \left(\frac{1}{1.045}\right)^{\frac{\sigma}{1-\sigma}}}{1 + 0.02} \right)^{10} = 0.0011$$

solving for σ yields,

$$\sigma = 0.113$$

We believe this is likely a conservative estimate for σ, and a higher estimate for σ would imply even greater growth effects from R&D expensing. However, this calibration exercise illustrates our argument: the creative destruction model implies R&D expensing has a long-run GDP growth effect, and thus the gap continues to increase in this model. By contrast, with the traditional Solow growth model, after the R&D expensing policy change, the economy converges to a fixed increased percent in GDP.

Box 5-2: The Advantages of (Nonrefundable) Tax Credits over Direct Appropriations

We argue that when government subsidies for innovation are warranted, tax credits are generally superior to direct appropriations. Moreover, within the class of tax credits, we further argue that nonrefundable credits are generally preferable to refundable ones. This box formalizes these arguments through two complementary illustrative models. The first model addresses the choice between *matching grants* (tax credits) and *picking winners* (direct appropriations). The second model addresses the choice between *refundable* and *nonrefundable* tax credits.

Model 1: Tax credits dominate picking winners

Consider a government that seeks to increase R&D output beyond the privately chosen level, motivated by the positive spillovers that innovative activity confers on the broader economy. The government has a fixed budget B to devote to this objective. We compare two policy instruments for deploying that budget.[351]

R&D tax credits (matching grants). The government subsidizes each dollar of private R&D expenditure at rate s. The subsidy rate is set so that total government expenditure equals the budget B. This instrument resembles policies such as R&D expensing, the Research and Experimentation (R&E) tax credit, and the Orphan Drug Credit.

Picking winners (appropriations). The government provides B dollars' worth of R&D inputs directly to a chosen "champion" firm. This instrument resembles programs such as the CHIPS for America grants, where large capital appropriations are allocated to specific firms for specific projects.

We compare these two instruments in two steps. Step 1 considers a single productive firm and shows that matching grants dominate lump-sum transfers even in this favorable case. Step 2 introduces a second, unproductive "low type" firm that the government may

[351] Recent work studies optimal R&D taxation, finding that linear corporate taxes combined with nonlinear R&D subsidies (for example, tax credits) can be close to optimal; see Akcigit, Hanley, and Stantcheva, "Optimal Taxation and R&D Policies." Arguments for and estimations of the gap between the private and social return to R&D (the $\alpha < 1$ in the model) have a long history; see Gravelle and Keightley, *The Federal Research and Development (R&D) Tax Credit*. The idea that government cannot effectively pick winners (the $p > 0$ in the model) also has a long history; see Josh Lerner, *Boulevard of Broken Dreams: Why Public Efforts to Boost Entrepreneurship and Venture Capital Have Failed—and What to Do About It* (Princeton University Press, 2009).

accidentally select when trying to "pick winners," further strengthening the case for the tax credit approach.

Setup. A firm with productivity parameter θ chooses R&D input r to produce R&D social output $y = \theta \cdot 2r^{1/2}$. R&D inputs are supplied perfectly elastically at a cost of \$1 per unit. Due to spillovers, the firm captures only fraction $\alpha < 1$ of the social value of its output, hence its profit function is $\pi = \alpha \cdot \theta \cdot 2r^{1/2}$. The government has budget B to spend on R&D subsidies. Throughout, we set $\alpha = 0.5$ and $B = 1$ for illustration.

Step 1: One firm. Consider a single "high type" firm with productivity $\theta = 1$. There are three cases:

1. **Laissez-faire:** the firm solves $\max_r 0.5 \cdot 1 \cdot 2r^{1/2} - r$, thus choosing $r^{LF} = 0.25$, and R&D social output is 1.
2. **Appropriations (lump sum):** the government gives the firm $B = 1$ units of r. Because an R&D input of 1 is on the downward sloping part of the firm's profit function (at such a high value of r, the revenue from a marginal increase in r falls short of the marginal cost of r), the firm employs that 1 unit and no more. R&D social output is 2.
3. **Matching grant:** the government provides a matching grant at rate s to the firm. The firm solves $\max_r \alpha \cdot 2 \cdot r^{1/2} - (1-s)r$, and the government's budget constraint is $sr^* = B = 1$, where r^* is the firm's choice. For a given s, the firm's choice is $r^* = \frac{0.25}{(1-s)^2}$. Thus, s^* solves $s^* \frac{0.25}{(1-s^*)^2} = 1$, which yields $s^* = 0.61$. Thus $r^* = 1.64$, and social output is 2.56.

Clearly, with one firm, the optimal policy is a matching grant, that is, a tax credit for R&D.

Step 2: Two firms—one high type, one low type. When we add the possibility of appropriating funds to a low type firm, this strengthens the argument in favor of tax credits. To make this stark, we will assume the low type is completely unproductive $\theta_L = 0$ (for example, the government accidentally funds Solyndra or Crescent Dunes solar panel technology firms). The high type firm is as productive as in the one-firm case, $\theta_H = 1$. The low type firm will on its own accord choose to exit the market, that is, choose $r_L = 0$, and no matching subsidy (with $s < 1$) will change that because the low type will still lose money at any match rate. However, the existence of a convincing low type means that, with probability p, the appropriations lump sum will go to the low type and be completely wasted. Thus, the only change to the model is that, under appropriations, there is a p probability of the laissez-faire outcome (since the high type firm behaves as it would under laissez-faire), and a $(1-p)$ probability of the one-firm appropriations outcome (when the appropriation goes to the high type firm). The expected social research output thus becomes $1 \cdot p + 2 \cdot (1-p)$. If the government is very bad at picking winners, much of the government's budget can be wasted on low type firms.

We summarize the results of the theory in Table 5-5.

Table 5-5: R&D Social Output by Policy Instrument

Policy	Research (social) output	Government budget cost
Laissez-faire	1	0
Tax credit (matching grant)	2.56	1
Picking winners—1 firm	2	1
Picking winners—1 high type, 1 low type, omniscient government	2	1
Picking winners—1 high type, 1 low type, randomly choosing government	1.5	1

The key result is that matching grants do not require the government to identify productive firms *ex ante*. Instead, firms reveal their productivity through their response to the subsidy. This information revelation operates on two margins simultaneously. On the extensive margin, unproductive low type firms self-select out of the subsidy program entirely. On the intensive margin, productive firms expand their own R&D spending in proportion to their privately known returns, generating a co-investment multiplier that lump-sum transfers cannot replicate. Thus, among the interventions considered, the tax credit yields the highest R&D output per government dollar.

Model 2: The screening value of nonrefundable investment tax credits

Model 1 establishes that tax credits are superior to direct appropriations, but within the class of tax credits, there remains a further design choice: should the credit be refundable or nonrefundable? The conventional view, grounded in neutrality, holds that the subsidy rate should not depend on a firm's tax position, and thus favors refundability. The model in this section challenges this view by identifying an efficiency rationale for nonrefundability.

Nonrefundable tax credits for businesses function differently than nonrefundable tax credits for individuals. An individual taxpayer who lacks sufficient tax liability to use a nonrefundable credit (such as the nonrefundable portion of the Child Tax Credit) has essentially no recourse; options for restructuring are extremely limited, with marriage and filing jointly being a notable exception. Business entities, by contrast, are far more malleable. Through partnership structures, mergers, acquisitions, or consolidation into profitable conglomerates, businesses can often restructure to

monetize credits that would otherwise be stranded. Various anti-abuse provisions under IRC Sections 269, 382, and 383 constrain these strategies, but the fundamental point remains that for business taxpayers, nonrefundability does not make credits inaccessible. Rather, it imposes a *transaction cost* that must be paid to access the credit value—the cost of transferring the credit-bearing asset into the hands of a firm that can use it, without running afoul of anti-abuse provisions.

This transaction cost is the key to the screening mechanism. In what follows, we present an illustrative model that shows how nonrefundability, operating through this transaction cost, can filter out unproductive investments that a refundable credit would subsidize indiscriminately. The model requires a departure from the neoclassical benchmark: the existence of some irrational market actors ("noise investors").

Setup. Motivated by the *CHIPS and Science Act*, we call projects "fabs" in this illustrative model.

Agents. There are three types of agents: (1) *noise investors*, who cannot distinguish good projects from bad and systematically overestimate fab values; (2) *smart investors*, who correctly identify and invest only in good fabs; and (3) a *buyer* with perfect information about fab quality, sufficiently high profits such that it can always use nonrefundable credits against its own tax liability, and willingness to acquire any fab at its true value net of transaction costs whenever this net value is positive.

Projects. There are two types of investment projects: (1) *good fabs*, which cost \$100 to build and have operating value $V_G = \$150$; and (2) *junk fabs*, which also cost \$100 to build but have operating value $V_J = \$0$.

Policy instrument. A 25 percent investment tax credit, worth $25 per project (25 percent of the $100 investment cost). The credit may be structured as either refundable or nonrefundable.

Transaction cost. Acquiring any fab requires the buyer to pay a transaction cost T.

Investor behavior. Noise investors build junk fabs because they mistakenly believe them to be good. Smart investors build only good fabs. Both types sell their completed fabs to the buyer.

Case 1: Refundable credit. Under a refundable credit, each investor receives $25 directly from the government upon making a qualifying investment, regardless of tax liability. The noise investor builds a junk fab: it pays $100, receives a $25 refund, and holds an asset worth $0, for a net loss of $75. The investor builds anyway because it is a noise investor—it mistakenly expects the fab to be profitable. The smart investor builds a good fab: it pays $100, receives $25, and holds an asset worth $150, for a net gain of $75.

The critical feature is the government's expenditure: $25 per project, *regardless of project quality*. The subsidy flows indiscriminately to both good and junk fabs.

Case 2: Nonrefundable credit. Under a nonrefundable credit, the noise investor still builds a junk fab—its overoptimism is unchanged—but it cannot use the credit directly, because it has no taxable profits to offset (and never will). The credit sits on the junk fab's books, unusable, unless a profitable buyer acquires the fab and thereby absorbs the credit. The buyer, however, must pay transaction cost T to complete the acquisition.

The buyer's valuation of each fab type is therefore:

Junk fab: operating value ($0) + credit value ($25) − transaction cost (T) = $25 − T
Good fab: operating value ($150) + credit value ($25) − transaction cost (T) = $175 − T

For any transaction cost in the range $\$25 < T < \$175$, the buyer acquires the good fab (which is worth acquiring on its operating merits alone) but *not* the junk fab (whose only value is the $25 credit, which does not cover the transaction cost). Only the good fab's credit gets monetized, and the government is spared from subsidizing the junk fab. Nonrefundability thereby screens out unproductive investments while allowing productive ones to receive the full subsidy.

Table 5-6: Government Expenditure by Credit Design

	Refundable credit	**Nonrefundable credit ($\$25 < T < \$175$)**
Good fab subsidy	$25	$25
Junk fab subsidy	$25	$0

Policy implications. The screening mechanism depends on the transaction cost T falling in the right range. If transaction costs are too low ($T < \$25$), the buyer will acquire junk fabs purely for their credit value, and nonrefundability provides no screening. Transferable credits, such as those introduced in the *Inflation Reduction Act of 2022*, can be understood in this framework as nonrefundable credits with T driven close to zero—effectively refundable, with the screening benefit largely eliminated. At the other extreme, if transaction costs are too high ($T > \$175$), even good fabs cannot be transferred, and the credit becomes inaccessible to firms that lack their own tax liability. In this case, the credit fails to subsidize even productive investments.

The policy-relevant regime is the interior one, $\$25 < T < \$175$, where nonrefundability imposes a cost large enough to deter acquisition of worthless assets but small enough that the market can still transfer productive assets to their highest-valued use. The anti-abuse provisions of the Internal Revenue Code—IRC Sections 269, 382, and 383—can be understood as calibrating this transaction cost. They make it costly, but not impossible, for profitable firms to acquire and monetize credits from less profitable entities.