

The Near-Term Fiscal Impact of H-1B Workers at the Federal and State-and-Local Levels

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The H-1B visa is the primary pathway for skilled immigrants to come work in the United States. While much is known about how individuals on those visas affect innovation and the firms they work for, relatively little has been written about their impact on government finances. In this report, we build on our prior work¹ and examine the effect of H-1B visas on government revenues and expenditures at the state, local, and federal levels.

The H-1B program is targeted at highly educated workers, so it is no surprise that they tend to be highly paid and generate positive fiscal impacts. The size of a given H-1B worker's fiscal effect, however, depends on the characteristics of the worker, their family, and where they live.

Understanding how the fiscal impacts of H-1B workers vary across the country therefore requires a detailed look at incomes, demographics, and state and local taxing and spending data. In this paper, we undertake that analysis and find the following key results:

The state and local fiscal impact of H-1B households² is substantial and positive in every state except New Hampshire, which has neither an income nor general sales tax, and Washington, D.C. As of 2023, the annual net fiscal impact ranges from -\$1,429 per H-1B household in New Hampshire to \$12,287 in California. The average fiscal impact is \$5,040.³

- At the federal level, the average annual net fiscal impact is \$30,049 per H-1B household.
- Economically disadvantaged states often see disproportionately high fiscal gains. Mississippi and West Virginia — two of the lowest-income states — generate \$4,598 and \$5,778 per H-1B household, respectively, higher fiscal gains than 21 other states.

While H-1Bs clearly have positive and substantial fiscal impacts at all levels of government, the visa nevertheless is far from optimized. To illustrate this, we examine the fiscal impacts of two improvements that could be made to the program:

1. Allowing all spouses of H-1B holders to work.

- Moving from a random lottery to the Economic Innovation Group’s (EIG) proposed wage-ranked selection, which uses estimates of H-1B applicants’ future earnings through age 65 to prioritize those applicants who will make the biggest economic and fiscal contributions to the United States over their working lives.⁴

If all H-1B spouses could work, the average fiscal state and local impact would rise to \$7,671 per H-1B household, and the federal impact would increase to \$45,847.

If H-1Bs were selected based on a wage-ranked selection without working spouses, the average state and local impact would increase to \$7,982, and the federal impact would rise to \$48,697.

Implementing *both* policy changes at once would more than double both the state and federal impacts to \$10,650 and \$65,017 per H-1B household annually, respectively.

These figures illustrate that while the H-1B program’s boost to government revenues is already positive and substantial, it could be made significantly larger with simple improvements to the policy.

Table 1: Topline fiscal impacts

Level of Government	Baseline	H-4 Reform	Wage Ranking	Wage Ranking w/ H-4 Reform
State + Local	\$5,040	\$7,671	\$7,982	\$10,650
Federal	\$30,049	\$45,847	\$48,697	\$65,017

Baseline estimates are based on the median income of approved petitions for a visa extension. H-4 reform assumes that all H-1B spouses are allowed to work in the United States. Wage ranking incorporates wage estimates from EIG’s H-1B lottery reform proposal. State + Local impacts are the average across states.

Source: Department of Labor, USCIS, U.S. Census Bureau, OMB, Bloomberg FOIA, Brannon et al. (2019).



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Defining Who, What, and When

Measuring a fiscal impact first requires answers to three central questions:

1. Which specific groups of people are having their impact measured?
2. At what level of government (federal, state, local) is their impact being measured?
3. What is the time frame for which the fiscal impact is being measured?

Which people?

The fiscal impact for immigrants overall has been measured in multiple studies.⁵ Many researchers have looked at impacts for a variety of groups of immigrants, including refugees,⁶ or compared the young to the old and those with more and less education.⁷

In this paper, we are interested in one specific group of immigrants: those here on an H-1B visa.

The H-1B is the primary employment-based pathway through which skilled immigrants come to the U.S. The program is a major driver of innovation and productivity growth,⁸ but also the focal point of significant controversy, with perennial political debate over whether it should be expanded, shrunk, or eliminated altogether.

Measuring the fiscal impact of H-1B workers is therefore economically and politically important.

We focus on the full household impact — covering an H-1B worker as well as their dependents — rather than the impact of the H-1B visa holder alone. This is because H-1B workers' dependents are authorized to enter the United States on H-4 visas, and they would not be here if the H-1B visa had not been issued to their family member.

Another important consideration for deciding whom to include is whether to use mean or median wages. The median can be thought of as estimating the impact of the typical worker, while the mean is the total average impact across all workers. We are producing state-level estimates that rely on smaller samples than a national estimate would, which creates more risk of results being skewed by outliers.⁹ Using the mean is more vulnerable to this kind of skewing, and thus the median wage measure is more appropriate for our analysis.

At which level of government?

We produce estimates of the fiscal impact of H-1B households on the federal government, as well as the combined effect on state and local governments.

Separating state from local impacts could provide useful information, but the finances of state and local government are highly intertwined, with state governments providing 28 percent of local revenues on average. This interdependence also varies substantially by state, ranging from 8 percent in Hawaii to 56 percent in Vermont. Separating them would therefore present a misleading and inconsistent picture.

A similar issue exists for the federal government, which provides 6 percent of local government revenues and 36 percent for states. This allows state and local governments to spend more than they raise in revenues, a transfer-driven deficit that biases state and local fiscal impact estimates toward negative results.

Nevertheless, federal government transfers to states are driven by a consistent federal policy, unlike the widely varying state-by-state contributions to local government. In addition, the geographic variation in H-1B workers' location and pay makes it important to understand state and local impacts separately from the federal impact. For these reasons, we follow the National Academy of Sciences and combine state and local impacts but report the federal government impact separately.¹⁰

Across what time horizon?

Many estimates of immigrants' fiscal impacts look at the long run. One of the most influential studies is a 75-year net present value (NPV) analysis of immigration published by the National Academy of Sciences.¹¹ Similarly, Daniel Di Martino of the Manhattan Institute estimates the NPV of the fiscal impact of immigrants over their entire lifetimes,¹² as do Alex Nowrasteh and co-authors in a Cato Institute white paper.¹³

For those concerned about multigenerational impacts, long-run estimates like these are essential. But policymakers must set budgets year-to-year and plan for the medium term. Voters also care about their taxes and government services over the next few years and not just over their lifetimes. Furthermore, the H-1B is itself a short-term visa, even if many current H-1B workers will eventually get a green card.

For these reasons, we estimate the near-term fiscal impact of H-1B visas at all levels of government. Throughout the analysis, we report single-year annual impacts as of 2023, treating this as a representative snapshot of the near term.

This focus on the near term determines which economic changes from immigration we include and which we do not. We count effects that are likely to materialize relatively quickly — roughly within the first five years — and put them on an annual basis while excluding impacts that depend on much longer-term adjustments.

For example, inflows of high-skilled immigrants would likely lead to additional housing construction within a few years, so we include housing market effects. Indeed, when immigration changes population flows consistently, we can expect that builders begin to anticipate demand and that housing supply expands, making the economic impacts potentially very near-term. We also can expect that businesses expand in the near term as the skilled labor supply grows, increasing both business revenues and related tax payments.

By contrast, although larger high-skilled population flows may eventually require the construction of new hospitals, for instance, or spur the emergence of entirely new industries, these are longer-run developments and fall outside the scope of our near-term estimates.

H-1B Characteristics

Wages

H-1B workers are highly educated and tend to work in innovative sectors, with more than a third of them holding a master's, doctorate, or other professional degree as of 2023.¹⁴ Their employers include universities, technology companies, software companies, and financial institutions.

It is therefore no surprise that H-1B workers are on the high end of the U.S. income distribution. The majority of research on H-1B wages relies upon *initial* wages — reported on the I-129 form — or survey data. In this paper, we take a new approach to measuring the wages of H-1B workers.

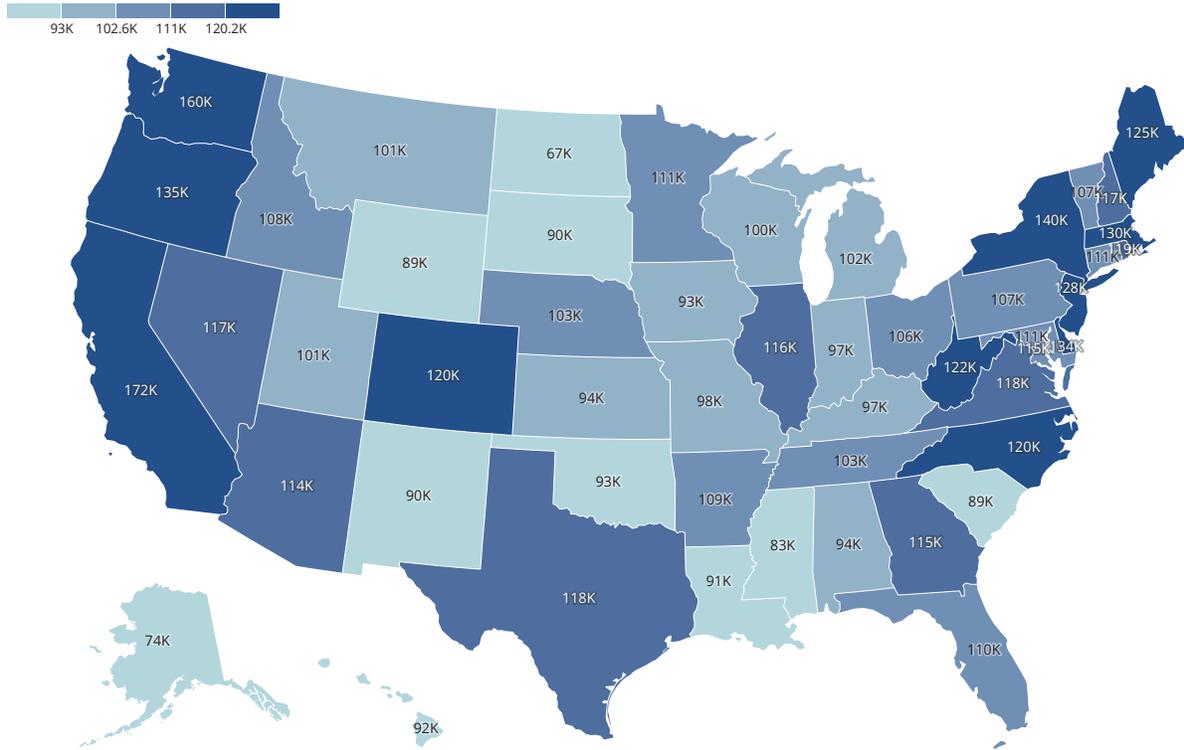
Our approach is intended to capture the typical wages being paid to H-1B workers who are here in their initial six years of the program. To do this, we use the wages reported when H-1B workers file for an extension in their third year, when the initial visa expires. The majority of workers apply for such extensions. As their wages are expected to increase over time, these extension wages can be thought of as the midpoint of what H-1B workers earn throughout their six-year visa term.¹⁵ (We obtain the wage data from the Department of Labor. Further details on this data and the measurement incomes are in Appendix 1.)

While flaws in the skilled immigration system make it far from optimal at selecting the most productive workers, even the lowest-paid H-1Bs are relatively high earners. We estimate that the median salary of H-1B workers nationally in 2023 was \$130,075, which placed them at the 91st percentile of U.S. workers. The 25th percentile of H-1Bs earn \$98,197, which is as much as the 83rd percentile of the U.S. wage distribution. Almost no H-1B worker earns less than the median American worker.

Undoubtedly, the economic impact of these skilled workers is highly concentrated. Skilled immigrants tend to cluster in a few regions of the country. This is partly the result of where high-tech industries themselves locate, partly the result of historical immigration settlement patterns, and partly a reflection of the desire to live in high-cost-of-living places to maximize the value of remittances. The majority of H-1B workers reside in California, New York, New Jersey, and Texas for these reasons.

Despite the clustering, there are H-1B workers in every state. Their median incomes vary widely, however. Using our preferred wage measure, we can see that median H-1B incomes range from \$67,000 in North Dakota to \$171,600 in California.¹⁶

Figure 1: Median incomes of H-1B workers by state

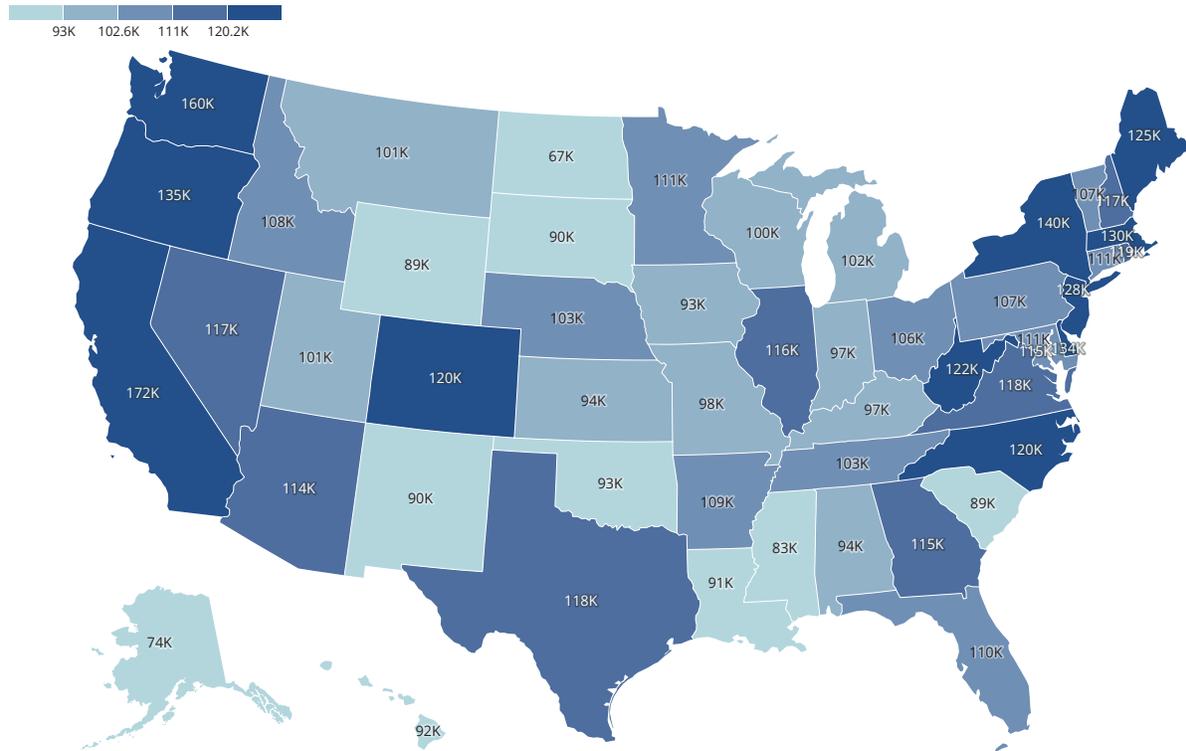


Based on the wages of approved continuing petitions for a visa extension.
 Source: Department of Labor Labor Conditional Application data, fiscal year 2023.



In every single state, H-1B workers have high incomes relative to the typical worker. Their relative standing is lowest in the high-skilled urban labor market of Washington, D.C., where the median H-1B worker’s wage of \$115,000 puts them at the 68th percentile locally. Their relative standing is highest in West Virginia, where the median H-1B worker, earning \$122,275, is at the 95th percentile.

Figure 2: Where H-1B incomes fall in their state distributions
H-1B median wages versus state salary income



Based on wages of approved continuing applications for a visa extension.
Source: DOL Labor Condition Application Data, and IPUMS ACS 2019-2023 5-year data.



Household demographics

How much a household pays in taxes and receives in government services is greatly affected by its demographics. Larger households spend more than smaller households, and higher spending raises more sales tax revenues. On the other side of the ledger, larger households also consume more public services, particularly public education, which is the largest state and local budget item.

For fiscal impacts, the key demographic factors are (1) whether H-1B workers are married, and (2) how many children they have.

Though little direct survey data on H-1B households is available, we can approximate their demographics by identifying individuals in the American Community Survey (ACS) who are highly likely to be H-1B workers.¹⁷ We can then estimate average demographic and household characteristics of those proxy H-1B workers to closely match real H-1B holder demographics.¹⁸

For our baseline models, we assume that spouses cannot work, as they are not legally authorized to, unless their H-1B partner is waiting for a filed green card. In a later section of this report, we estimate how changing this law would likely affect the fiscal impact.

Table 2: Probabilities of each household composition type: baseline model

Scenario	Scenario Description	Probability
Scenario 1	single H-1B worker	38.3%
Scenario 2	married H-1B worker, spouse not working, with kids	24.9%
Scenario 3	married H-1B worker, spouse not working, no kids	36.8%

Source: ACS 5-year estimates 2019–2023, DOL Labor Conditions Applications.



To calculate an overall fiscal impact for each state, we first estimate a fiscal impact separately for each of these scenarios in every state. Then we find the average impact by estimating the weighted average impact across all three scenarios based on the percentage of H-1B holders each scenario represents.

State and Local Fiscal Impacts

The primary data source for revenues and spending by source is the Survey of State and Local Government Finances published by the Census Bureau. This is a comprehensive data source that tells us, for example, how much Pennsylvania's local governments raised in total property tax revenues and spent on K-12 in 2023. Again, although the Census Bureau publishes results for state and local governments separately and combined, we estimate only the combined fiscal impact. Because state governments financially support a significant percentage of local programs, separate impacts would produce a misleading picture.

To estimate a near-term fiscal impact, we need to decide which types of government revenues H-1Bs will contribute to and which types of government expenditures they will receive.

We exclude some types of revenues entirely because they come from taxes or subsidies not levied on H-1B workers directly, just as we exclude some types of expenditures because they are not distributed to H-1B workers directly. Among the excluded types of revenues are investment income, building fees paid by contractors, and public employee pension payments. Public welfare, for which H-1Bs would not qualify even if they were eligible, is excluded on the expenditure side.

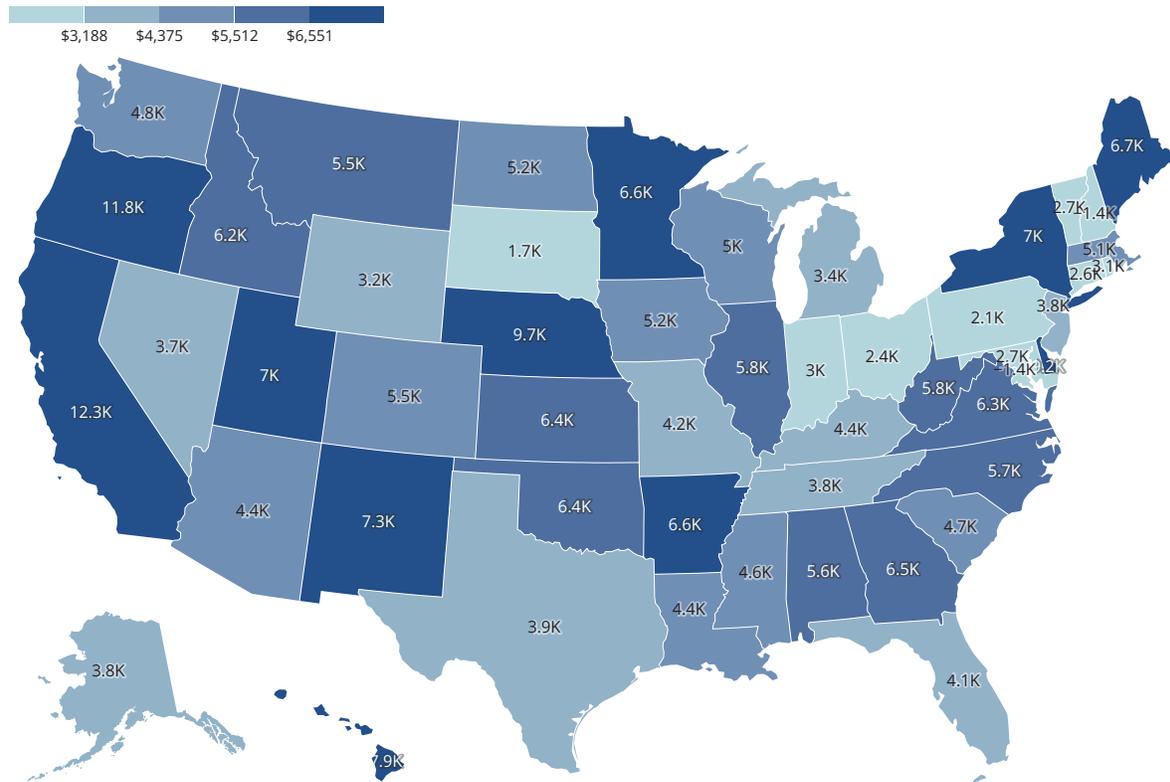
For certain expenditures and revenues that we do model, we assume that they increase with population or number of households. For those that are expected to grow but in more complex ways, we create individual models. This last category includes the most important items on both the revenue and expenditure side: income taxes, sales taxes, property taxes, and K-12 expenditures. Details on the methodology can be found in Appendix 1.

Fiscal impacts of the typical H-1B household

The near-term fiscal impacts based on median H-1B incomes for the year 2023 are presented in Figure 3. For the typical state, issuing an additional H-1B visa results in \$5,040 placed in state and local government coffers. At the high and low ends, the near-term fiscal impact is \$12,287 in California and -\$1,429 in New Hampshire. New Hampshire and the District of Columbia are the only places that appear negative in some of our scenarios. This is because New Hampshire has neither an income tax nor a general sales tax, two of the largest sources of revenue for states, rather than the result of the characteristics of H-1B workers in that state. The District of Columbia spends an unusually large sum on all residents, not just H-1Bs. As a consequence, Washington, D.C., spends more per H-1B household than most states receive in taxes from them. See Figure 3.

Figure 3: Fiscal impact of an H-1B household by state

Baseline scenario



Based on the median wages of approved continuing applications for a visa extension.

Source: Department of Labor and the U.S. Census Bureau.

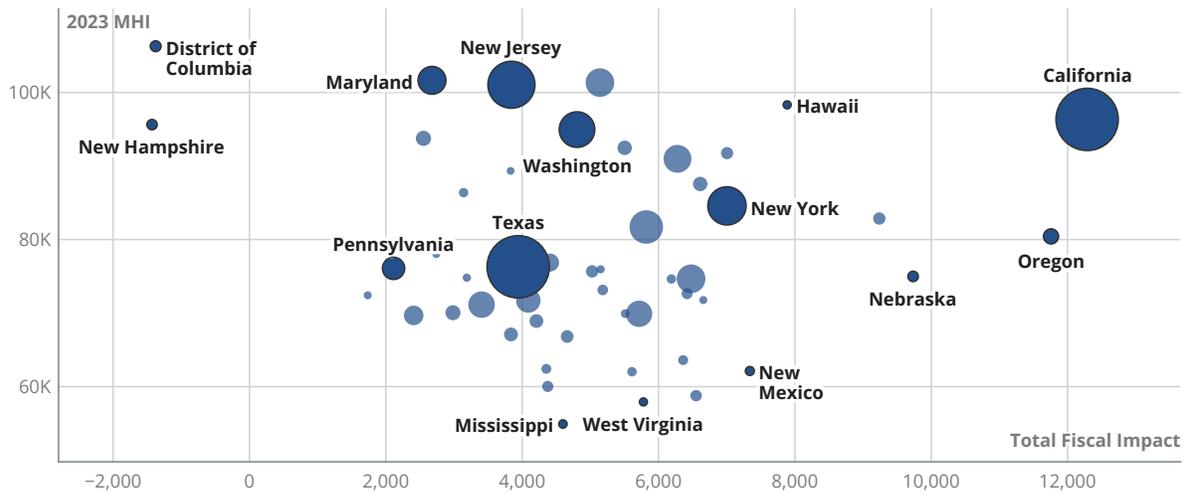


It is well known that H-1B workers are concentrated in the large, technology-focused economies of California, Texas, and Washington state. But some of the most economically disadvantaged states enjoy the highest fiscal gains *per H-1B household*. Mississippi and West Virginia have the lowest median household incomes in the United States, yet the near-term fiscal impact of each H-1B household in those states is \$4,598 and \$5,778, respectively — higher than in 21 other states. New Mexico is in the top 10 for fiscal impact per H-1B household despite being in the bottom 10 for median household income.¹⁹

This result is partly because poorer states have smaller tax bases and thus spend less: Mississippi's state and local governments spent \$11,519 per person combined in 2023, while New York's spent \$20,053. High-earning H-1B workers contribute substantially more in tax revenues than typical residents of these states, and consume even fewer public services.

Another factor is that relative median H-1B earnings are higher than typical in these poorer states: West Virginia-based H-1B workers have incomes at the 95th percentile, the highest percentile of any state. In general, many low-earning states have high marginal fiscal impacts. Some high-earning and high-spending states see relatively lower fiscal impacts.

Figure 4: State median household income versus fiscal impact



Based on the median wages of approved continuing applications for a visa extension. Sized by the number of new H-1B visas approved in fiscal year 2023.

Source: U.S. Census Bureau, Department of Labor, and Bloomberg USCIS FOIA.

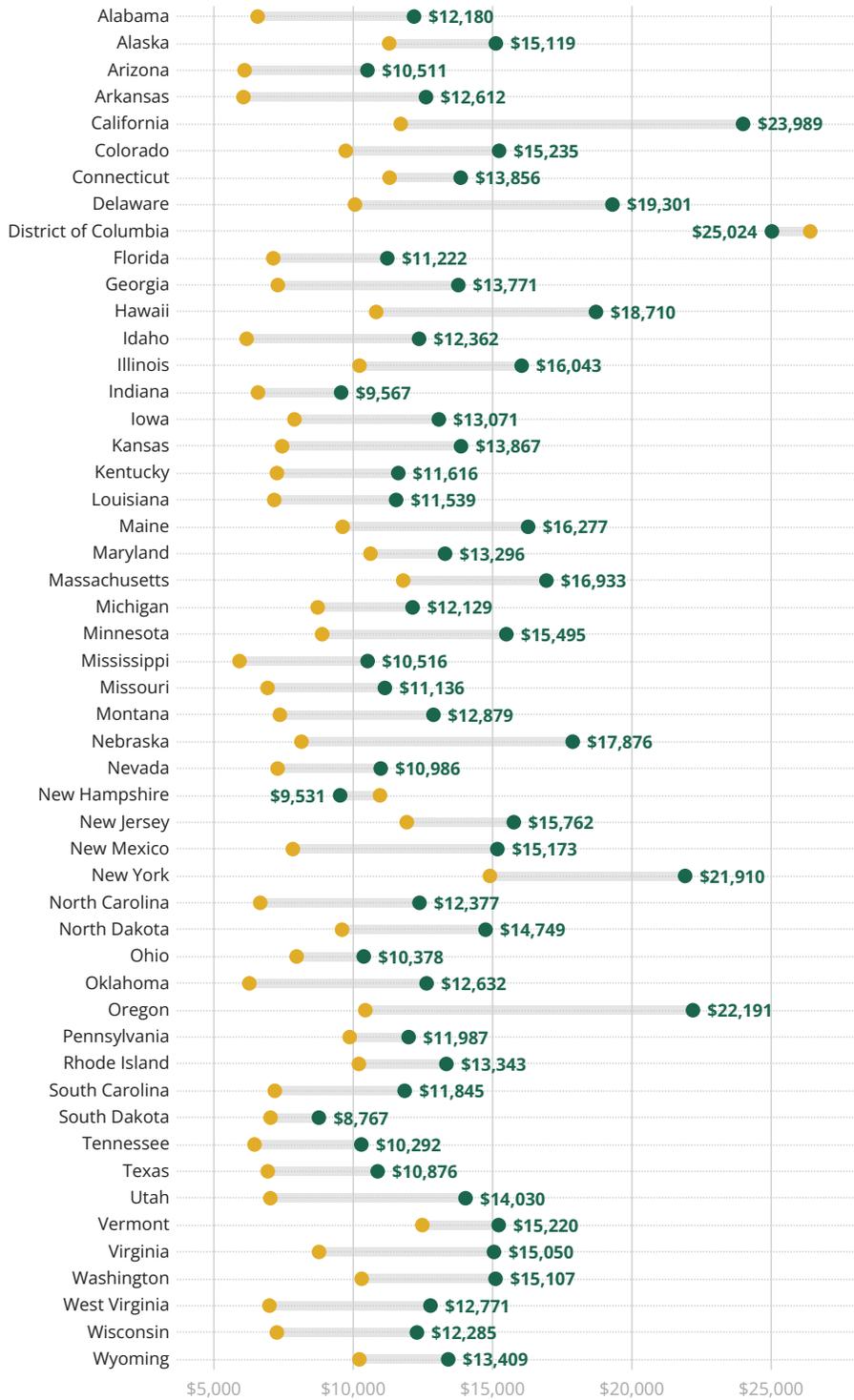


Breaking out the components of these fiscal impacts shows how important the differences are in state and local taxes for the fiscal impact. Although there is significant variance in H-1B incomes across states, this alone does not explain why the fiscal impact is higher in some states than others. As an illustration, the correlation between state household income and H-1B fiscal impact is 0.30, which is positive but fairly weak.

Differences in state expenditures are central to this comparison as well. As an illustration, Washington, D.C., spends more per household than all states collect in revenues. Keep in mind that because the applied expenditures do not vary by income, and because H-1B workers have the same profile across states (law-abiding, high-earning, low public-services-using), these differences in expenditures are entirely the result of state-specific differences.

Figure 5: Revenues versus expenditures

Baseline scenario



Based on the median wages of approved continuing applications for a visa extension.
 Source: DOL Labor Conditions Application data, and Census Bureau data.



Fiscal impacts for the typical H-1B household if all spouses could work

The vast majority of H-1B households are single-earning by law. An H-1B holder's spouse may live in the United States on an H-4 visa, but they cannot apply for permission to work unless the H-1B holder is in the green card backlog.

In general, households with a single worker earn less, and contribute less in tax revenue, than those with two earners. Restrictions on the employment of H-4 spouses result in a significant loss of revenue potential for state and local governments, particularly because the spouses tend to have similarly high education levels as the H-1B holders themselves.

And there is good evidence that the vast majority of these spouses would seek work if authorized. A 2018 survey of H-1B visa holders' spouses found that only 3 percent did not want to work, and 75 percent of eligible spouses were employed.²⁰

We incorporate this 75 percent estimate into our household demographic models to estimate two additional scenarios where spouses are earning a wage. This results in the new set of household type probabilities displayed in the table below.

Table 3: Probabilities of each household composition type: H-4 reform

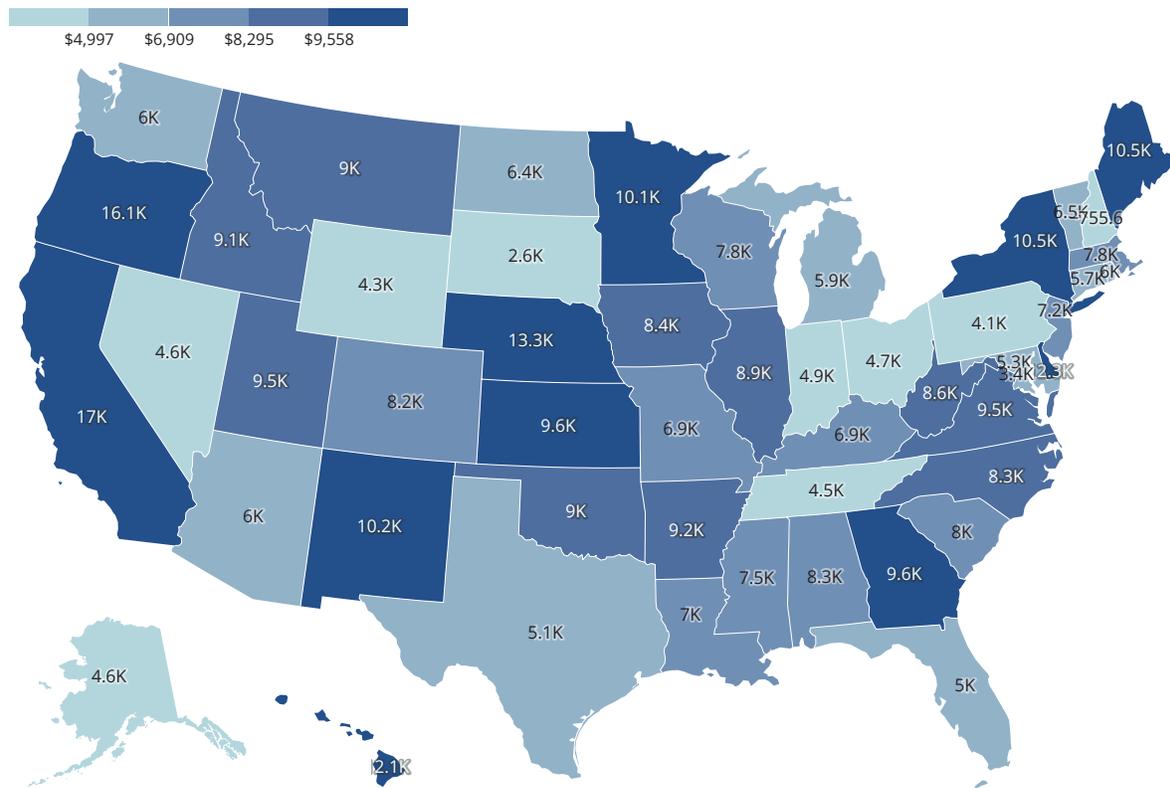
Scenario	Scenario Description	Probability
Scenario 1	single H-1B worker	38.3%
Scenario 2	married H-1B worker, spouse not working, with kids	6.2%
Scenario 3	married H-1B worker, spouse not working, without kids	9.2%
Scenario 4	married H-1B worker, spouse working, with kids	18.7%
Scenario 5	married H-1B worker, spouse working, no kids	27.6%

Source: ACS 5-year estimates 2019-2023, DOL Labor Conditions Applications, and Brannon, Ike and M. Kevin McGee "Repealing H-4 Visa Work Authorization: A Cost-Benefit Analysis" (2019) Available at SSRN: <https://ssrn.com/abstract=3349786>.



Including the estimated additional taxes paid by working spouses, the near-term average fiscal impact across states for H-1B workers rises to \$7,671 — a 52 percent increase above the non-working-spouse baseline. The fiscal impact for California rises to \$16,970; New Hampshire's negative fiscal impact shrinks to -\$756.

Figure 6: Fiscal impact of an H-1B household by state
H-4 reform



Based on the median income of approved continuing petitions for a visa extension, adjusted to wage ranking results. Spouse wages based on DOL wage growth and Brannon et al. (2019).
Source: Department of Labor, USCIS, U.S. Census Bureau, Brannon et al. (2019).



State and local fiscal impacts under H-1B wage ranking reform

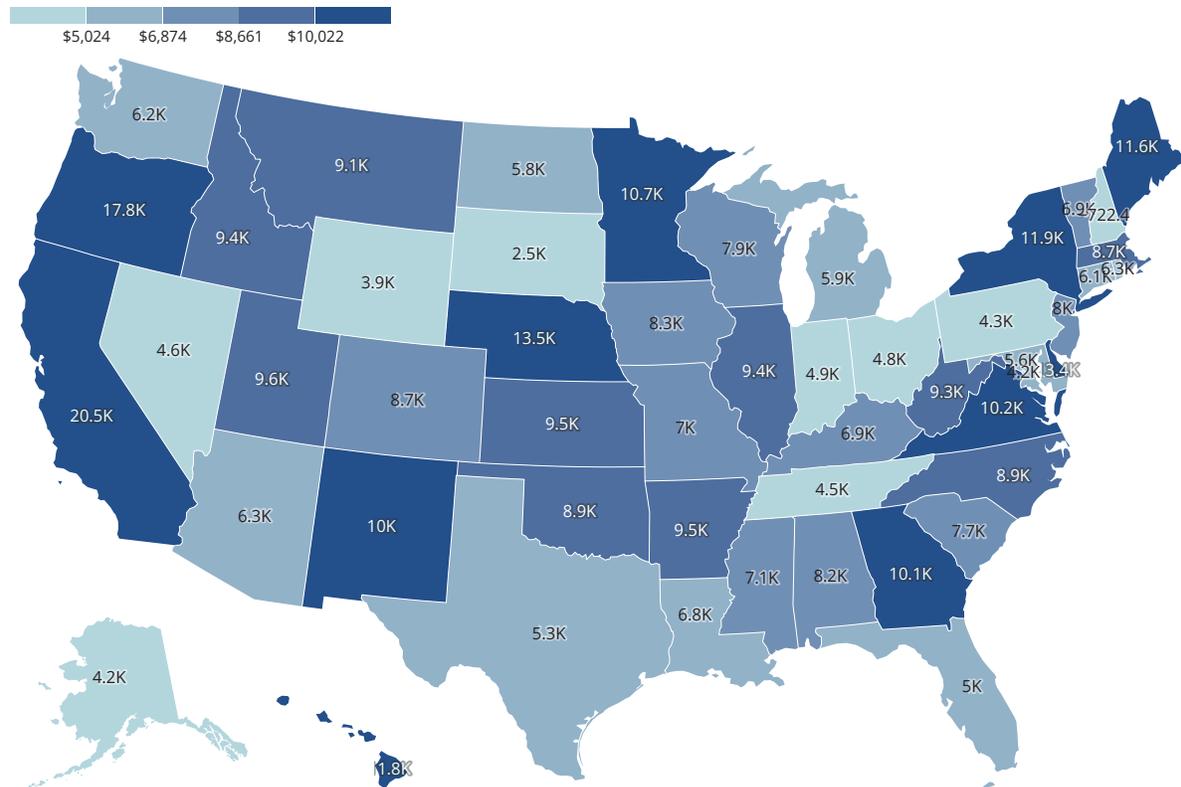
Under EIG’s proposed wage-ranked selection system, H-1B applicants would be prioritized based on the NPV of their lifetime expected earnings, which are used as a proxy for which H-1B applicants are likely to contribute the most to the fiscal and economic future of the country.²¹ Applicants with higher lifetime expected earnings would have a greater chance of being selected for the visa than those with lower expected earnings.²²

This proposal stands in sharp contrast to the current system, which is a fully random lottery for applicants meeting the minimum requirements.²³ Using a 3 percent discount rate, EIG’s proposed wage-ranked selection results in a median wage increase of 43 percent. We apply these growth rates to our baseline H-1B earnings by state to generate comparative fiscal impact estimates.

Under this method, the typical fiscal impact across states rises to \$7,982. This translates to a 58 percent increase over the baseline scenario. In over half of states, the median H-1B household contributes more than \$15,000 in tax revenues, and the typical state spends less than \$10,000.

Figure 7: Fiscal impact of an H-1B household by state

Wage ranking



Based on the median income of approved continuing petitions for a visa extension, adjusted to wage ranking results.

Source: Department of Labor, U.S. Census Bureau, and Bloomberg FOIA.

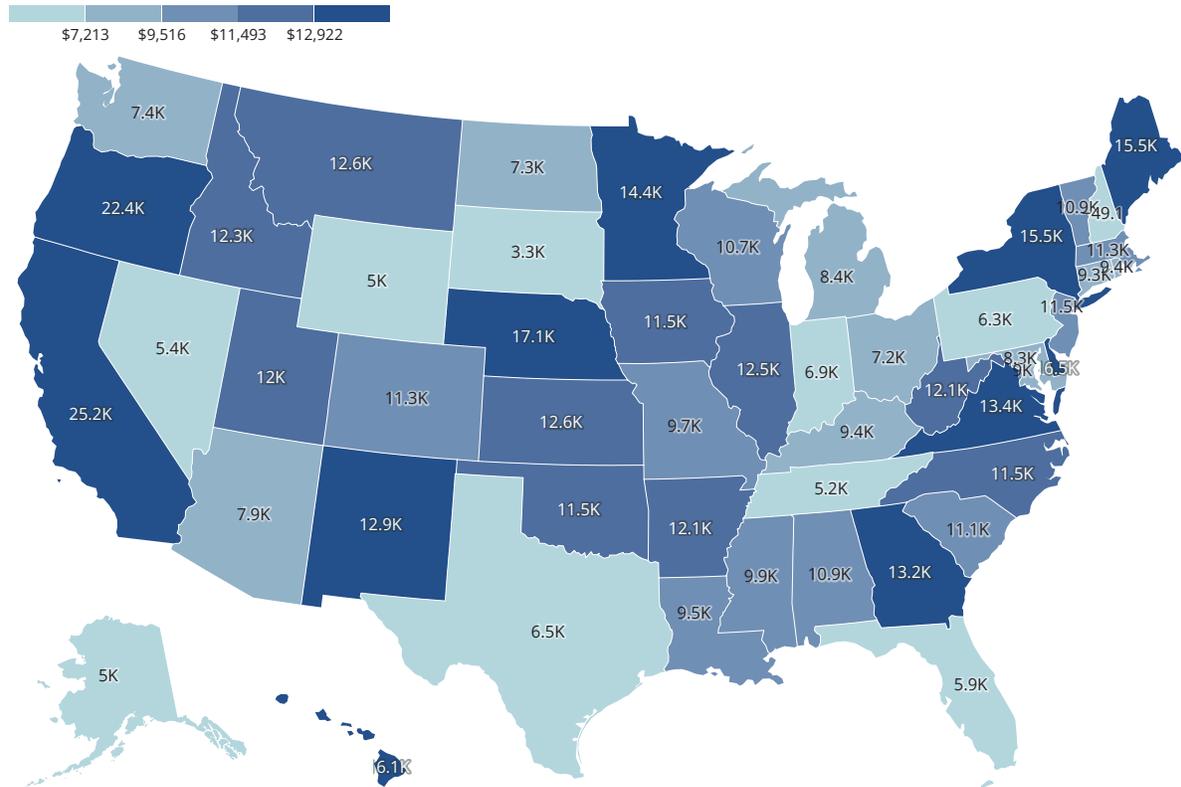


State and local fiscal impacts compared

Table 4 enumerates fiscal impacts across all of the modeled scenarios: the baseline model, H-4 worker reform, wage-ranked impacts, and wage-ranked impacts with H-4 worker reform. Apart from New Hampshire under the baseline model, all fiscal impacts are highly positive.

Figure 8: Fiscal impact of an H-1B household by state

Wage ranking w/ H-4 reform



Based on the median income of approved continuing petitions for a visa extension, adjusted to wage ranking results. Spouse wages based on DOL wage growth and Brannon et al. (2019).
 Source: Department of Labor, USCIS, U.S. Census Bureau, Brannon et al. (2019).



Combining both the H-4 and wage ranking reforms, the average near-term fiscal impact rises to \$10,650. Forty-three states would receive revenues in excess of \$15,000. The revenue gains from these reforms reflect the importance of household composition and earnings on its fiscal impact. The highest fiscal impacts are for dual income earners with no dependents — \$18,788 on average. Households with a single breadwinner supporting a dependent spouse and children have the lowest fiscal impacts because of how much states spend on primary and secondary education. The impacts of such households are negative for most states even under reform scenarios.

As this exercise essentially estimates the fiscal impact of high-earning individuals living in the United States, the negative fiscal impacts for single-earning households with children mirror those of native-born Americans at similar income levels. Allowing H-4 spouses to work would make the overall fiscal impact more positive by shrinking the size of this demographic group. Additionally, for the large share of H-1B workers with children who obtain green cards, those children grow up to be high earners and contribute positively to fiscal revenues themselves.

Table 4: Fiscal impacts for each scenario

State	Median H-1B Income	Baseline	H-4 Reform	Wage Ranking	Wage Ranking + H-4 Reform
Alabama	94,184	\$5,611	\$8,265	\$8,210	\$10,865
Alaska	73,661	\$3,830	\$4,571	\$4,246	\$4,987
Arkansas	109,164	\$6,551	\$9,172	\$9,521	\$12,142
Arizona	113,933	\$4,410	\$6,024	\$6,290	\$7,905
California	171,600	\$12,287	\$16,970	\$20,533	\$25,217
Colorado	120,286	\$5,503	\$8,152	\$8,656	\$11,305
Connecticut	111,001	\$2,551	\$5,667	\$6,116	\$9,316
District of Columbia	115,000	-\$1,376	\$3,421	\$4,234	\$9,031
Delaware	134,000	\$9,238	\$12,264	\$13,437	\$16,463
Florida	109,866	\$4,090	\$4,997	\$5,024	\$5,931
Georgia	115,000	\$6,477	\$9,558	\$10,131	\$13,212
Hawaii	92,000	\$7,887	\$12,098	\$11,847	\$16,073
Iowa	92,985	\$5,182	\$8,401	\$8,261	\$11,536
Idaho	108,028	\$6,188	\$9,126	\$9,397	\$12,335
Illinois	115,908	\$5,820	\$8,925	\$9,435	\$12,540
Indiana	97,495	\$2,984	\$4,940	\$4,932	\$6,888
Kansas	93,956	\$6,419	\$9,591	\$9,471	\$12,643
Kentucky	97,029	\$4,355	\$6,909	\$6,874	\$9,428
Louisiana	91,210	\$4,375	\$7,046	\$6,794	\$9,516
Massachusetts	130,192	\$5,140	\$7,809	\$8,661	\$11,329
Maryland	111,000	\$2,677	\$5,256	\$5,597	\$8,302
Maine	124,675	\$6,657	\$10,546	\$11,616	\$15,540
Michigan	101,624	\$3,404	\$5,878	\$5,945	\$8,419
Minnesota	110,854	\$6,611	\$10,094	\$10,735	\$14,436
Missouri	98,328	\$4,209	\$6,940	\$6,965	\$9,696
Mississippi	82,555	\$4,598	\$7,474	\$7,050	\$9,926

State	Median H-1B Income	Baseline	H-4 Reform	Wage Ranking	Wage Ranking + H-4 Reform
Montana	101,340	\$5,512	\$9,044	\$9,096	\$12,627
North Carolina	120,233	\$5,715	\$8,295	\$8,912	\$11,493
North Dakota	67,000	\$5,151	\$6,408	\$5,804	\$7,323
Nebraska	102,652	\$9,734	\$13,282	\$13,503	\$17,050
New Hampshire	117,095	-\$1,429	-\$756	-\$722	-\$49
New Jersey	128,000	\$3,842	\$7,153	\$8,014	\$11,472
New Mexico	90,000	\$7,340	\$10,239	\$10,022	\$12,922
Nevada	116,623	\$3,700	\$4,573	\$4,565	\$5,439
New York	140,000	\$7,004	\$10,515	\$11,911	\$15,508
Ohio	106,039	\$2,408	\$4,740	\$4,777	\$7,213
Oklahoma	92,571	\$6,361	\$8,996	\$8,861	\$11,496
Oregon	134,585	\$11,758	\$16,127	\$17,848	\$22,356
Pennsylvania	107,099	\$2,113	\$4,149	\$4,255	\$6,291
Rhode Island	118,540	\$3,141	\$6,005	\$6,273	\$9,432
South Carolina	88,611	\$4,660	\$8,028	\$7,743	\$11,111
South Dakota	90,200	\$1,735	\$2,573	\$2,461	\$3,300
Tennessee	102,564	\$3,836	\$4,506	\$4,507	\$5,178
Texas	118,400	\$3,942	\$5,148	\$5,259	\$6,465
Utah	100,779	\$7,005	\$9,461	\$9,551	\$12,007
Virginia	118,260	\$6,278	\$9,464	\$10,171	\$13,357
Vermont	106,576	\$2,741	\$6,484	\$6,933	\$10,890
Washington	160,000	\$4,804	\$6,005	\$6,229	\$7,429
Wisconsin	100,466	\$5,026	\$7,825	\$7,914	\$10,712
West Virginia	122,276	\$5,778	\$8,593	\$9,312	\$12,127
Wyoming	88,570	\$3,188	\$4,288	\$3,925	\$5,026

Median H-1B income is based on extension applications in the LCA.

Source: DOL, U.S. Census Bureau.



Federal Fiscal Impacts

The federal government collects two dollars in tax revenue for every dollar collected at the state and local level, making the federal fiscal impact of H-1B holders more consequential strictly as a matter of size.

The fiscal impacts of any group or population are generally more favorable at the federal level. One reason is that state and local governments do not raise enough taxes to pay for all of their expenses and instead rely on the federal government to close their gaps. Federal grants cover a significant portion of transportation infrastructure projects, welfare programs such as Supplemental Nutrition Assistance Program, and some public education programs.

Another reason that federal impacts are generally more positive is that a large share of federal government spending goes to public goods for which expenditures will not increase with population size. This includes military spending and servicing the national debt.

A third reason relates to the unique status of H-1B workers — as visa holders they are ineligible for Medicaid, and both ineligible and too young for Medicare and Social Security. These account for the largest non-public-good federal programs. Even if they were eligible for these federal programs, their high incomes would result in lower program participation rates than among citizens.

As with the state level, we estimate current fiscal impacts as well as fiscal impacts with the two policy levers: allowing all H-1B spouses to work and moving to a wage-ranked system.

The 2023-based fiscal impacts at the federal level are even more pronounced than at the state level. These impacts range from \$30,049 for the baseline scenario to \$65,017 for H-1Bs chosen under a wage-ranked system with working spouses. To put these numbers in perspective, the typical U.S. household contributed \$11,527 in 2023.²⁴ The typical H-1B worker contributes roughly 2.6 times in federal taxes as what the median household does. Under the proposed policy reforms, this would rise to 5.6 times as much.

Table 5: Federal fiscal impacts across all scenarios

Scenario Type	Income Type	Fiscal Impact	Federal Expenditures	Taxes (Individual)	Taxes (Employer)	Taxes (Total)
Current H-4 law	baseline wages	\$30,049	\$7,288	\$26,959	\$10,378	\$37,338
Current H-4 law	wage ranking	\$48,697	\$7,288	\$42,927	\$13,058	\$55,986
H-4 reform	baseline wages	\$45,847	\$7,288	\$39,441	\$13,694	\$53,135
H-4 reform	wage ranking	\$65,017	\$7,288	\$55,931	\$16,374	\$72,305

Based on the median income of approved continuing petitions for a visa extension, adjusted to wage ranking results. Spouse wages based on DOL wage growth and Brannon et al. (2019).
Source: OMB, Department of Labor, Bloomberg FOIA, Brannon et al. (2019).



In the Longer Term?

As we have seen, the near-term fiscal impact of H-1Bs across state and local governments is substantial and almost universally positive. The focus on near-term fiscal impact necessarily raises the question of whether the impact over the long term is the same, better, or worse.

We have previously published long-run fiscal impact estimates at the federal level, addressing some of these concerns.²⁵ Here we briefly lay out some ways in which the marginal fiscal effects might be worse in the long run, and ways in which they might be better. For several reasons, we conclude that the net impact is almost certain to be more positive in the long term.

The most consequential state and local expense from H-1Bs that will not be reflected in the near term is the cost of higher education for children of H-1B holders who remain in the United States into college age. This will include adult children of those who attain permanent residence status and also adult children who age out of their parents' temporary legal status and become so-called "documented dreamers."²⁶ The costs of state-owned and state-operated universities increase as a result of H-1B children, and this is not reflected in our near-term estimates. While costly as students, it is important to remember that the children of H-1B workers who obtain permanent residence typically go on to become high earners themselves and contribute fiscally.²⁷

So while the cost is real, the other side of the ledger is much larger. In the long run, H-1B workers and their families who obtain permanent residence are entrepreneurs and innovators who help shape and grow a state's local economy. Downstream positive effects are likely to swamp any other factors.

Many H-1B workers who become permanent residents end up starting innovative companies — companies which themselves go on to generate tax revenues. This impact grows over time once an H-1B worker earns their green card and can more freely pursue entrepreneurship.²⁸ All of these benefits are considerable, as a significant number of H-1B workers apply for and receive permanent residency. By our estimate, H-1B workers account for nearly two-thirds of all approved PERM applications each year.²⁹ (PERM stands for Program Electronic Review Management, the application an employer must file to sponsor a worker on a green card, and thus provides a proxy for the H-1B worker share of all green card recipients.)

The flow of high-skilled immigrants can spur entire industries to grow and transform. Silicon Valley would be a shadow of itself without high-skilled immigrants, many of whom came first on H-1Bs. One estimate finds that 32 percent of aggregate U.S. innovation since 1990 has come from immigrants.³⁰ The economic and fiscal contributions of such activity should not be forgotten, even if they are hard to measure precisely.

Critics of immigration might argue that our analysis should include the costs that result from lower pay for the native-born workers that have to compete with H-1B holders in the labor market. The problem with this argument is that the net effect on the wages of domestic workers from skilled immigration is going to be overwhelmingly positive.

Yes, some workers will face more competition in the labor market. But they will do so in an economy with higher levels of entrepreneurship, innovation, and industry growth. In addition, other workers who do not compete with H-1Bs will also benefit as the demand rises for the goods and services they produce. After all, H-1B workers are consumers in the economy and not just producers.

In the near term, the impact of immigration on state, local, and federal government revenues is positive and substantial. In the longer term, the combination of greater innovation, more entrepreneurship, and higher productivity ensures that the impact will be even larger.³¹ In other words, when taking the effects on native workers into account, the true fiscal impact of H-1Bs is likely far larger than what we present in this paper. We have not estimated those longer-term effects here, but we do hope our analysis moves the research forward and inspires other scholars to take up that exercise.

Appendixes

Appendix 1: H-1B Income and Demographics

Baseline H-1B incomes

How much an H-1B worker earns affects revenues from sales, income, and property taxes, making earnings a central fact of fiscal impact analysis. Our H-1B income data comes primarily from publicly available microdata from the Department of Labor (DOL). To understand the data, we must first understand a bit about the H-1B visa process.

When employers are applying to hire someone via the H-1B lottery, they have to submit a Labor Condition Application (LCA) to the DOL that states, among other things, how much they plan to pay that person. This is called an “initial petition.”

LCAs also have to be submitted when an H-1B worker is entering their second three-year term. These are called “continuing petitions.” There are a handful of other events that can require continuing petitions, including whenever an H-1B worker gets promoted, changes employers, applies for a second concurrent job, the company restructures, or there is any circumstance that involves changing the H-1B worker’s title, job duties, salary, or worksite location. For clarity, we refer to continuing petitions for workers entering their second three-year term as “extensions.”

In our primary analysis, we focus only on extension petitions. We focus on wages from these petitions rather than initial petitions or the average of the two because they typically reflect wages being earned midway through an H-1B worker’s time in the U.S. This can be seen from annual U.S. Citizenship and Immigration Services reports that show the average age of continuing petitioners is three years older than the average age of initial petitioners, which would be halfway through the six-year term.³²

It is worth noting that H-1B workers may stay beyond their six-year term once they have officially applied for a green card but not yet received one. However, the three-year age gap between continuing and initial petitions in USCIS reports suggests that the extension petitions are on average three years later than initial petitions, and thus represent a useful midpoint. While we do not have age in the LCA data, and the LCA data universe contains a larger sample size than the USCIS report, we can compare the wages in the two samples and see they are nearly identical.

In the alternative estimates where we do utilize data on initial H-1Bs — those beginning their first year of employment in the United States — we do so using Freedom of Information Act (FOIA) data on initial H-1B applications obtained by Bloomberg.³³ These results are in Appendix 4.

It is important to note two potential shortcomings of measuring H-1B incomes in the way that we do.

First, the LCA is submitted to the DOL as a part of the H-1B application process. But just because an LCA is approved does not mean the full H-1B application was approved or even submitted. It is simply one of the first steps in the process.

Second, a single application can be filed for multiple workers at once, and thus cover multiple events. The opposite scenario also occurs: multiple applications may be submitted for a single worker if they are seeking concurrent employment from two employers.³⁴ This means that a continuing petition may include data on some extension filings, some promotions, some job title changes, etc. To focus on observations that best represent the midpoint of the H-1B stay, we only include LCA applications that are just for extensions.

These two caveats mean that LCAs are not a precise representation of the counts of actual H-1B workers. However, what matters for this analysis is whether or not the distribution of wages for LCA workers matches that of H-1Bs.

Fortunately, this appears to be the case. To see this, we can compare estimated average earnings from LCA data to those from the annual USCIS report on national-level H-1B earnings, which provides breakdowns of real H-1B wages for different application types.

The first question is whether or not excluding continuing applications with any non-extension observations has a substantial impact on the results. To look at this, we can use a simple t-test of means. We estimate a p-value less than 0.0000.³⁵ From this, we can conclude excluding petitions for other status types does have a significant effect. For this reason, we exclude continuing applications that have any non-extension applicants.

The second question is whether our sample of LCA data matches what is reported by the USCIS for that year. The following plot compares the distributions of wages for (1) all LCA applications that include at least one extension, (2) all LCA applications including any kind of non-initial-employment petitions, as USCIS only reports wages for this total and not extensions exclusively, (3) LCA applications that include only extensions of status, (4) USCIS-reported continuing petitions, and (5) USCIS initial petitions. LCA generally has higher wages than USCIS, but the magnitude is small. We cannot isolate extensions using USCIS data directly.

For median pay of continuing applications, which serves as the primary data for this analysis, we can see that LCA data that includes extensions only is \$139,976, which is only 1.4 percent higher than the \$138,000 reported in the USCIS report. Utilizing applications for adjustments of status that include extensions, rather than those exclusively for extensions, would only reduce median incomes by \$546, or 0.4 percent.

Table 6: Income distribution comparisons: fiscal year 2023

Income Statistic	USCIS Initial	USCIS Continuing	LCA Continuing: any extensions	LCA Continuing: only extensions	LCA Continuing: all observations
Mean	\$110,000	\$138,000	\$139,372	\$139,976	\$134,486
Median	\$94,000	\$129,000	\$130,952	\$131,498	\$125,000
25th percentile	\$75,000	\$100,000	\$99,557	\$100,000	\$99,000
75th percentile	\$124,000	\$163,000	\$169,053	\$169,974	\$160,000

Source: USCIS Characteristics of H-1B Specialty Occupation Workers and DOL LCA applications for FY 2023.



As the distributions are close, LCA wages can be used to estimate state-level continuing application wages.

Baseline H-1B demographics

Whether to treat members of a particular group as households or individuals when estimating their fiscal impact is a key methodological decision. Households spend and earn more than individuals, raising tax revenues. They also consume more public services, particularly public education. Combining these effects, household fiscal impacts can be more positive or more negative than individual fiscal impacts, depending on differences in state and local tax laws and the household composition. For example, a dual-earning couple with no children will have a more positive fiscal impact when the whole household is considered rather than the individual, while a single-earning adult with multiple children will have a more negative fiscal impact.

As this analysis is primarily interested in the marginal impact of issuing an H-1B visa, rather than the marginal impact of a single H-1B visa holder, household composition is important. We estimate the following demographic facts for H-1B households:

1. The probability they have any children and average number of children
2. The probability they are married

To do this, we use a sample of individuals in the 2019–2023 ACS 5-year American Community Survey who are most likely to be H-1B holders. Probable H-1Bs are those that have been in the United States for less than seven years ($\text{yrsusa1} < 7$)³⁶, are non-citizens ($\text{citizen} == 3$), are employed ($\text{empstat} == 1$), and have at least a bachelor’s degree ($\text{educd} \geq 101$). Workers that meet these criteria are overwhelmingly H-1B workers, as the H-1B is the primary pathway for highly educated immigrants to come work in the U.S. To make the sample even more representative, we weight this sample by occupation using the actual occupations of certified H-1B applications from the LCA data for fiscal year 2023.

Using this approach we derive the following probabilities for three household types.³⁷ Since only 3.6 percent of unmarried probable H-1Bs have children, a negligible share, we exclude this demographic scenario from our models.

Table 2: Probabilities of each household composition type: baseline model

Scenario	Scenario Description	Probability
Scenario 1	single H-1B worker	38.3%
Scenario 2	married H-1B worker, spouse not working, with kids	24.9%
Scenario 3	married H-1B worker, spouse not working, no kids	36.8%

Source: ACS 5-year estimates 2019–2023, DOL Labor Conditions Applications.



H-4 reform

Under current law spouses of H-1B holders, who are on H-4 visas, are not allowed to work. In this analysis we have estimated how fiscal impacts would change if these spouses were allowed to work. To do so, we have to estimate the probability that they would work if allowed, and their expected income if they do so.

While H-1B spouses cannot currently work, there is evidence that the vast majority would if allowed. In 2015, the Obama administration allowed temporary work permits for the spouses of H-1B visa holders who were waiting for green cards. Survey data on H-4 visa holders during this period estimates that 75 percent of H-4 visa holders who were eligible for the H-4 Employment Authorization Document (EAD) were employed, not including those that were actively looking for work.³⁸

We assume that if reform were passed today, the same percentage of H-1B spouses would work. This gives us now five household types to model. Those households and their estimated probabilities are provided in the following table.³⁹

Table 3: Probabilities of each household composition type: H-4 reform

Scenario	Scenario Description	Probability
Scenario 1	single H-1B worker	38.3%
Scenario 2	married H-1B worker, spouse not working, with kids	6.2%
Scenario 3	married H-1B worker, spouse not working, without kids	9.2%
Scenario 4	married H-1B worker, spouse working, with kids	18.7%
Scenario 5	married H-1B worker, spouse working, no kids	27.6%

Source: ACS 5-year estimates 2019–2023, DOL Labor Conditions Applications, and Brannon, Ike and M. Kevin McGee “Repealing H-4 Visa Work Authorization: A Cost-Benefit Analysis” (2019) Available at SSRN: <https://ssrn.com/abstract=3349786>.



For likely H-1B spouse incomes, we rely on survey data from Ike and McGee (2019). The authors estimate that in 2019 H-4 visa holders earned an average of \$77,000. We use the growth rate of actual H-1B incomes reported in annual USCIS reports from 2019 to 2023 to adjust this income to 2023 dollars.⁴⁰ This results in an expected H-4 visa holder income of \$88,229, which we apply to all scenarios.

Wage ranking reform

We also estimate the fiscal impact of moving from the current policy of admitting H-1B applicants by lottery to admitting them by a wage ranking system as proposed by EIG in another analysis.⁴¹

Under the proposed system, each H-1B applicant would be ranked according to the net present value (NPV) of their expected earnings. Using their current wage offers, we first project the path of expected lifetime earnings for each applicant using the typical earnings and age trajectory of college graduates in the American Community Survey. The NPV of expected lifetime earnings is then calculated using a 3 percent discount rate.

We can utilize real H-1B lottery data to simulate how moving from a lottery to our preferred wage ranking would affect typical earnings. We find that the median initial pay of 2023 H-1B winners would increase by 43 percent. This increase is then applied to our estimates of state-level continuing application wages to obtain the expected typical H-1B wages under our proposed rule.⁴²

Appendix 2: State and Local Revenues and Expenditures

A central question for fiscal impact estimates is which revenues and expenditures would be affected by increasing the H-1B population in a state and which would not, and how much they would be affected. In this appendix, we explain in detail our assumptions about how revenues and expenditures are likely to change.

Revenues

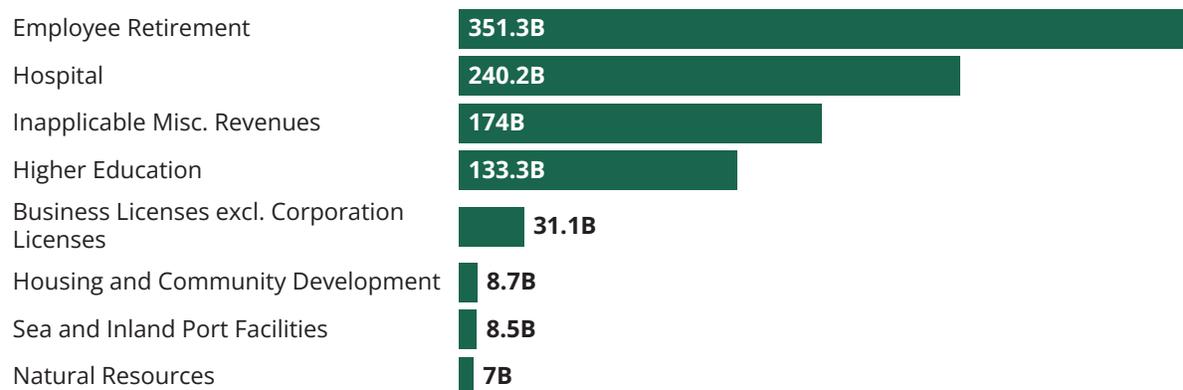
The primary data source for state and local government revenues is the Census Bureau's Survey of State and Local Government Finances. We begin by choosing categories of revenues to exclude from the analysis. These are listed in Figure 9 below along with the total amount of these revenues across all state and local governments.

Some are excluded because they are generally fixed with respect to near-term population growth. This includes miscellaneous government revenues from the sale of public buildings.

Other revenue sources are excluded because individuals do not pay them directly, such as revenues of state-operated hospitals, which come primarily from insurance companies.

Still other revenue sources are excluded — public employee retirement funds and higher-education revenues, for example — because young, privately-employed, high-skilled workers specifically are unlikely to pay them.

Figure 9: State and local excluded revenues, total



Estimates expressed in 2023 dollars.

Source: Survey of State and Local Government Finances.



For revenues that we do include, we either calculate an average revenue or we create a revenue-specific model. There are several approaches that we can use for average revenue. Some revenues like utilities and transit are likely to increase in proportion to the number of household members, and so we double per adult revenues. Others will scale per household income earner, such as tax revenues.

Business taxes merit particular discussion. These taxes will not be paid directly by marginal H-1B workers, which might suggest they should not be included. Indeed some researchers argue that the fiscal impacts of business taxes should be based on the estimated incidence of such taxes.⁴³ However, incidence determines who bears the cost of a tax relative to a world where the tax did not exist. Incidence does not tell us the causal impact on tax revenues of increasing workers. It could be that the tax incidence falls entirely on the corporation, such that the workers' pay is not affected at all by the existence of the tax, but that tax revenues nevertheless causally are increased by the effects of a bigger workforce on corporate revenues.

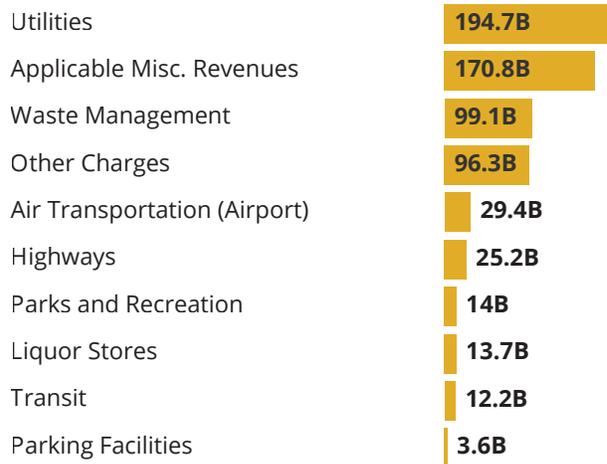
We argue that growing the skilled workforce of a state is reliably expected to affect both state business revenues and also entrepreneurship. For state business revenues, we expect an increase as a result of the larger workforce, but also as a result of higher consumption in the state.

For entrepreneurship, recent empirical work suggests the growth of H-1Bs in particular does indeed spur entrepreneurship in the near term. Importantly, this research does not focus on the direct entrepreneurship of H-1B workers, which for holders of an employer-sponsored visa is not allowed in the near term. Instead it happens via their impact on labor supply in boosting the entrepreneurship of others.⁴⁴ For these reasons, we include corporate income taxes and new business licenses on a per capita basis.

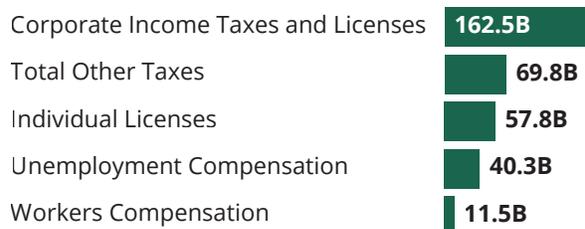
Elementary, secondary, and miscellaneous education revenues are directly collected from households with children enrolled in public schools. These revenues do not refer to property taxes that are collected on behalf of public schools, but instead include school bus charges, lunch sales, as well as revenues from athletic events and the sale or rental of textbooks. These are only applied to the scenarios for which H-1B workers have children, in which case per-child revenues are multiplied by the average number of children in H-1B households, which we estimate to be 1.5.

Figure 10: State and local included revenues, total

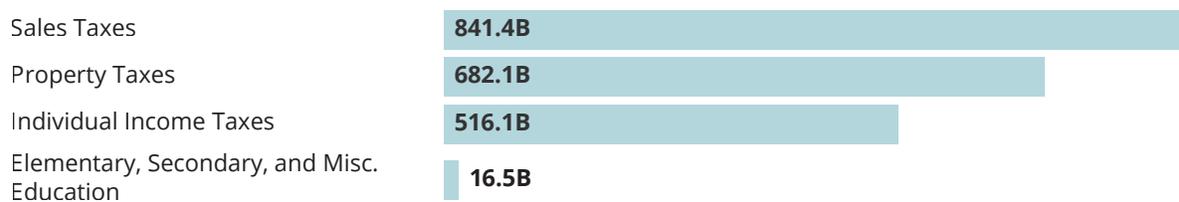
Average (per household adult)



Average (per household income earner)



Modeled



Estimates expressed in 2023 USD.

Source: Survey of State and Local Government Finances.



All of the largest and most consequential categories of revenues are directly modeled. This includes total sales and gross receipts taxes, property taxes, and individual income taxes. In general, these are affected by individual state tax systems and the earnings of the average H-1B holder in each state. As a result, we employ three empirical models to provide more precise estimates.

Individual income taxes

We utilize the Tax Foundation's 2023 tax brackets by state to estimate income tax contributions from the H-1B worker.⁴⁵ We produce income tax estimates this way for each type of household (single, married, married with single earner, married with two earners) and across all of our policy simulations (H-4 reform, wage ranking, and the combination of those two). Standard deductions and tax credits are applied. Married H-1Bs are assumed to be filing jointly, regardless of whether the spouse is earning income.⁴⁶

Property taxes

We take per-household property tax by state from the Survey of State and Local Government Finances and apply an income-based property tax multiplier to account for the impact of the higher incomes and assets of H-1B workers on their housing decisions.

The multiplier is based on the following model:

$$\ln(\text{hh property tax})_{(i,state)} = \beta_0 + \beta_1 \ln(\text{hh income})_{(i,state)} + \epsilon_i$$

Household property taxes (`us2023c_taxamt`) and total household incomes (`hhincome`) come from the IPUMS ACS 5-year 2019–2023 microdata. Separate models are run for each state to allow for state differences in both the relationship between income and home value and differences in property tax policies. β_1 is the percentage increase in property tax revenues paid for a given percentage increase in household income for a particular state, and serves as our multiplier for that state.

For each type of income (mean or median), each source (initial H-1B or extensions or wage ranked), and each household type (single, married with a single earner, or married with two earners), the property tax revenues become:

$$\text{prop tax}_{(\text{inc type}, \text{inc source}, \text{hh type}, \text{state})} = \text{avg prop tax}_{\text{state}} * (1 + \beta_{1,\text{state}} * (\frac{\text{income h1b}_{(\text{inc type}, \text{in source}, \text{state})}}{\text{income hh}_{(\text{inc type}, \text{state})}}))$$

Where *avg prop tax* represents a state's average per household property tax revenues from the Survey of State and Local Finances, and *income hh* is the mean or median household income for that state.

Note that in some cases, because H-1B workers are on temporary status, they are less likely to be homeowners than high-income citizens. However, we assume renters contribute to property taxes through rental payments proportionately to the amount they would pay as homeowners of the same income level.

Sales taxes

Per-capita sales taxes are estimated using the Bureau of Labor Statistics' (BLS) Consumer Expenditure Survey (CES) microdata. Total sales taxes come from the Annual Survey of State and Local Government Finances, and population comes from the ACS 2023 5-year.

Using regression analysis and CES microdata, we estimate how household spending on apparel, food, and other services that tend to generate sales taxes depend on household income and the number of persons in the household.⁴⁷ The results of these models are shown in Table 7 below. We rely on model 2, which estimates that for every \$1 in household income, two cents are spent on goods and services eligible for the sales tax. Every household member generates an additional \$844 in sales-tax-eligible goods and services as well.

These regression estimates are then used to compute a ratio of the estimated spending on sales-tax-eligible purchases for a state's typical H-1B household compared to the typical household of that state. Median household income and average household size for the typical state comes from the 2023 5-year ACS.

This ratio of H-1B household spending to typical household spending is then applied to the per-adult sales-tax revenues in the state. The end result is the average sales-tax revenues per typical adult in an H-1B household. This addresses the dual impacts of household size and income when it comes to spending probabilities. Note that single H-1B workers do spend less than the typical household.

Table 7: Regressions on family expenditure on food, apparel and services

	Model 1	Model 2	Model 3
Constant	5734.78***	3593.47***	5312.83***
	(108.21)	(157.24)	(113.99)
Family salary	0.02***	0.02***	0.02***
	(0.00)	(0.00)	(0.00)
Household members		844.17***	27.6%
		(45.96)	
Number of children under 18			696.57***
			(63.81)
Observations	6499	6499	6499
R2	0.098	0.142	0.114
Adjusted R2	0.098	0.142	0.114

Source: BLS CES microdata.



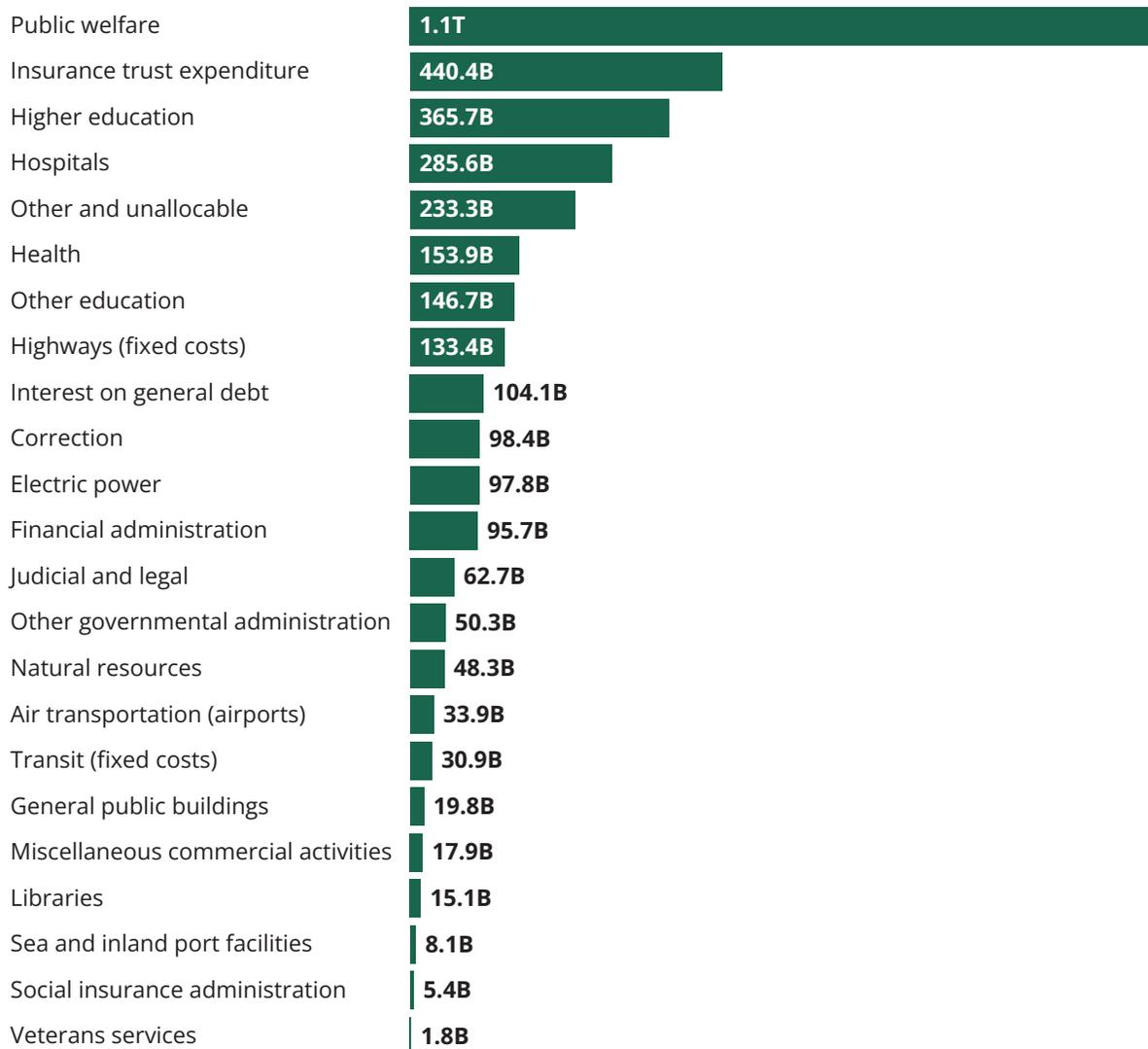
Expenditures

As with revenues, the primary source for expenditures comes from the Census Bureau's Survey of State and Local Government Finances. We exclude some categories of expenditures for the same reasons that we exclude some revenues: They are likely to remain fixed in the near term regardless of marginal population changes. This includes categories like the maintenance of public buildings.

Other services we can exclude because they are legally not distributed to high-income non-citizens, such as veterans benefits or public welfare. As skilled immigrants, H-1B workers have crime rates that are near zero, and so we exclude all corrections expenditures also.

All higher-education expenditures are excluded for the same reason that we exclude higher-education revenues: H-1B workers' average age at entry is 32, and therefore they are generally too young to have college-aged children, even by the end of their six-year stay. As some H-1B holders stay beyond their six-year term by applying for green cards, their children will grow into college age and enroll. However, children of H-1B holders will age out of their H-4 visa at age 21 and will need to apply for a different visa to remain. In the case where they apply for an F-1 student visa, they are likely to pay an even higher tuition than out-of-state students. However, we are focused on near-term estimates in this analysis and so exclude the costs and revenues associated with the higher education of H-1B children.

Figure 11: State excluded expenditures, total
Dollars in 2023 USD



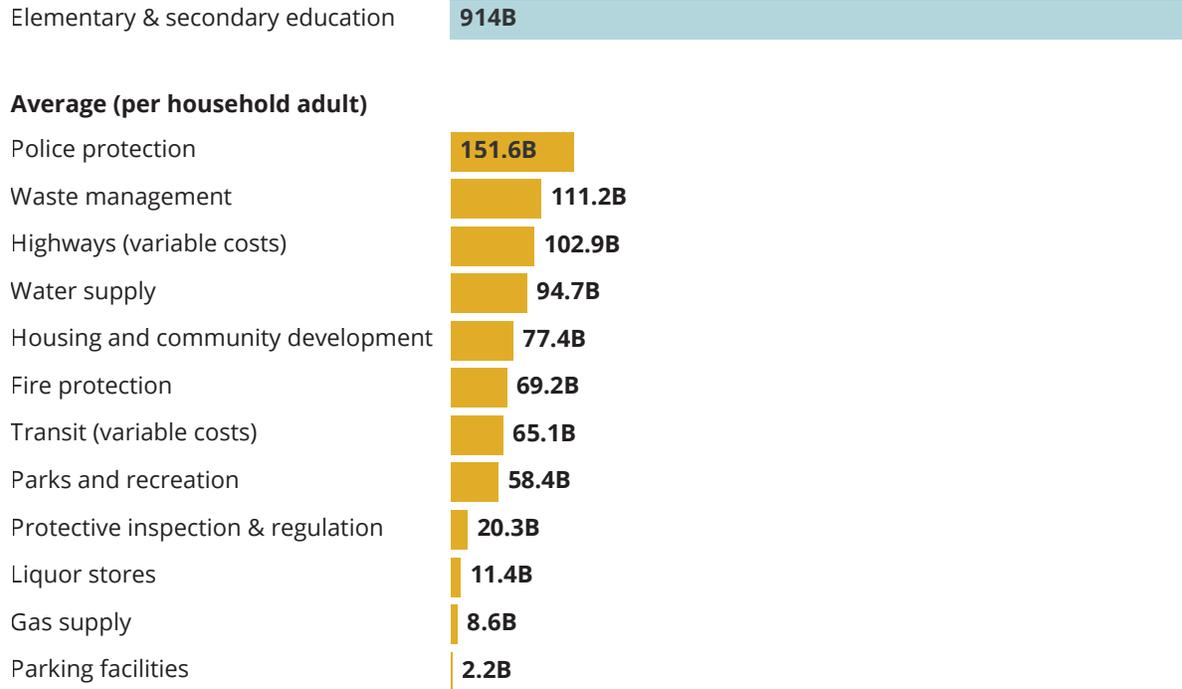
Source: Survey of State and Local Government Finances.



The majority of the expenditures that we do include are applied on an average-cost basis. As household expenditures increase with the number of household members, we multiply the per-adult expenditures by the number of adults in the H-1B household. As the marginal propensity to consume is diminishing with respect to income, this is a conservative approach.

Figure 12: State included expenditures, total
Dollars in 2023 USD

Modeled (scenario 2 only, otherwise excluded)



Source: Survey of State and Local Government Finances



The largest category of expenses at the state and local level is elementary and secondary school education. We model this estimate directly.

An important context for this model is that demographic headwinds have left many public school districts with low rates of capacity utilization and lots of room to expand enrollment without adding new schools or even classes. This is the result of growing enrollments in private and charter schools, as well as declines in the number of American residents under 18 years of age. As a result of these demographic trends, all but three states (Florida, North Dakota, and South Dakota) had enrollment levels that in 2023 were below their historical peaks.

Using a novel econometric model, we show that the impact of an additional child on costs depends substantially on whether a locality has existing capacity in their school facilities.

Specifically, we find that the impact of local population growth on school district expenses varies greatly by whether the district is at or above their enrollment peak.

We utilize a dataset that includes annual enrollment and spending for the universe of school districts in the U.S. from 2008 to 2023. Using a panel regression of five-year changes in enrollment and spending, we find that for school districts that are below their peak enrollment a 1 percentage point increase in enrollment leads to a 0.24 percent increase in spending. For districts where enrollment is at peak, the increase in spending is nearly double that, 0.46 percent.

We allow the elasticity to vary by state based on whether the state as a whole is at or below enrollment peaks. These elasticities are then multiplied by per-student elementary and secondary spending, and the expected number of children per H-1B household (1.5), to obtain the expected education expenditures for the fiscal impact model.

Table 8: Regressions on five-year change in school expenditures (SEs)

	Model 1	Model 2	Model 3	Model 4	Model 5
Δ Enrollment	0.392***	0.293***	0.531***		
	(0.009)	(0.044)	(0.021)		
Δ Enrollment X At Peak				0.461***	0.571***
				(0.051)	(0.050)
Δ Enrollment X Below Peak				0.242***	0.279***
				(0.041)	(0.035)
Lagged Δ Enrollment X At Peak					0.225***
					(0.049)
Lagged Δ Enrollment X Below Peak					0.048*
					(0.023)
Num.Obs.	30174	30174	30174	30174	19991
R2	0.092	0.244	0.103	0.246	0.125
R2 Adj.	0.090	-0.141	0.102	-0.138	0.122
RMSE	0.20	0.19	0.20	0.19	0.20
Fixed Effects	State	District, Year	State, Year	District, Year	State
Clustered SEs	State	State	State	State	None
Years	2013, 2018, 2023	2013, 2018, 2023	2013, 2018, 2023	2013, 2018, 2023	2013, 2018, 2023

Note: ** p < 0.05, * p < 0.01, *** p < 0.001"
Source: IPUMS NHGIS and Census Bureau.



Appendix 3: Federal Model

The federal model relies primarily on federal revenue and expenditure data from the Office of Management and Budget (OMB).⁴⁸ We follow the general approach utilized in previous [EIG work](#). As with the state model, we model revenue sources that are based on income, and exclude revenue and expenditure line items that are either inapplicable, or are fixed costs. As with the state model, we estimate the impact of approved H-1B extensions in 2023 earning the median income, for varying types of households.

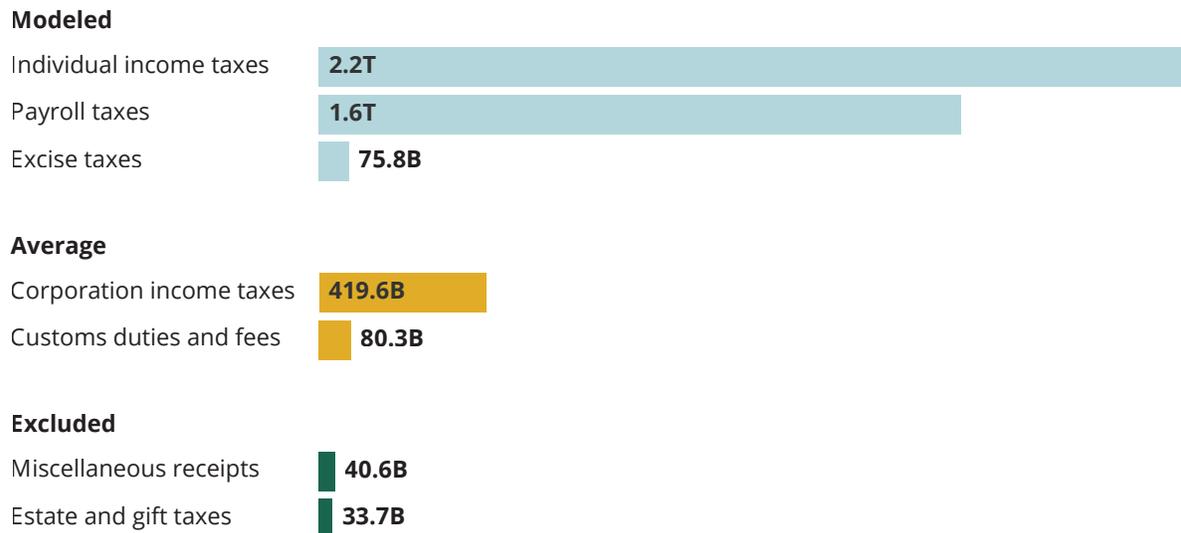
Revenues

Even more so than states, the federal government's primary revenue sources are through direct taxation. We include the majority of applicable taxes in the federal revenue side of the equation. The only excluded sources are estate and gift taxes, and miscellaneous revenue sources.

Aggregate customs duties come from the OMB's Historical Tables. As these are expected to grow with consumption, they are applied at a per-capita rate to the number of adults per household (either one or two). Per-capita transformations are done using population estimates from the Congressional Budget Office.

As with the state model, we assume that business taxes grow with skilled labor supply. Though the exact effect is difficult to measure, we take a conservative approach and assign corporate taxes on a per-capita basis. It is plausible that corporate revenues and taxes would grow more than this as a result of the outsized contributions of highly skilled workers, but we use per capita to be conservative. The data comes from the OMB and is assigned to the earning spouse only.

Figure 13: Federal included and excluded revenues



Source: OMB.



Individual income taxes

Income tax brackets, standard deductions, and tax credits come from the Tax Foundation's 2023 tax brackets. In general, non-resident aliens are not allowed to take the standard deduction, file jointly, or file as a household head.⁴⁹ However, according to the substantial presence test, H-1B workers are considered to be resident aliens by the IRS,⁵⁰ so we assume that married H-1B workers without a working spouse file jointly and that the household takes the standard deduction. Additionally, as H-1Bs are eligible for the child tax credit, we multiply the credit by the estimated number of children (1.5) for the two scenarios where the household has children.

Payroll taxes

Both the employee and employer payroll tax rates are apportioned to H-1B workers and their working spouses. Payroll taxes include:

- OASDI/Social Security: 6.2 percent employer rate and 6.2 percent for employee rate, for a total of 12.4 percent rate.
- HI/Healthcare: 1.45 percent employer rate and 1.45 percent employee rate, for a total of 2.90 percent rate.
- FUTA: 6 percent employer rate applied to the first \$7,000 earned, applied individually, for a total of \$420 for single filers and \$840 for joint filers.

Other payroll taxes, including Railroad Retirement Act taxes, Disability Insurance taxes, and Federal Employees Retirement System taxes, are not applicable to H-1B workers, and are not applied.

Excise taxes

We distribute excise taxes to H-1B workers based on excise-tax eligible expenditures reported by the Bureau of Labor Statistics CES and the Bureau of Economic Analysis's estimate of federal excise tax receipts in 2023. We apportion excise taxes based on household-level spending on alcohol, gasoline, telephone, and airline tickets, which are the categories of expenditure in the CES subject to excise taxes. We expect H-1B workers and working H-4 spouses to fall within the 4th and 5th salary quintiles. Assuming that each income-quintile contributes the same amount of total excise taxes (underestimating the higher earners' portion), we take 40 percent of total excise revenue from the OMB and apportion to each demographic scenario based on household size (single household member, spouse, and spouse plus children).

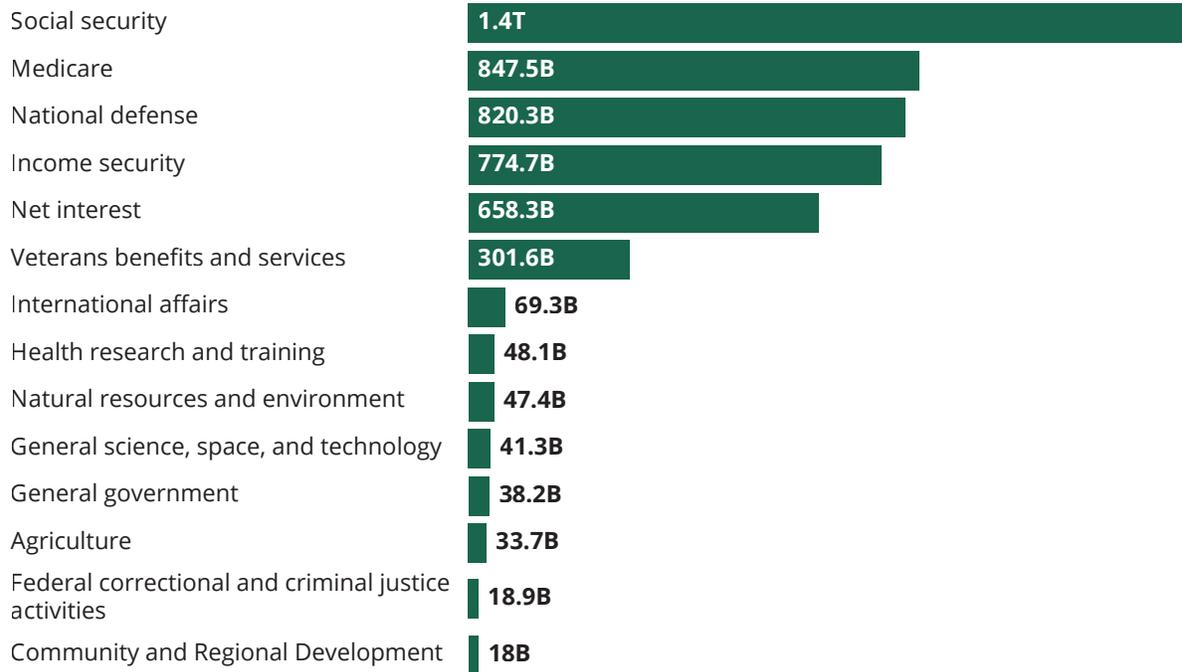
Expenditures

The majority of federal expenditures are either fixed costs, such as defense spending and interest payments, or inapplicable for H-1B visa holders, such as Social Security, Medicare, and Medicaid.

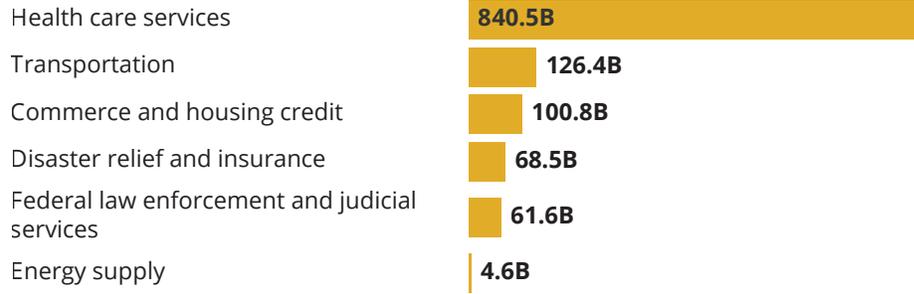
Applicable expenditures include utilities, public health expenditures, housing credits, and transportation. Here, unlike with the state data, we are unable to distinguish between fixed and variable transportation costs, and so include all transportation spending on a per-adult basis. Unlike the state model, we also include some federal judicial services, as they are indistinguishable from law enforcement. Federal expenditures on education are applied only to model 2, for which we include child estimates.

Figure 14: Federal included and excluded expenditures

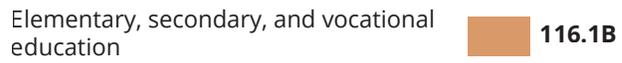
Excluded



Average



Average (child scenarios only, otherwise excluded)



Source: OMB.



Appendix 4: Additional Results

Here we present the corresponding impacts based on initial H-1B incomes, as well as results based on the mean wage.

Table 9: Fiscal impacts for each scenario: additional results

State	Baseline: initial median wages	H-4 Reform: initial median wages	Baseline: initial mean wages	H-4 Reform: initial mean wages	Baseline: extension mean wages	H-4 Reform: extension mean wages	Wage Ranking: mean wages	Wage Ranking + H-4 Reform: mean wages
Alabama	\$4,485	\$7,140	\$4,468	\$7,013	\$6,750	\$9,296	\$9,348	\$11,893
Alaska	\$3,678	\$4,419	\$3,695	\$4,341	\$3,909	\$4,555	\$4,294	\$4,940
Arizona	\$3,403	\$5,018	\$3,339	\$4,867	\$4,258	\$5,786	\$5,801	\$7,329
Arkansas	\$5,348	\$7,969	\$4,910	\$7,405	\$6,989	\$9,484	\$9,648	\$12,143
California	\$7,168	\$11,737	\$6,554	\$10,953	\$10,990	\$15,503	\$17,398	\$21,911
Colorado	\$3,971	\$6,620	\$3,944	\$6,473	\$5,267	\$7,796	\$7,833	\$10,362
Connecticut	\$870	\$3,931	\$898	\$3,782	\$2,721	\$5,669	\$5,833	\$8,855
Delaware	\$6,061	\$9,086	\$6,128	\$9,100	\$9,106	\$12,078	\$12,542	\$15,514
District of Columbia	-\$3,180	\$1,617	-\$2,610	\$1,875	-\$1,309	\$3,176	\$3,457	\$7,943
Florida	\$3,541	\$4,448	\$3,190	\$3,911	\$3,544	\$4,265	\$4,169	\$4,890
Georgia	\$4,499	\$7,579	\$4,351	\$7,280	\$6,241	\$9,170	\$9,209	\$12,138
Hawaii	\$6,230	\$10,412	\$6,522	\$10,643	\$6,687	\$12,839	\$12,336	\$16,488
Idaho	\$4,824	\$7,762	\$5,050	\$7,926	\$6,456	\$9,333	\$9,230	\$12,106
Illinois	\$4,028	\$7,133	\$4,112	\$7,014	\$5,588	\$8,489	\$8,540	\$11,441
Indiana	\$2,178	\$4,134	\$2,208	\$4,068	\$2,949	\$4,809	\$4,578	\$6,438
Iowa	\$4,591	\$7,795	\$4,427	\$7,507	\$6,640	\$9,760	\$9,738	\$12,916
Kansas	\$5,487	\$8,659	\$5,549	\$8,579	\$6,545	\$9,576	\$9,150	\$12,180
Kentucky	\$3,071	\$5,625	\$3,100	\$5,521	\$4,968	\$7,389	\$7,302	\$9,723
Louisiana	\$3,721	\$6,354	\$3,433	\$5,884	\$5,496	\$8,024	\$8,032	\$10,560
Maine	\$2,896	\$6,708	\$2,939	\$6,574	\$10,380	\$14,118	\$15,905	\$19,642
Maryland	\$1,424	\$3,956	\$1,214	\$3,673	\$2,535	\$5,045	\$4,924	\$7,542
Massachusetts	\$3,254	\$5,922	\$3,154	\$5,713	\$4,766	\$7,326	\$7,580	\$10,140
Michigan	\$2,388	\$4,862	\$2,306	\$4,645	\$2,928	\$5,267	\$4,887	\$7,226
Minnesota	\$4,902	\$8,385	\$4,752	\$8,142	\$6,497	\$9,888	\$9,909	\$13,494
Mississippi	\$4,080	\$6,957	\$4,161	\$6,848	\$6,845	\$9,532	\$9,715	\$12,402
Missouri	\$3,347	\$6,078	\$3,272	\$5,880	\$4,818	\$7,426	\$7,344	\$9,952
Montana	\$2,629	\$6,161	\$2,868	\$6,247	\$9,532	\$12,911	\$13,950	\$17,329
Nebraska	\$7,883	\$11,375	\$7,753	\$11,123	\$9,465	\$12,870	\$12,512	\$15,917
Nevada	\$3,167	\$4,040	\$2,961	\$3,751	\$3,444	\$4,235	\$4,124	\$4,915
New Hampshire	-\$1,782	-\$1,109	-\$2,031	-\$1,474	-\$1,690	-\$1,133	-\$1,189	-\$632
New Jersey	\$1,100	\$4,204	\$863	\$3,865	\$3,484	\$6,665	\$6,830	\$10,151
New Mexico	\$6,559	\$9,459	\$6,836	\$9,576	\$8,655	\$11,395	\$11,401	\$14,142
New York	\$4,215	\$7,645	\$4,321	\$7,517	\$6,333	\$9,591	\$10,215	\$13,550
North Carolina	\$3,983	\$6,564	\$3,915	\$6,373	\$5,187	\$7,645	\$7,680	\$10,138
North Dakota	\$5,331	\$6,660	\$5,129	\$6,391	\$5,594	\$7,060	\$6,731	\$8,219
Ohio	\$1,481	\$3,718	\$1,168	\$3,262	\$2,230	\$4,441	\$4,221	\$6,507
Oklahoma	\$5,765	\$8,400	\$5,786	\$8,303	\$6,625	\$9,142	\$8,817	\$11,334
Oregon	\$9,868	\$14,238	\$9,178	\$13,429	\$11,531	\$15,782	\$16,507	\$20,855
Pennsylvania	\$1,316	\$3,351	\$1,157	\$3,059	\$2,125	\$4,027	\$3,937	\$5,839
Rhode Island	\$859	\$3,504	\$1,028	\$3,631	\$3,500	\$6,347	\$6,300	\$9,406
South Carolina	\$4,301	\$7,669	\$3,845	\$7,049	\$5,411	\$8,615	\$8,261	\$11,465
South Dakota	\$1,433	\$2,272	\$1,257	\$1,971	\$1,826	\$2,541	\$2,499	\$3,214
Tennessee	\$3,500	\$4,170	\$3,245	\$3,806	\$3,554	\$4,116	\$4,057	\$4,618
Texas	\$3,290	\$4,497	\$2,663	\$3,625	\$3,204	\$4,166	\$4,076	\$5,038
Utah	\$5,925	\$8,381	\$5,927	\$8,342	\$6,916	\$9,331	\$9,015	\$11,429
Vermont	\$3,044	\$6,803	\$2,391	\$5,968	\$4,561	\$8,254	\$8,725	\$12,639
Virginia	\$4,615	\$7,801	\$4,150	\$7,161	\$6,133	\$9,145	\$9,338	\$12,349
Washington	\$4,168	\$5,368	\$3,529	\$4,600	\$4,111	\$5,181	\$5,122	\$6,192
West Virginia	\$2,335	\$5,139	\$2,052	\$4,698	\$9,572	\$12,226	\$13,891	\$16,545
Wisconsin	\$3,802	\$6,600	\$3,883	\$6,590	\$5,855	\$8,562	\$8,565	\$11,272
Wyoming	\$3,359	\$4,460	\$2,968	\$3,953	\$3,451	\$4,436	\$4,185	\$5,169

Appendix 4: Glossary of Revenue and Expenditure Categories

Table 10: Revenue category definitions, from the survey of state and local government finances

Revenue Category	Description	Handling
Employee retirement	Interest, dividends, and other earnings on securities held as assets to provide income for public employee retirement programs.	Excluded from the model.
Hospital	Revenues to government owned and maintained hospitals, including insurance payments for patient care	Excluded from the model.
Inapplicable misc. revenues	Includes earnings from interest, the sale of government property, rents and royalties, lottery revenues, and donations from private sources.	Excluded from the model.
Higher education	Includes local government degree granting institutions which provide academic training above grade 12. Instructional employees includes persons engaged in teaching and related academic research.	Excluded from the model.
Business licenses excl. corporation licenses	Licenses for manufacturing, importing, wholesaling, and retailing alcoholic beverages, license taxes imposed on amusement businesses, and license taxes required of persons engaging in particular professions, trades, and occupations, and charges relating to inspection and marketing of certain agricultural commodities. License taxes distinctively imposed on public passenger and freight transportation companies, telephone, telegraph, and light and power companies, and other public utility companies including government-owned utilities. Licenses to operate a public utility.	Excluded from the model.
Housing community development	Revenues related to the construction and operation of housing and redevelopment projects, and other activities to promote or aid housing and community development.	Excluded from the model.
Sea and inland port facilities	Revenues related to the operation of sea and inland ports	Excluded from the model.
Natural resources	Fees, rents, royalties, and charges for use of forests, waterways, and other publicly owned natural resources	Excluded from the model.
Utilities	Revenue from sale of utility commodities and services (water, electric, and gas) to the public.	Total state revenue per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 for others).
Applicable misc. revenues	Includes miscellaneous unclassified commercial activities, compulsory contributions collected from owners of property benefiting from special public improvements (street paving, sidewalks, sewer lines, etc.), fines and forfeitures, and miscellaneous other revenues.	Total state revenue per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 for others).
Waste management	Revenues collected from street cleaning, solid waste collection and disposals, the provision of sanitary landfills, and services rendered for the provision of sewers and disposal facilities.	Total state revenue per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 for others).
Other charges	Miscellaneous charges not covered by other categories, such as those derived from court and recording fees, police, fire, correction, defense, public welfare, public nursing homes, public libraries, and health activities.	Total state revenue per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 for others).
Air transportation (airport)	Landing fees, hanger rentals, rents from commercial activities in airport terminals (restaurants, shops), parking fees, and passenger facility charges. Charges born by airline companies are partly born by customers.	Total state revenue per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 for others).

Table 10: Revenue category definitions (continued)

Revenue Category	Description	Handling
Highways	Toll revenues, and other revenues received from the public to support the construction, maintenance, and operation of highways, streets, and related structures.	Total state revenue per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 for others).
Parks and recreation	Entrance fees for the use of parks, public beaches, public swimming pools and other recreational facilities, lease revenues for the rental of public spaces, as well as revenues from concession stands and gift shops.	Total state revenue per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 for others).
Liquor stores	Amounts received from sale of liquor by state and/or local liquor store operations. Excludes any state taxes collected by state liquor monopoly systems.	Total state revenue per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 for others).
Transit	Revenues collected from the sale of public transportation tickets.	Total state revenue per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 for others).
Parking facilities	Parking meter charges and fees or charges for government owned parking lots or public garages.	Total state revenue per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 for others).
Corporate income taxes and licenses	Taxes on net income of corporations and unincorporated businesses, as well as franchise license taxes, organization, filing, and entrance fees, and other license taxes which are applicable, with only specific exceptions, to all corporations.	Total state revenue per adult is applied to the H-1B visa holder alone, as the sole income earner.
Total other taxes	Taxes imposed on transfer of property at death, in contemplation of death, or as a gift. Taxes on the recording, registering, and transfer of documents such as mortgages, deeds, and securities, except taxes on recording or transfer of motor vehicle titles, which are classified elsewhere. Taxes imposed distinctively on removal of natural products and all other non-specified taxes.	Total state revenue per adult is applied to the H-1B visa holder alone, as the sole income earner.
Individual licenses	Commercial and noncommercial hunting and fishing licenses. License taxes imposed on owners or operators of motor vehicle, commercial and noncommercial, for the right to use public highways, including charges for title registration and inspection of vehicles. Licenses for the privilege of driving motor vehicles, including both private and commercial licenses. License taxes not listed separately (e.g., animal licenses, marriage licenses, registration fees on pleasure boats and aircraft, individual permits to purchase liquor, and other nonbusiness privileges).	Total state revenue per adult is applied to the H-1B visa holder alone, as the sole income earner.
Unemployment compensation	Taxes imposed on employees to fund state unemployment compensation systems. These taxes are progressive, but are capped at a certain dollar amount and/or percentage of weekly income.	Total state revenue per adult is applied to the H-1B visa holder alone, as the sole income earner.
Worker compensation	Taxes imposed on employees to fund state workers compensation programs for those injured while at work. These taxes are progressive, but are capped at a certain dollar amount and/or percentage of weekly income.	Total state revenue per adult is applied to the H-1B visa holder alone, as the sole income earner.
Sales taxes	Revenues received from sales taxes imposed on commercial transactions.	Modeled based on the CES.
Property taxes	Taxes conditioned on ownership of property and measured by its value. Includes general property taxes related to property as a whole, real and personal, tangible or intangible, whether taxed at a single rate or at classified rates, and taxes on selected types of property, such as motor vehicles, or on certain intangibles.	Modeled based on H-1B incomes and ACS microdata.
Individual income taxes	Taxes on earned income of employed workers in each state.	Modeled based on H-1B incomes and state level tax brackets.
Elementary, secondary, and misc. education	Elementary and secondary school tuition, school transportation charges, gross school lunch sales, and miscellaneous revenues from athletic events, the sale or rental of textbooks, and student activity funds.	Total state revenue per child under 18 is applied on a per-child basis (assuming 1.5 children per household), in scenarios 2 and 3 only.

Table 11: Expenditure category definitions, from the survey of state and local government finances

Expenditure Category	Description	Handling
Public welfare	Support of and assistance to needy persons contingent upon their need. Excludes pensions to former employees and other benefits not contingent on need.	Excluded from the model.
Insurance trust expenditure	Cash payments to beneficiaries (including withdrawals of retirement contributions) of employee retirement, unemployment compensation, workers' compensation, and disability benefit social insurance programs. Excludes cost of administering insurance trust activities, state contributions of programs administered by the state or by the federal government, intergovernmental expenditure for support of locally administered employee-retirement systems, and noncontributory gratuities paid to former employees.	Excluded from the model.
Higher education	Includes local government degree granting institutions which provide academic training above grade 12. Instructional employees includes persons engaged in teaching and related academic research.	Excluded from the model.
Hospitals	Financing, construction acquisition, maintenance or operation of hospital facilities, provision of hospital care, and support of public or private hospitals.	Excluded from the model.
Other and unallocable	General expenditure for purposes and activities not falling within any standard functional category and unallocated amounts relating to two or more functions.	Excluded from the model.
Health	Outpatient health services, other than hospital care, including: public health administration; research and education; categorical health programs; treatment and immunization clinics; nursing; environmental health activities such as air and water pollution control; ambulance service if provided separately from fire protection services; and other general public health activities such as mosquito abatement.	Excluded from the model.
Other education	Includes state educational administration and services, tuition grants, fellowships, aid to private schools, and special programs.	Excluded from the model.
Highways (fixed costs)	Construction of highways, streets, and related structures.	Excluded from the model.
Interest on general debt	Interest paid on all long-term credit obligations of the government and its agencies whether backed by the governments' full faith and credit or nonguaranteed, and all interest-bearing short-term credit obligations. Includes judgments, mortgages, and revenue bonds, as well as general obligations bonds, notes, and interest-bearing warrants. Excludes noninterest-bearing short-term obligations, interfund obligation, amounts owed in a trust or agency capacity, advances and contingent loans from other governments, and rights of individuals to benefits from government-administered employee retirement funds.	Excluded from the model.
Correction	Costs of the confinement and correction of adults and minors convicted of offenses against the law, as well as pardon, probation, and parole activities.	Excluded from the model.
Electric power	Operation and maintenance of electric power systems including production or acquisition and distribution of electric power.	Excluded from the model.
Financial administration	Activities involving finance and taxation.	Excluded from the model.
Judicial and legal	Includes all court and court related activities (except probation and parole activities which are included at the "Correction" function), court activities of sheriffs' offices, prosecuting attorneys' and public defenders' offices, legal departments, and attorneys providing government-wide legal services.	Excluded from the model.
Other governmental administration	Applies to the legislative and government-wide administrative agencies of governments. Included here are overall planning and zoning activities, and central personnel and administrative activities. This function is not applied to school district or special district governments.	Excluded from the model.
Natural resources	Conservation, promotion, and development of natural resources, such as soil, water, forests, minerals, and wildlife. Includes irrigation, drainage, flood control, forestry and fire protection, soil reclamation, soil and water conservation, fish and game programs, and agricultural fairs.	Excluded from the model.

Table 11: Expenditure category definitions (continued)

Expenditure Category	Description	Handling
Air transportation (airports)	Construction, maintenance, operation, and support of airport facilities.	Excluded from the model.
Transit (fixed costs)	Construction of new facilities, and major improvements of public mass transit systems — bus, commuter rail, light rail, or subway systems.	Excluded from the model.
General public buildings	Provision and maintenance of public buildings not allocated to particular functions.	Excluded from the model.
Miscellaneous commercial activities	Provision and operation of commercial facilities not classified under particular functions. Includes a bank (North Dakota), cement plant, hail insurance systems, and the like.	Excluded from the model.
Libraries	Provision and support of public library facilities and services.	Excluded from the model.
Sea and inland port facilities	Construction and maintenance of sea and inland port facilities.	Excluded from the model.
Social insurance administration	Administration of unemployment compensation programs and employment offices.	Excluded from the model.
Veterans services	Cash bonuses to veterans and other financial grants not contingent on need, administration of bonus payments, veterans' information and guidance services, and other veterans' services not classified under Public Welfare, Education, Hospitals, or other functions.	Excluded from the model.
Elementary and secondary education	All activities associated with the operation of public elementary and secondary schools and locally operated vocational-technical schools. Special education programs operated by elementary and secondary school systems are also included as are all ancillary services associated with the operation of schools, such as pupil transportation and food service.	Modeled for scenario 2 only, otherwise excluded (see Appendix 1).
Police protection	Preservation of law and order and traffic safety. Includes police patrols and communications, crime prevention activities, detention and custody of persons awaiting trial, traffic safety, and vehicular inspection.	Total state expenditure per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 otherwise).
Waste management	Provision of sanitary and storm sewers and sewage disposal facilities and services, and payments to other governments for such purposes. Also includes street cleaning, solid waste collection and disposal, and provision of sanitary landfills.	Total state expenditure per adult is applied to each adult in the H-1B household (X1 for scenario 1, and X2 otherwise).
Highways (variable costs)	Maintenance and operation of highways, streets, and related structures, including snow and ice removal.	Total state expenditure per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 otherwise).
Water supply	Operation and maintenance of the water supply system including acquisition and distribution of water to the general public or to other local governments for domestic or industrial use.	Total state expenditure per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 otherwise).
Housing and community development	Construction and operation of housing and redevelopment projects, and other activities to promote or aid housing and community development.	Total state expenditure per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 otherwise).
Fire protection	Fire fighting organization and auxiliary services; fire inspection and investigation; support of volunteer fire forces; and other fire prevention activities. Includes cost of fire fighting facilities, such as fire hydrants and water, furnished by other agencies of the government.	Total state expenditure per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 otherwise).
Transit (variable costs)	Maintenance, operations, and administration of public mass transit systems — bus, commuter rail, light rail, or subway systems.	Total state expenditure per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 otherwise).

Table 11: Expenditure category definitions (continued)

Expenditure Category	Description	Handling
Parks and recreation	Provision and support of recreational and cultural-scientific facilities and activities including golf courses, play fields, playgrounds, public beaches, swimming pools, tennis courts, parks, auditoriums, stadiums, auto camps, recreation piers, marinas, botanical gardens, galleries, museums, and zoos. Also includes building and operation of convention centers and exhibition halls.	Total state expenditure per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 otherwise).
Protective inspection and regulation	Regulation of private enterprise for the protection of the public and inspection of hazardous activities except for major functions, such as fire prevention, health, natural resources, etc.	Total state expenditure per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 otherwise).
Liquor stores	Amounts received from sale of liquor by state and/or local liquor store operations. Excludes any state taxes collected by state liquor monopoly systems.	Total state expenditure per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 otherwise).
Gas supply	Operation and maintenance of gas supply systems including acquisition and distribution of natural gas.	Total state expenditure per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 otherwise).
Parking facilities	Construction, purchase, maintenance, and operation of public-use parking lots, garages, parking meters, and other distinctive parking facilities on a commercial basis.	Total state expenditure per adult is applied to each adult in the H-1B household (X1 for scenario 1 and X2 otherwise).

Please see the GitHub page accompanying this report [here](#).

Acknowledgments

We thank Andrey Yushkov, Cardiff Garcia, Jordan McGills, John Lettieri, Benjamin Glasner, Nathan Goldschlag, and Jiaxin He for their feedback and contributions to the development of this report.

Endnotes

- 1 Ozimek, Adam, Connor O'Brien, and John Lettieri, "Exceptional by Design: How to Fix High Skilled Immigration to Maximize American Interests", January 2025 ([link](#)).
- 2 An H-1B household includes the H-1B visa holder, as well as their co-resident spouse and children in the United States where applicable.
- 3 This figure refers to the unweighted average fiscal impact for all states including Washington D.C.
- 4 We outlined our proposal in an [earlier Agglomerations post](#), and we also revisit the relevant details later in this paper.
- 5 See, for example, Mackie, Christopher, and Francine D. Blau, eds. "The economic and fiscal consequences of immigration": National Academies Press, 2017 ([link](#)), Auerbach, Alan J. and Philip Oreopoulos "Analyzing the Fiscal Impact of U.S. Immigration", American Economic Review, Vol 89, No. 2, May 1999 ([link](#)), and Pia M. Orrenius "New Findings on the Fiscal Impact of Immigration in the United States" FRB of Dallas Working Paper No. 1704, June 2022 ([link](#)).
- 6 Ghertner, Robin, Suzanne Macartney, and Meredith Dost. "The fiscal impact of refugees and asylees at the federal, state, and local levels from 2005 to 2019." US Department of Health and Human Services (2024).
- 7 See Di Martino, Daniel. "The lifetime fiscal impact of immigrants." Manhattan Institute, 2024, Nowrasteh, Alex, Sarah Eckhardt and Michael Howard, "The Fiscal Impact of Immigration in the United States", Cato White Paper, March 2023 ([link](#)), and Anna Maria Mayada, "The fiscal impact of immigration: Empirical evidence at the local level" LISER Policy Brief 11, May 2025 ([link](#)).
- 8 Peri, Giovanni, Kevin Shih, and Chad Sparber. "STEM workers, H-1B visas, and productivity in US cities." Journal of Labor Economics 33.S1 (2015): S225–S255.
- 9 There are arguments for using a mean approach, including that workers with outlier earnings may pay outlier revenues which are realistic to include. However, state and local taxes tend to scale less linearly with income than federal taxes do, making a mean approach particularly risky. For those interested in this alternative, we produce one in Appendix 4.
- 10 National Academies of Sciences, Engineering, and Medicine, "The Economic and Fiscal Consequences of Immigration", (2017) Washington, DC: The National Academies Press. <https://doi.org/10.17226/23550>.
- 11 Ibid.
- 12 See Di Martino, Daniel "The Lifetime Fiscal Impact of Immigrants", Manhattan Institute, September 2024 ([link](#)) and Di Martino, Daniel "The Fiscal Impact of Immigration (2025 Update)", Manhattan Institute, October 2025 ([link](#)).
- 13 Nowrasteh, Alex, Sarah Eckhardt and Michael Howard, "The Fiscal Impact of Immigration in the United States", Cato White Paper, March 2023 ([link](#)).

- 14 See the U.S. Citizenship and Immigration Services' Fiscal Year 2023 Report [here](#). The remainder did not report educational attainment.
- 15 H-1B status is initially valid for three years with the potential to be renewed for another three years. However, if the H-1B holder is successfully sponsored for a green card, they are eligible for extensions beyond the six-year general period until a green card becomes available. ([link](#)). Note that, as this analysis focuses on H-1Bs who receive renewals, we necessarily exclude those who only remain for three years. Based on first-year wages alone, we find a cross-state average fiscal impact of \$3,694 for our baseline model.
- 16 Any subnational estimates come from Labor Condition Application (LCA) microdata on continuing applicants that has been cleaned. Data and cleaning code is available at ([link to github](#)). LCA applications is the source data for both reports, with the small discrepancy likely due to different filtering done by the U.S. Citizenship and Immigration Services (USCIS). See Appendix 1 for additional details.
- 17 Additional details are provided in Appendix 1, but our basic approach is to filter individuals in the ACS that are qualified to be H-1B applicants, and then weight using occupation counts from LCA data. The criteria for determining potential H-1B holders is those who are employed, non-citizens, and have immigrated within six years. The demographics of our proxy sample correspond to what we do know from USCIS reports, including that they are disproportionately from China and India.
- 18 We directly estimate the probability such workers are married (60 percent), the probability they have children (40 percent), and the expected number of children given someone has any children (1.5). From these probabilities we compute the conditional probabilities used in each scenario.
- 19 Median household income can be found at: 2023 ACS 1-Year Estimates Subject Tables, S1901 ([link](#)).
- 20 Brannon, Ike and Kevin M. McGee, "Repealing H-4 Visa Work Authorization: A Cost-Benefit Analysis" (2019). Available at SSRN: ([link](#)).
- 21 Lifetime expected earnings are projected using the salary profiles by age for college-graduate workers in the American Community Survey.
- 22 See another detailed explanation of the wage-ranked selection proposal [here](#). Lifetime earnings are chosen because while the H-1B visa is temporary and we are estimating near-term fiscal impacts, the H-1B is also the primary pathway for high-skilled foreigners to pursue permanent residency in the United States. Thus a well-designed visa would have a long-term focus.
- 23 There are technically two lotteries. H-1B applicants with a master's degree or higher therefore get two chances.
- 24 Rough calculation applying 2023 median income estimates of \$80,610 and the [Tax Foundation's](#) estimate of the effective federal tax rate for middle quintile earners (14.3 percent).
- 25 Ozimek, Adam, Connor O'Brien, and John Lettieri, "Exceptional by Design: How to Fix High Skilled Immigration to Maximize American Interests," January 2025 ([link](#)).
- 26 See the American Immigration Council's overview [here](#).

- 27 See Mackie, Christopher, and Francine D. Blau, eds. “The economic and fiscal consequences of immigration.” National Academies Press, 2017 ([link](#)) on the earnings of high-skilled immigrants’ children, and Abramitzky, Ran, Leah Boustan, Elisa Jacome, and Santiago Perez “Intergenerational Mobility of Immigrants in the United States over Two Centuries,” *American Economic Review* 111 (2): 580–608, 2021 ([link](#)) on intergenerational mobility generally.
- 28 Connor O’Brien “Student visas are a critical pipeline for high-skilled, highly paid talent,” *Agglomerations*, June 2025 ([link](#)).
- 29 Specifically, using PERM applications as an estimate of H-1Bs’ share of green card applications, H-1B workers made up 62 percent of applications in fiscal year 2023 and 64 percent of all approved PERM applications. To our knowledge, a direct measure of the share or number of H-1B workers that receive green cards does not exist. We use PERM as a proxy, to estimate the share that H-1Bs make up of green card recipients. PERM, or Permanent Labor Certification, is required prior to the submission of an EB-2 or EB-3 green card, two of the Employment-Based green card pathways. EB-1 applications do not require a PERM application, and are the least common of the three (see [Form I-140, I-360, I-526 Approved EB Petitions Awaiting Visa Final Priority Dates](#).” The Employment-Based green card is [the primary pathway](#) through which H-1B workers obtain permanent residency. H-1Bs, L-1 workers, and their families [account for the majority](#) of EB-1, EB-2, and EB-3 adjustments. Note that H-1Bs may also receive an EB-2 green card through the National Interest Waiver (NIW) pathway, which allows applicants to self-petition without employer sponsorship or a PERM approval, which made up [17](#) percent of all EB green cards in FY2023. Estimates are based on the [DOL’s PERM fiscal year 2023 data](#).
- 30 Bernstein, Shai, Rebecca Diamond, Abhisit Jiranaphawiboon, Timothy McQuade, and Beatriz Pousada. “The contribution of high-skilled immigrants to innovation in the United States.” No. w30797. National Bureau of Economic Research, 2022.
- 31 We cite an abundance of studies showing these effects in Chapter 2 of our report,” *Exceptional by Design*.” Ozimek, Adam, Connor O’Brien, and John Lettieri, “Exceptional by Design: How to Fix High Skilled Immigration to Maximize American Interests”, January 2025 ([link](#)).
- 32 See “Characteristics of H-1B Specialty Occupation Workers”, Appendix D Table 5. “H-1B Petitions Approved by Age and Gender of Beneficiary and Type of Petition, FY 2023” [link](#). Note that USCIS does not separate out continuing and extension petitions for age or other demographic estimates.
- 33 See the Bloomberg GitHub [here](#).
- 34 This is rare — approved filings for concurrent employment made up 0.75 percent of total LCA H-1B related applications in Fiscal Year 2023.
- 35 The p-value is $5.39e^{-09}$.
- 36 Selecting seven years as the cutoff excludes some H-1B visa holders who were previously on F-1 status. This decision is made in order to exclude individuals on green cards or on the waitlist for a green card, which would have distortionary effects on our sample.

- 37 The share of the proxy-H-1Bs that are married (0.383) becomes the probability of scenario 1. For scenarios 2 and 3, we take the probability that an H-1B has kids (0.404) and the share of H-1Bs that are married (0.617) to estimate the share of dual-parent H-1B households that have kids as $\text{Pr}(\text{married}) \times \text{Pr}(\text{has kids})$, and the share without children as $\text{Pr}(\text{married}) \times (1 - \text{Pr}(\text{has kids}))$. For simplicity, we assume that there are no single-parent households. The average number of kids per household that has kids is computed as $E(\text{children}) / \text{Pr}(\text{has children}) = 0.625 / 0.404 = 1.55$.
- 38 Brannon, Ike and McGee, M. Kevin, Repealing H-4 Visa Work Authorization: A Cost-Benefit Analysis (April 2, 2019). Available at SSRN: <https://ssrn.com/abstract=3349786>.
- 39 As with the baseline model, the share of the proxy-H-1Bs that are married (0.383) becomes the probability of scenario 1. For scenarios 2 through 5, we incorporate the estimate that 75 percent of H-4 spouses would work if allowed from the Brannon et al. survey estimates. As before, we use the results that the share of married H-1Bs is $1 - 0.383 = 0.617$, and the share with children is 0.404. Scenario 2 then becomes $\text{Pr}(\text{married}) \times \text{Pr}(\text{has kids}) \times (1 - \text{Pr}(\text{spouse works}))$, scenario 3 is $\text{Pr}(\text{married}) \times (1 - \text{Pr}(\text{has kids})) \times (1 - \text{Pr}(\text{spouse works}))$, scenario 4 is $\text{Pr}(\text{married}) \times \text{Pr}(\text{has kids}) \times \text{Pr}(\text{spouse works})$, and scenario 5 is $\text{Pr}(\text{married}) \times (1 - \text{Pr}(\text{has kids})) \times \text{Pr}(\text{spouse works})$.
- 40 See [link](#) for 2019 estimates, and [link](#) for 2023 estimates. Table 9b. We use the USCIS survey estimates rather than real wages from the Bloomberg FOIA data due to lack of FOIA data for fiscal year 2019.
- 41 See Ozimek, Adam, Conor O'Brien, and John Letteri, "Exceptional By Design", January 2025 ([link](#)).
- 42 Additional details on the Economic Innovation Group's wage ranking proposal can be found [here](#).
- 43 See Di Martino, Daniel "The Lifetime Fiscal Impact of Immigrants", Manhattan Institute, September 2024 ([link](#)).
- 44 Tareque, Inara, Jorge Guzman, and Dan Wang "High-skilled immigration enhances entrepreneurship." (2024) PNAS ([link](#)), Doran, Kirk, Alexander Gelber, and Adam Isen "The Effects of High-Skilled Immigration Policy on Firms: Evidence from Visa Lotteries" (2016) ([link](#)).
- 45 The tax foundation brackets are available [here](#). An alternative approach would be to use NBER's [TAXSIM](#). TAXSIM produces near-identical income tax estimates, as verified by the authors.
- 46 Under the Substantial Presence Test, the IRS classifies H-1Bs as resident aliens, which allows spouses to file jointly.
- 47 Here, food expenditures include both groceries and restaurant or other "prepared food" expenditures. In general groceries are exempt or taxed at lower rates, but we cannot separate them out in our data, and as these regressions are used for distributional purposes rather than direct sales-tax computation, inclusion does not impact our estimates. Higher spending on grocery items is correlated with higher spending on prepared meals controlling for household composition.
- 48 See the White House Historical Tables [here](#).
- 49 See the IRS information page on non-resident filings [here](#).
- 50 See the IRS information page on the substantial presence test [here](#).