

“These are Not the Droids You’re Looking for”: Corporate Propaganda Masks Mass Offshoring with Inflated AI Hype

James Van Hout (jimmyvanhout22@gmail.com)

26 June, 2025

Recently, I came across an article in *The Atlantic* magazine titled “The Computer Science Bubble is Bursting” written by Horowitch (2025).¹ This wasn’t news to me. After graduating in May of 2022 with a B.S. in Computer Science from the University of Maryland, I watched the job market plummet right in front of me.² Around the time I graduated, I received interview offers with several different companies, but the job market retracted faster than they could hire me. One prominent local company ended a phone interview with the promise of a follow-up that never materialized. Another well-known company ghosted me after scheduling a phone interview with them only just a couple weeks prior. I went through four rounds of interviews with another company, an international fitness company, that began with a behavioral interview with two company executives that went so well that one of them exclaimed “When can we hire this guy?” and ended with three grueling, one-hour, back-to-back interviews in a single day. Ultimately, the company refused to hire me on the basis of my disability, despite having been told by one of the executives that I had performed well in the interviews and despite having created a product used by the company’s customers that multiple executives praised me for building (and one even apologized to me in private for having to build in the first place, since the company did not have its own version of the product). But that is a story for another time.

The present article is a response to the premise of *The Atlantic* article summarized in its title, above, and its subtitle, here: “Artificial intelligence is ideally suited to replacing the very type of person who built it.”³ The fundamental assumption of *The Atlantic* article is that jobs for recent computer science graduates—namely software engineering jobs—are disappearing largely or perhaps even mostly due to the increasing capabilities of artificial intelligence (AI)

¹Horowitch, 2025

²Layoffs.fyi, n.d.

³Horowitch, 2025

to augment the capabilities of more senior employees in these roles and even to perform these jobs' essential duties. This idea is encapsulated in the article's bold assertion:

“In recent years, the tech industry has been roiled by layoffs and hiring freezes. The leading culprit for the slowdown is technology itself. Artificial intelligence has proved to be even more valuable as a writer of computer code than as a writer of words. This means it is ideally suited to replacing the very type of person who built it.”⁴

The Atlantic, which would not publish this article, is not alone in pushing this narrative. A recent report by Martin (2025) of Oxford Economics cited AI as a driver of increasing unemployment and underemployment of recent college graduates, especially those looking for work in “computer and mathematical science occupations.”⁵ However, the evidence cited to support this conclusion was limited to the technology industry's increasing adoption of AI tools and the rapidly increasing unemployment in this field, especially among recent college graduates; that is, the author gave no evidence to substantiate the claim that AI is displacing workers in the technology industry. The CEO of Anthropic, a major AI technology company in the United States funded by Amazon and Google, predicted earlier this year that AI will displace all software developers within a year.⁶ Look around and you will find plenty of others helping to propel this narrative—and the value of AI companies' shares, coincidentally.

This response will address the central premise of *The Atlantic* article by answering the following questions:

1. Is AI capable of replacing software engineers *en masse*, as Horowitch (2025) and others claim?
2. What is the actual main driver of the very real mass layoffs and reduced hiring of domestic software engineers in the United States?
3. Why is the narrative that AI is capable of replacing software engineers *en masse* being pushed so forcefully—that is, what are the consequences of the phenomenon this narrative attempts to conceal?

⁴Horowitch, 2025

⁵Martin, 2025

⁶Tan, 2025

Is AI currently capable of performing the work of a software engineer?

“Well, if droids could think, there’d be none of us here, would there?”

– Obi-Wan Kenobi

After submitting hundreds of job applications and attending career fairs with lines out the door to no avail in the months following my graduation, I started my own AI company to try to earn a living or at least have something to add to my resume. The product I developed was based on a field of AI known as constraint satisfaction. Though this is not the generative AI that will be the focus of the first part of this article and that most people refer to when they say “AI” today, with my degree and my experience founding my company I am somewhat familiar with the field of AI and its application to software engineering. Though many Americans have by now been introduced to AI in some capacity through software such as ChatGPT, most are not studying or working in the field of computer science or a related field, meaning that the non-expert component of the Pew Research Center poll that Horowitch (2025) cites in her article as a basis for her claim that young people are beginning to avoid enrolling in computer science degrees has limited applicability in reflecting the actual capabilities of AI in software engineering.⁷ Moreover, that poll asked respondents whether AI will result in *fewer jobs for software engineers over the next 20 years*, not whether the current mass layoffs or reduction in hiring taking place are mostly attributable to AI.⁸ Even so, only a *minority* of non-expert respondents indicated “yes” and only *half* of expert respondents did so, though this was not mentioned in *The Atlantic* article.

At the fitness company I had nearly worked for, internal development of an AI model to predict heart rates of the company’s clients had been in the works for years. When it was finally time to launch, the product was unveiled with a Big-Tech-style keynote address by the company’s head of AI development. It was hailed, as you might guess, as the Next Big Thing™, as is common in the now unavoidable corporate propaganda push for AI. Advertisements for AI are everywhere, major tech companies mention it incessantly in their keynote addresses, products are pushed with AI even if consumers don’t explicitly want it, and mention of “AI” on S&P 500 companies’ earnings calls continues to increase each year,

⁷Horowitch, 2025; McClain et al., 2025

⁸McClain et al., 2025

with 40% of such companies mentioning the technology during their first quarter earnings calls this year.⁹ Despite the hype, however, even business leaders admit that AI is not even close to reaching “maturity” in their business workflows. In a recent survey of 118 corporate executives in the United States, consulting firm McKinsey & Company found that only *one percent* of executives surveyed believed that their companies’ AI rollout had reached “maturity.”¹⁰ After the launch of the new heart rate AI, the fitness company I mentioned earlier continued to work on it for months in the background due to problems it encountered with the AI’s predictive accuracy. When one client brought up this issue, she was told by the AI team that the problem was not with the AI—she just wasn’t working out hard enough.

Of course, the fact that AI *can* generate software means that AI *may* be able to replace *some* employees who write or otherwise create software. The key qualification, however, is that not everyone who creates software is a software engineer. You’ll notice that, thus far, I have referred to software development jobs populated by graduates of computer science and similar degree programs as “software engineering” jobs. Though the terms “software development” and “software engineering” are often used interchangeably, I distinguish between the two here to highlight the different qualifications required by software-creation jobs that require a background in computer science, computer engineering, or a related discipline and those that do not (this distinction is arbitrary and is purely made for the purposes of this article—typically, these terms are interchangeable). I refer to the former as “software engineering” jobs: software development jobs requiring specialized qualifications typically obtained through the completion of a university-level degree program. Notably, in Stack Overflow’s 2024 annual Developer Survey of software developers, 70% of professional software developers “[did] not perceive AI as a threat to their job,” while only 12% did.¹¹ If AI is, as it is purported, *actively* taking developers’ jobs *en masse*, why then would the vast majority of software developers not perceive AI as a threat to their job? They have the most to lose, after all, and they are the ones seeing what is happening on the inside in real time.

The advent of “low code/no code” software development has allowed employees without the qualifications to work as software engineers to create certain software applications for their employers.¹² These employees are most vulnerable to replacement by AI, but even then such replacement should be limited according to statements made by AI companies

⁹Butters, 2025; Heater, 2024; Kunert, 2025

¹⁰Mayer et al., 2025

¹¹Stack Overflow, 2024

¹²SAP, n.d.

themselves. For example, Microsoft itself explicitly states that its popular GitHub Copilot “code generation” AI tool is not intended to replace software developers, much less software engineers as defined previously:

“Is GitHub Copilot intended to fully automate code generation and replace developers?”

No. Copilot is a tool intended to make developers more efficient. It’s not intended to replace developers, who should continue to apply the same sorts of safeguards and diligence they would apply with regard to any third-party code of unknown origin.

- The product is called ‘Copilot’ not ‘Autopilot’ and it’s not intended to generate code without oversight. You should use exactly the same sorts of safeguards and diligence with Copilot’s suggestions as you would use with any third-party code.
- Identifying best practices for use of third party code is beyond the scope of this section. That said, whatever practices your organization currently uses - rigorous functionality testing, code scanning, security testing, etc. - you should continue these policies with Copilot’s suggestions. Moreover, you should make sure your code editor or editor does not automatically compile or run generated code before you review it.”¹³

Specifically with regard to the field of software engineering, AI is currently incapable of replacing a software engineer, whether entry-level or senior. In a recent paper presented at the International Conference on Learning Representations in 2024, Jimenez et al. (2024) applied AI (specifically, several popular large language models, or LLMs) to solve real-world software engineering problems—that is, those problems that a software engineer would routinely face on the job and be expected to address.¹⁴ According to the study’s authors, the *best* model tested was only capable of resolving *less than two percent* of the issues it was presented with. Moreover, the authors found that “automated code generations from L[L]Ms can frequently be less comprehensive, efficient, or readable compared to human-written solutions.” Clearly, if AI can only do at most two percent of the work of a software engineer, it cannot replace a software engineer.

¹³Microsoft, n.d.-b

¹⁴Jimenez et al., 2024

These findings do not signify that AI cannot *produce software*—as the corporate AI frenzy continues to remind us, it can.¹⁵ However, the quality of the software produced by AI, like that of the legal writing produced by AI, is a serious concern. In a recent study, Magesh et al. (2025) analyzed the performance of several AI tools designed specifically for legal research¹⁶. Despite the fact that the companies that sold these products “claimed to mitigate, if not entirely solve, hallucination risk,” these tools hallucinated—that is, returned responses with incorrect information—up to 33% of the time.¹⁷ When responses were filtered to remove incomplete responses, a common occurrence, hallucinations were returned up to well over 40% of the time. The authors make a point applicable to the use of AI in both the legal profession and software engineering profession alike:

“Thus, given the high rate of hallucinations that we uncover in this article, lawyers [and software engineers] are faced with a difficult choice: either verify by hand each and every proposition and citation produced by these tools (thereby undercutting the efficiency gains that AI is promised to provide), or risk using these tools without full information about their specific risks and benefits (thereby neglecting their core duties of competency and supervision).”¹⁸

In the legal profession, AI hallucinations can result in serious consequences for both the attorneys who use these tools as well as their clients.¹⁹ This is no different in the field of software engineering. In Google’s annual DORA report, DeBellis et al. (2024) found that AI adoption has *decreased* both delivery throughput and delivery stability of software.²⁰ Similarly, according to a recent analysis by Harding (2025) of more than two hundred million lines of code sourced from popular open source repositories, use of AI in software development has reduced the quality of software and, specifically, the long-term maintainability of codebases.²¹ Harding (2025) writes:

“When developers swap ‘refactoring’ for ‘cloning’ at the rate we observe, the default outcome is ‘more code’ (‘poor man’s productivity’) packaged with ‘increasing maintenance challenge’ that manifests, in part, as a higher defect rate.”²²

¹⁵Microsoft, n.d.-b

¹⁶Magesh et al., 2025

¹⁷Magesh et al., 2025

¹⁸Magesh et al., 2025

¹⁹Merken, 2025

²⁰DeBellis et al., 2024

²¹Harding, 2025

²²Harding, 2025

Harding (2025) also comments on a recent study by Mo et al. (2023), which found significant introduction of errors when AI is used to write software due to code duplication, concluding that their research “strongly suggests that the elevated rate of bugs in cloned [duplicated] code is contributing to the higher baseline of errors and defects observed since 2022.”²³ Not surprisingly, Harding (2025) also found a sharp increase year-over-year in code that had been “copy/pasted.” Ji et al. (2024), of the Center for Security and Emerging Technology at Georgetown University’s Walsh School of Foreign Service, delineate numerous security vulnerabilities of AI software-generation tools, including the creation of insecure code and hallucinations—both of which were found to have an extremely high prevalence in AI-generated software.²⁴ As the authors summarize, “Academic and industry research generally suggests that code generation models often produce insecure code.”

For example, Ji et al. (2024) cite a study by Pearce et al. (2025), which analyzed 1,689 code samples generated by GitHub Copilot over 89 unique scenarios for severe cybersecurity flaws, including those listed in MITRE’s 2021 Common Weakness Enumeration (CWE) Top 25 Most Dangerous Software Weaknesses List.²⁵ Pearce et al. (2025) found that 41% of the programs generated by Copilot contained a CWE (vulnerability). Ji et al. (2024) also cite a study by Khoury et al. (2023), which found that 76% of ChatGPT-generated programs tested were initially insecure and more than half of these insecure programs remained vulnerable after the authors specifically requested ChatGPT to correct them.²⁶ Khoury et al. (2023) note that the vulnerabilities generated by ChatGPT “spanned all categories [of] weaknesses, and were often extremely significant, of the kind one would anticipate in a novice programmer.” The authors also note that these results understate the total number of vulnerabilities generated during their testing:

“It is important to note that even when we adjudicate that a program is secure, we only mean that, in our judgement, the code is not vulnerable to the attack class it was meant to test. The code may well contain other vulnerabilities, and indeed, several programs (e.g. program 21) were deemed ‘corrected’ even though they contained obvious vulnerabilities, because ChatGPT seems to have corrected the issue we sought to explore in this use-case.”²⁷

²³Harding, 2025; Mo et al., 2023

²⁴Ji et al., 2024

²⁵Chaudry et al., 2021; Pearce et al., 2025

²⁶Khoury et al., 2023

²⁷Khoury et al., 2023

Similarly, Ji et al. (2024) cite a recent study by Fu et al. (in press) that found that, among the 733 programs generated by GitHub Copilot and two other AI software-generation tools in the study, 27% contained vulnerabilities and, of these, more than half contained multiple vulnerabilities.²⁸ Similar to the findings by Khoury et al. (2023), Fu et al. (in press) found that Copilot Chat was able to fix vulnerabilities in Copilot-generated programs with prompting in only up to 56% of cases. The authors state, “developers face a variety of security weaknesses when using Copilot and other code generation tools.” Ji et al. (2024) also conducted their own experiment to test several different AI code-generation tools—including Code Llama, ChatGPT-3.5, and ChatGPT-4—for security vulnerabilities. Their work found a mean successful verification rate—that is, the rate at which a model generated functioning code without a security defect—of only 30% across all models tested.²⁹ As the authors note, “Overall, we saw a high rate of unsuccessful verification across the five models. . . . Not only did 48% of each model’s code sample result in bugs that could be detected by ESBMC [the verification program], but an additional portion of the code could not even be verified due to infinite loops, time-outs by the checker, or compilation errors.” The authors remark that, “Overall, all five models tested also demonstrated a tendency to produce similar—and severe—bugs.”

Generative AI models of the kind used to produce software are typically “black boxes,” meaning that the output of such models are not deterministic like most software written by humans.³⁰ While AI-generated *software* can be analyzed for defects like human-created software, the *AI models themselves* typically cannot, meaning that, as the existing research clearly shows and AI companies themselves clearly state, software engineers *must* analyze *every* program generated by an AI model or else risk serious software errors and security vulnerabilities. Given that software is used to control the functioning of transportation systems, medical devices, and power generation facilities, based on security vulnerabilities alone AI-generated software presents a completely unacceptable risk when deployed to these spaces without the intensive involvement of a software engineer. To replace a software engineer with AI in such a scenario, given the level of risk demonstrated in the available scientific literature, would be tantamount to malpractice and would likely result in significant morbidity and mortality if such replacement were to be conducted at scale.

None of this is to say that generative AI tools are not useful. Generative AI is an extremely

²⁸Fu et al., in press

²⁹Ji et al., 2024

³⁰Ji et al., 2024; Kosinski, 2024

important technology and generative AI tools have broad application, but they do not currently have the capability to replace software engineers as *The Atlantic* article so forcefully asserts. However, there currently exists a technology that *can* fill these jobs, as well as all other jobs including those in the medical, scientific, and engineering fields. Moreover, this technology can perform 100% of a job’s responsibilities, not just two percent, and can do so at a rate, where I am located in Maryland, of less than \$40 per hour and as low as \$26.17 per hour.³¹ This incredible biotechnology is perhaps the most advanced technology in the world—so advanced, in fact, that is capable of creating AI itself. What could it be?

I have always been amazed at the massive global investment in computer systems that has occurred over the past several decades (and at the massive global investment in AI that has occurred more recently). Trillions of dollars are spent annually on information technology systems, including well over one trillion dollars alone on devices and data center systems each year.³² Exceptional care is taken to ensure that these systems function optimally in order to perform their tasks, and in return they perform their tasks well (except for, for example, misapplied AI systems). Yet this is most often not the case for the amazing biotechnology I just mentioned—humans (obviously). Lino et al. (2017) of the U.S. Department of Agriculture estimated that the annual cost to raise a child in the United States in a family of five is approximately \$13,636 (in 2025 USD), or \$1.56 per hour over the course of a year.³³ Compare this to the price of ChatGPT: inference alone using eight NVIDIA A100 GPUs (an estimate of the quantity required to process a single query) costs about \$27.20 per hour using Microsoft’s Azure platform or \$31.47 per hour using Google Cloud Platform in June of 2025.³⁴

While multiple queries can be processed simultaneously (up to five per second according to ChatGPT itself), the question has to be asked: Is it worth it? When the cost of investing in a child is so low and the return is so high, the opportunity cost to not invest in children is enormous. When every dollar spent on reducing child poverty yields a seven dollar return, is pouring that money into AI instead—purportedly to put the fathers and mothers of those very children out of work—worth it?³⁵ This is to say nothing of the cost of human suffering attributable to the lack of investment in and exploitation of children around the world and especially in the United States, where the disparity between investment in children and that in AI is perhaps most prominent. This is not at all to say that investment in AI is not

³¹Jimenez et al., 2024; Living Wage Institute, 2025

³²Gartner, 2025

³³Lino et al., 2017

³⁴CIO Coverage, n.d.; Google, n.d.; Microsoft, n.d.-a; Moss, 2024

³⁵McLaughlin & Rank, 2018

worthy—it certainly is—but it is strikingly disproportionate to the investment in each human being on Earth today and this disparity is especially acute in the United States.

Corporate executives, as mentioned previously, are well aware that their companies' AI implementations have not reached “maturity.”³⁶ Moreover, they are well aware that AI is not capable of performing the duties of a software engineer, as explained above. Unable to replace software engineers with AI, they are simply replacing software engineers with less expensive software developers abroad, not all of whom would be classified as “software engineers” for the purposes of this article. In a process known as offshoring, corporations have drastically increased their hiring of foreign workers amidst mass layoffs and reduced hiring domestically, exploiting not only differences in costs of living between countries but, more sinisterly, differences in labor laws setting minimum wages, maximum working hours, and acceptable working conditions. In the same report that predicted offshoring would be a “win-win” for workers and shareholders—but mainly for shareholders—McKinsey Global Institute (2003), of McKinsey & Company, hailed the “flexibility” of the American economy due to the country’s “liberal employment and labor laws that allow companies greater flexibility in reassigning tasks and eliminating jobs.”³⁷ Wonderful. Far from merely creating something new, American corporations have, for the most part, simply plundered wealth from both the workers they have laid off domestically and the workers they have hired to replace these laid-off workers internationally, all while using the guise of “AI” to mask this grim new reality.

Offshoring, not AI, is the main driver of mass layoffs and reduction in hiring of software engineers in the United States

Offshoring—the replacement of jobs in one country with those in another—is notoriously difficult to analyze due to a lack of data. In a recent report for Bloomberg, Fan & Patino (2025) cite a senior economist at the W.E. Upjohn Institute for Employment Research: “‘While there’s been a national debate about the US reliance on imported goods,’ she said, not enough attention has been paid to the offshoring of service jobs, ‘Not because it doesn’t happen or isn’t important, but because we don’t have good data on it.’”³⁸ This is no accident, of course. Corporations face significant risk to profit when exposing this data. First, exposure of

³⁶Mayer et al., 2025

³⁷Bivens, 2005; McKinsey Global Institute, 2003

³⁸Fan & Patino, 2025

corporate offshoring can lead to significant political and consumer backlash.³⁹ This can lead to a reduction in profit via reduced purchasing or outright boycotts on the part of consumers and increased political pressure via antitrust lawsuits and other mechanisms on the part of the electorate through their elected representatives in government.⁴⁰ Second, since offshoring is typically a closely guarded company secret, clients may not be aware that the services they are paying for are being rendered by offshore workers. Should clients discover that a service provider has been drastically reducing costs via offshoring while still charging them the same price they would pay for domestic work, these clients and future clients will undoubtedly demand a reduction in price, diminishing the service provider's profit increase resulting from offshoring.

Since corporations do not typically publish offshoring data, other public sources must be consulted. One such source is the annual 10-K forms published by major corporations including Microsoft, Alphabet (of which Google is a subsidiary), Apple, Amazon, and Meta (formerly Facebook). Of these, only Microsoft reports the number of full-time domestic and international workers it employs, though these figures do not include employees of companies contracted by Microsoft to perform work. The percentage change in Microsoft's domestic and international employees since the year 2004 is shown in Figure 1 below.⁴¹

³⁹Granulo et al., 2025; Rickard, 2021

⁴⁰Klein et al., 2004; Rickard, 2021

⁴¹Microsoft, n.d.-c

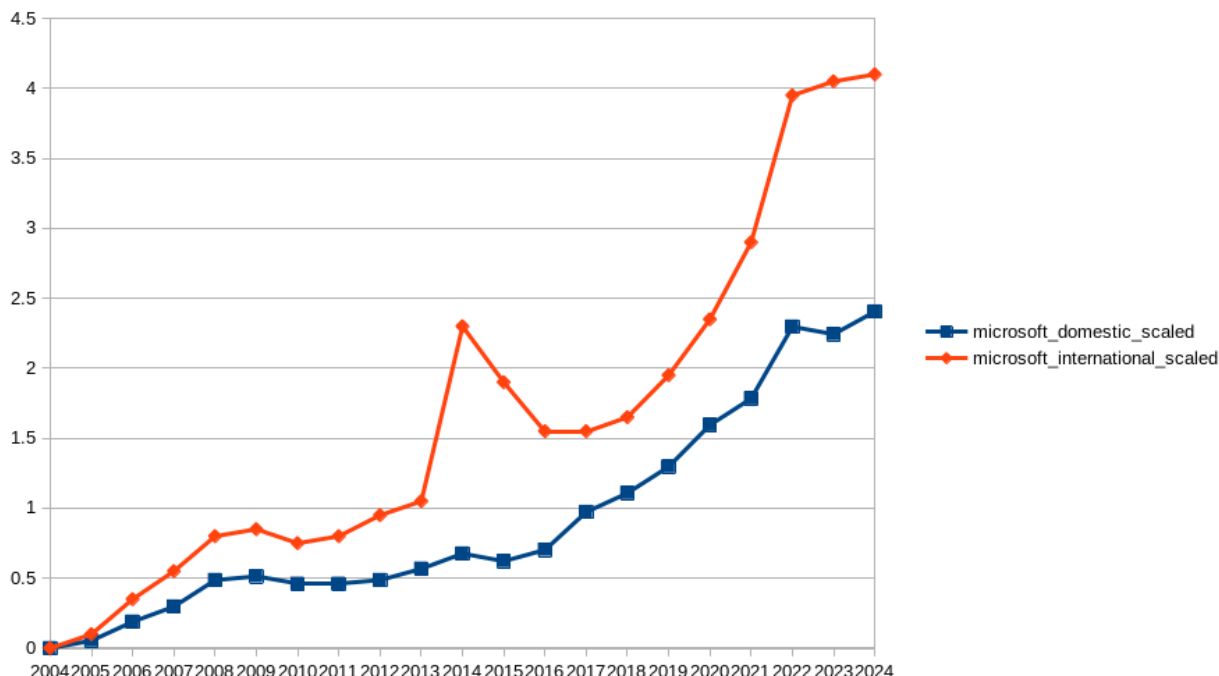


Figure 1: Percentage Change in Microsoft’s Net Hiring Rates for Domestic and International Employees Relative to 2004 Rates *Source: Microsoft, n.d.-c*

As Figure 1 shows, Microsoft’s rate of net hiring of international employees has increased much faster than that of domestic employees since 2004. The difference in net hiring rates drastically increases as the COVID-19 pandemic, which had ushered in an unprecedented (a favorite word of the pandemic-era lexicon) era of remote work, begins to subside in 2021. The fact that Alphabet, Apple, Amazon, and Meta do not include these figures may indicate that the disparity in their domestic and international net hiring rates is even more stark than Microsoft’s. To further illustrate the point, JPMorgan Chase’s net hiring rates for North America and other regions are shown in Figure 2, demonstrating that the post-pandemic net hiring trends shown in Figure 1 are not limited to the technology industry.⁴²

⁴²JPMorgan Chase, n.d.

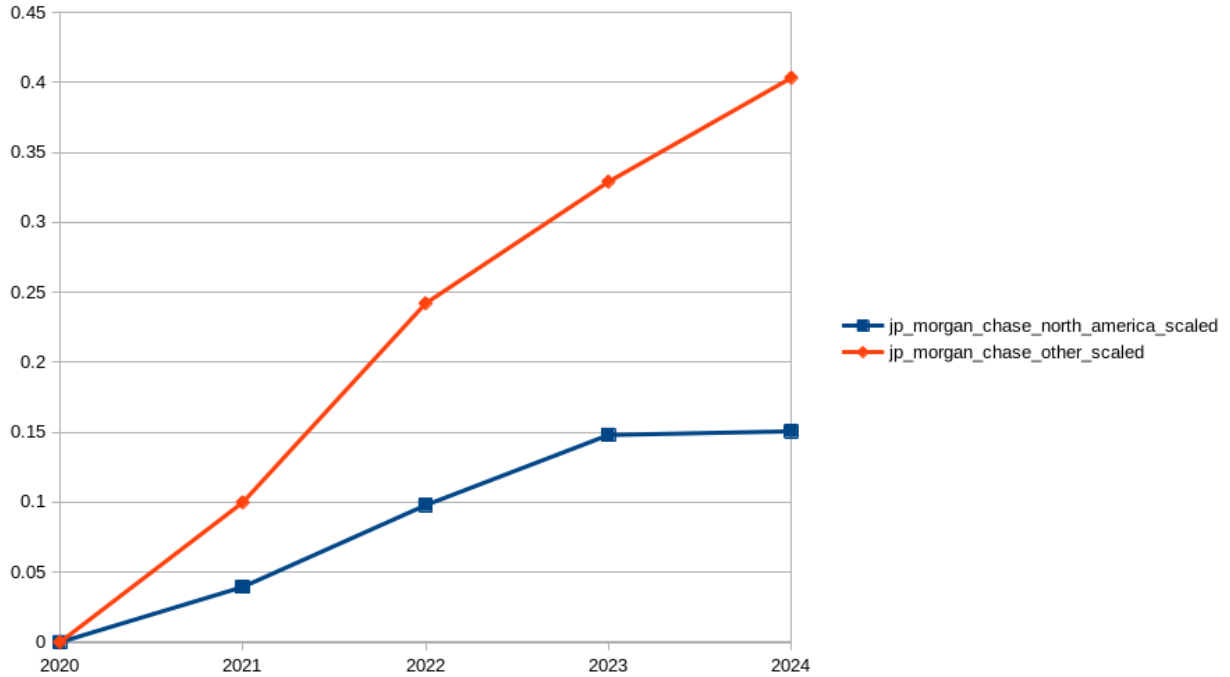


Figure 2: Percentage Change in JPMorgan Chase’s Net Hiring Rates for Employees in North America and All Other Regions Relative to 2020 Rates *Source: JPMorgan Chase, n.d.*

While these data cannot be used to definitively determine that offshoring has increased, they demonstrate a post-pandemic trend of increased offshore hiring rates far surpassing the increase in onshore hiring rates. To supplement this data, we can observe trends in the hiring of foreign workers under the H-1B visa program. Im et al. (2025) of the Pew Research Center found that, in 2024, H-1B approvals have increased by more than twice as much since 2000, with the lowest rate of denial (two percent) since 2009.⁴³ Despite the well-known mass layoffs and reductions in hiring of domestic software developers discussed in *The Atlantic* article, Im et al. (2025) found that 65% of jobs worked by H-1B visa workers are “computer-related,” including programming jobs, and constitute by far the largest category of jobs worked by H-1B visa workers. Furthermore, the highest level of education earned by 34% of these workers was a bachelor’s degree. In the presence of what Horowitch (2025) of *The Atlantic* describes as “a weak job market for recent college graduates in general and the tech sector in particular,” the large quantity of H-1B workers holding “computer-related” jobs and the large proportion holding only a bachelor’s degree further dispel the narratives that software development jobs are either not in demand or are being filled by AI.⁴⁴

⁴³Im et al., 2025

⁴⁴Horowitch, 2025

Indeed, as data from the United States Citizenship and Immigration Services (USCIS) shows, the top 10 companies hiring H-1B workers in 2024 are *all* either technology companies that produce software or IT outsourcing firms headquartered in the United States (Cognizant Technology Solutions, which was founded in India and maintains a majority of its workforce there) or India (Infosys, Tata Consultancy Services, and HCL Technologies through its American subsidiary HCL America), with India being the birthplace, as Im et al. (2025) found, of 73% of H-1B workers in 2023 and having by far the largest representation of country of birth among all H-1B workers (Figure 3).⁴⁵

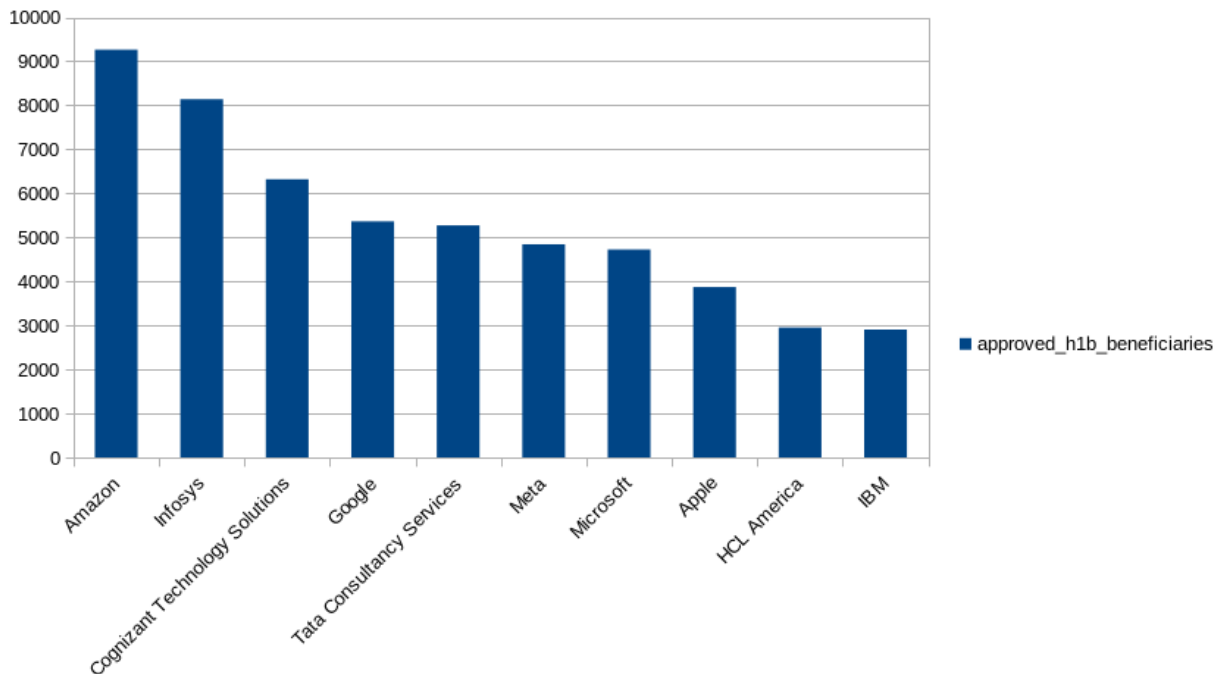


Figure 3: USCIS Top 10 H-1B Approved Beneficiaries in 2024 *Source: United States Citizenship and Immigration Services, 2025*

In their recent report for Bloomberg, Fan & Patino (2025) obtained previously undisclosed H-1B visa program data “through a lawsuit filed against the Department of Homeland Security under the Freedom of Information Act.”⁴⁶ Noting that the USCIS deems “multiple registration,” the process of submitting “multiple [H-1B visa] lottery registrations for the same applicants,” as “fraudulent,” their report found “for the first time which US companies,

⁴⁵Fan et al., 2024; Im et al., 2025; United States Citizenship and Immigration Services, n.d.

⁴⁶Fan & Patino, 2025

or ‘end-clients,’ relied most heavily on visa middlemen who used multiple registrations to secure H-1B visas. Companies like Capital One Financial Corp., Verizon Communications Inc., AT&T Inc. and Walmart Inc. top the list.” The economist cited in their report claimed, “This is the tip of the iceberg.” As Fan & Patino (2025) note:

“Overall, more than half of Capital One’s 905 H-1B contract workers turned up in multiple registrations over the four-year period reflected in the data. That’s the highest ratio among the top-10 end-clients in Bloomberg’s analysis.

Capital One drew its H-1B contractors mostly from smaller staffing firms that regularly filed multiple registrations. During the four years captured in the data, the company added new H-1B workers from 429 different staffing firms. Of those firms, 361 had used multiple registration.”⁴⁷

Notably, Capital One, headquartered just south of Washington in Tysons, Virginia, was one of the most prominent local companies at one of the career fairs I attended at my *alma mater* after graduating from the University of Maryland in 2022. The career fair, specifically for computer science students and graduates, had a line out the door and it took more than an hour to get inside to meet with employers. After getting in and waiting even longer to meet with representatives from Capital One, I and all of the other students were told that Capital One wasn’t even accepting resumes. A few months later, Reuters reported that Capital One had laid off 1,100 technology workers.⁴⁸ The company had apparently attended the career fair to show its face as it covertly replaced domestic software developers with cheap, exploitable H-1B visa workers for the benefit of its shareholders.

Fan & Patino (2025) make clear the exploitative nature of this process for both domestic and foreign workers:

“The middlemen who win the lottery then farm out the visa-holders on contract to their business clients and take a portion of each worker’s pay. Academics and labor advocates say this practice distorts the H-1B program, resulting in a system that undercuts US workers, creates a kind of second-class workforce with fewer job protections, and tilts the labor market in favor of employers.”⁴⁹

Specifically, Fan & Patino (2025) found that H-1B software developers deemed “contractors” were severely underpaid compared to domestic software developers and even other H-1B visa software developers. Despite the fact that immigration law prohibits paying H-1B workers

⁴⁷Fan & Patino, 2025

⁴⁸Reuters, 2023

⁴⁹Fan & Patino, 2025

less than domestic workers in the same job, contract workers performing the same duties as a domestic worker or non-contractor H-1B worker are paid substantially less than either.⁵⁰ As Fan & Patino (2025) write:

“... A Bloomberg analysis of the 10 largest end-clients shows that even when job titles are similar, the pay differential persists. Of the nearly 5,300 H-1B ‘software developers’ hired by those companies from 2020 through 2024, more than 75% were contractors. A typical contractor was paid about \$48,000 less, the data show, than a worker employed directly by the company that sponsored her visa – even after accounting for education level and age. One out of every three such contractors was paid the minimum salary required by the Department of Labor.”⁵¹

Citing an attorney at Lief Cabraser Heimann & Bernstein, Fan & Patino (2025) note that H-1B workers have little recourse since their employers control their visa status. Thus, corporations effectively possess the power to deport H-1B workers in retaliation for any complaint. The attorney claims that outsourcing firms “regularly” restrict the legal remedies of their workers through abusive contracts and cites a culture of “fear” due to the power of these firms over their legal status in the United States.

Disturbingly, on his first day in office, former President Biden rescinded guidance issued by President Trump at the end of his first term that “held end-clients accountable for ensuring H-1B contractors are paid the same as their American counterparts.”⁵² President Trump has, for his part, failed to reinstate this guidance since reassuming office, following the advice (and donations) of billionaire Elon Musk.⁵³ As a professor of political science at Howard University cited by Fan & Patino (2025) claims, if the guidance were to be reinstated “the Fortune 1000 would be up in arms, of course.”

The final piece of evidence demonstrating increased corporate offshoring are recent news reports exposing corporations’ covert mass offshoring operations, such as the previously cited reports by Fan & Patino (2025) and Fan et al. (2024) of Bloomberg. This year, Claburn (2025) of The Register reported on a major offshoring operation by IBM (the 10th company listed in Figure 3). According to the sources cited by Claburn (2025), not only were IBM’s layoffs in North America accompanied by increased hiring in India, but entire teams in IBM’s

⁵⁰Fan & Patino, 2025

⁵¹Fan & Patino, 2025

⁵²Fan & Patino, 2025

⁵³Bose, 2024; Fan & Patino, 2025

North American operation were explicitly being replaced with teams in India.⁵⁴ One source stated, “The most concerning shift was the complete outsourcing of QA [quality assurance] to India.” Another said, “Everyone I asked internally for ‘transfer’ all said the same thing... ‘I can only hire in India.’”

Last year, a report by Elias (2024) of CNBC reviewed internal documents from Google showing that it had replaced at least 200 members of its “Core” team—“responsible for building the technical foundation behind the company’s flagship products and for protecting users’ online safety”—with workers in India and Mexico.⁵⁵ Indeed, a 2024 survey by Resume Builder found that “30% of companies with recent layoffs replaced laid off U.S. employees with offshore workers” and “24% of companies with recent layoffs plan to terminate and replace U.S. employees with offshore workers in 2025,” with technology workers among the most likely to be replaced with offshore workers.⁵⁶ Not surprisingly, the survey found that the “primary reason companies replaced laid off U.S. workers with offshore employees was cost savings.” The report notes:

“Historically, many companies have filled these positions offshore due to cost benefits. However, the current trend represents a new level of outsourcing, where layoffs of U.S. employees are being used as a cover for replacing them with a lower-cost workforce abroad....

However, this approach raises ethical concerns and can impact employee morale, trust, and the overall perception of the company’s commitment to its domestic workforce.”⁵⁷

The technology industry is not the only industry in the United States to increasingly offshore labor to increase profit for shareholders. American oil companies such as Chevron are replacing engineers in the United States and Australia with engineers in India.⁵⁸ Sherwood (2024) found that the “Big 4” American audit firms—[NAMES REDACTED]⁵⁹—continue to increase offshoring of audit work year-over-year to “shared service centers” (SSCs) in countries such as India, noting that “cost savings are a primary driver for SSC usage”.⁶⁰

⁵⁴Claburn, 2025

⁵⁵Elias, 2024

⁵⁶Resume Builder, 2024

⁵⁷Resume Builder, 2024

⁵⁸Eaton, 2025; Milne, 2025

⁵⁹Due to extenuating circumstances, some parts of this article have been redacted. Redactions appearing in this article cannot be lifted at the present moment.

⁶⁰Sherwood, 2024

In a 2024 publication, the Public Company Accounting Oversight Board (PCAOB; 2024), established in the United States in the wake of the Enron and other accounting scandals, noted that one of the interviewed respondents from a “Global Network Firm” (most of which are Big 4 firms) reported that “pressures exist to utilize SSC resources to not only maximize efficiency and drive quality, but also profitability.”⁶¹ PCAOB (2024) reported that another respondent said, “revenue growth is emphasized, but not at the expense of audit quality. However, there are also pressures to ‘get the [profit] margins right’ which include specific metrics to send work overseas” (brackets in original).

While the short-term impact of mass offshoring of jobs is rapidly increasing domestic unemployment and underemployment, especially among recent college graduates, the long-term impact is just as dire.⁶² As more work is offshored, those who are able to find employment in their field of study will be put at a significant disadvantage. Regarding Chevron’s mass offshoring of Australian oil and gas engineering jobs, Milne (2025) writes that “One engineer was particularly concerned about detailed design going overseas, as performing this work was how many new graduates entered the profession.”⁶³ And as the Big 4 oversight board, PCAOB (2024), notes:

“During our culture initiative interviews, respondents raised concerns over pressuring engagement teams to use SSC resources. Respondents described their view that the use of SSC resources is removing foundational skills and experiences from newer firm personnel, potentially depriving these personnel of basic skills leading to difficulties in reviewing those areas as they progress in their careers. One respondent noted, ‘Our staff now will never see cash testing, as it is done offshore. We are going to see the impact of that when they are managers.’ ”⁶⁴

Corporations are using AI as a cover to obfuscate the disastrous effects of offshoring in order to increase profits for their shareholders

“What if I told you that the Republic was now under the control of the dark lord of the Sith?”

⁶¹Public Company Accounting Oversight Board, 2024

⁶²Hanson et al., 2024; Martin, 2025

⁶³Milne, 2025

⁶⁴Public Company Accounting Oversight Board, 2024

It is clear that the narrative that AI is the main driver behind the mass layoffs and reduced hiring in the software industry is false, with the main driver actually being corporate offshoring of jobs to countries with cheaper labor and fewer labor protections, such as India. This is not to say that software developers in India or other destination countries do not deserve well-paying jobs. In fact, this is to say the opposite. Wherever workers are based, they *must* be guaranteed basic human rights, including decent working conditions, normal working hours, and pay equivalent to at least a living wage (adjusted for cost of living). However, what is clear is that American corporations are in a desperate rush to offshore jobs to countries that do *not* have such protections for workers. For example, Eaton (2025) writes in *The Wall Street Journal* that American oil and gas companies are offshoring engineering jobs to India because there is:

“a growing pool of skilled workers in India who are willing to do the same jobs for a fraction of the cost, along with advances in technology that enable remote working. Engineers there have long drawn salaries around a third or a fourth the size of their counterparts in the U.S., though pay is climbing thanks to rising demand for talent.”⁶⁵

As I note in an upcoming analysis of corporate labor exploitation, employers are able to extract more wealth from workers as scarcity increases and workers’ incomes decrease, and this extraction is magnified when workers are not sufficiently protected by labor laws.⁶⁶ Moving jobs abroad accomplishes both of these tasks: increasing scarcity and decreasing incomes for workers globally. Indeed, it is true that while domestic workers are harmed by offshoring, workers in destination countries benefit to some extent. However, especially when destination countries’ labor laws are poor, most of the extracted wealth goes to the offshoring corporations (and, ultimately, their shareholders), and workers globally suffer a loss.

The costs go far beyond negative short- and long-term economic impacts. [EXAMPLES REDACTED]. Consultancy.in (2024) reported on the suicide of a McKinsey & Company employee in India allegedly due to the mental health toll of overwork earlier that same year.⁶⁷ The year prior, Consultancy.in (2023) reported that the billionaire founder and CEO of major

⁶⁵Eaton, 2025

⁶⁶Van Hout, 2025

⁶⁷Consultancy.in, 2024

outsourcing firm Infosys—the second-largest beneficiary of H-1B workers in the United States in 2024 (Figure 3)—had advocated for 70 hour workweeks for Indian workers.⁶⁸

It is well known that morbidity and mortality significantly increase with worsening employment prospects, and both domestic and offshore workers suffer these worsening health outcomes. As the U.S. Department of Health and Human Services’ Office of Disease Prevention and Health Promotion (ODPHP, n.d.) states in a summary of the literature regarding the effects of stress from work:

“Harmful workplace conditions, including psychosocial stress, can increase the risk for negative health outcomes. . . . Highly demanding jobs and lack of control over day-to-day work activities are sources of psychosocial stress at work. Other sources of workplace stress include high levels of interpersonal conflict, working evening shifts, working more than 8 hours a day, and having multiple jobs. These stressors put people at risk for mortality and depression, and they may be correlated with increased parent-child conflict and parental withdrawal. People in highly stressful jobs may also exhibit unhealthy coping skills such as smoking or alcohol abuse.”⁶⁹

With respect to the effects of unemployment on health, the ODPHP (n.d.) notes:

“Those who are unemployed report feelings of depression, anxiety, low self-esteem, demoralization, worry, and physical pain. Unemployed individuals tend to suffer more from stress-related illnesses such as high blood pressure, stroke, heart attack, heart disease, and arthritis. In addition, experiences such as perceived job insecurity, downsizing or workplace closure, and underemployment also have implications for physical and mental health.”⁷⁰

In its recent report on increasing mortality among working-age adults in the United States, the National Academies of Sciences, Engineering, and Medicine (2021) states:

“Working-age mortality rates increased during a period in the United States in which middle-class and low-income people faced reduced access to well-paying jobs, rising housing and health care costs, and difficulties ensuring that their children could obtain a good education and climb the economic ladder. Research has shown that exposure to prolonged economic adversity may affect health outcomes via multiple mechanisms, including gaps in health care; chronic stress; anxiety;

⁶⁸Consultancy.in, 2023

⁶⁹Office of Disease Prevention and Health Promotion, n.d.

⁷⁰Office of Disease Prevention and Health Promotion, n.d.

depression; and unhealthy coping behaviors, from smoking and overeating to drug and alcohol abuse, suicide, and violent crime.”⁷¹

A year after graduating from college, I began experiencing many of these sequelae myself. Following the discrimination I faced in the interview process at the aforementioned fitness company, I fell into a depression, which was only worsened because my grandmother had passed away prior to the final interviews with the company. As one must, I picked myself back up and spent the remainder of the year applying to hundreds of jobs and attending several packed career fairs at my *alma mater*. Nothing came of it but hundreds of job application denials in my inbox, often multiple each day. During the following winter, I started my company, ScheduleAI, in an attempt to make money for myself or at least have something to show on my resume to alleviate the stress of unemployment. In a stuffy basement at the home my parents rented, with almost no natural light during those cold winter months, the PTSD symptoms I have had since being abused as a child began to become increasingly severe—a common and pernicious effect of stress.⁷² Eventually, the trauma memories became incessant and I became unable to work for weeks at a time. I fell into an ever more severe depression and eventually sought out therapy, once I could afford it. After gaining the ability to talk about the traumatic events, the debilitating effects of PTSD and the rapidly deteriorating job market compelled me to confront the powerful cult within the Catholic Church that abused me as a child head on in the legal sphere. As it turns out, many of the most prominent individuals associated with this cult and the very school at which it abused me have played no small part in crafting the public policy—and leveraging billions of dollars to ensure this policy became law—that would accelerate the mass offshoring of jobs and reduction in hiring that has occurred in the United States. But, once again, that is a story for another time.

As my upcoming report makes clear, another effect of corporate exploitation of workers is the unprecedented decline in fertility among the youth that the world is witnessing today.⁷³ As this rapid decimation of future generations is driven by corporations at the behest of predominately older shareholders, I have termed this phenomenon “The Cannibalization of the Young.” Again, the question must be asked: Is this worth it? Shareholders, via their corporate instruments, are causing mass unemployment and underemployment among the young; increasing the risk of youth mental and physical illness, substance abuse, and suicide; annihilating the environment and the climate; and preventing millions of children from ever

⁷¹National Academies of Sciences, Engineering, and Medicine, 2021

⁷²Al Jowf et al., 2022; Cerdá et al., 2023; Mayo Clinic, n.d.; Nandi et al., 2004

⁷³Madgavkar et al., 2025; Organisation for Economic Co-operation and Development, 2024; Van Hout, 2025

being born. All for what? A beach house or that next cruise? And for the wealthier among them, that private jet or multimillion dollar mansion? That second yacht? Should the young suffer and die, should millions of future humans be barred from existence, so that the old may live well outside of their means by consuming increasing amounts of the means of the young and future generations?

Older shareholders should take note that, had there been mass offshoring of their own jobs, they would not have become shareholders in the first place. And as an ominous report published this year by Madgavkar et al. (2025) of McKinsey & Company—one of the most forceful proponents of offshoring just over 20 years ago—warns, the “population collapse” caused by the rapid decline in fertility will result in devastating global financial consequences if the fertility rate does not rapidly increase or other factors do not change to compensate for its decline. Highlighting the fact that “Older people consume more than younger people, directly through purchases and indirectly via in-kind transfers such as government-financed healthcare services, even as their income from working decreases and eventually disappears at retirement,” Madgavkar et al. (2025) note that young people will be required to work harder and for longer hours to pay for the older population.⁷⁴ This is despite the fact that, as the report also notes, “Seniors are the largest group of net recipients of government expenditures” and:

“Retirees in many advanced economies have accumulated wealth in recent decades, in large part thanks to rising asset prices, particularly for housing but also via equity markets [i.e. through their role as corporate shareholders].

... Older people are generally wealthier than younger people, which provides a kind of buffer for retirement. American households where the primary householder is 65 years and older held 43 percent of the country’s total wealth, although they made up only 20 percent of the US population in 2023. The wealth held by older households grew by a factor of 6.6 from 1997 to 2023. By contrast, among households with a primary householder 40 years and younger, wealth increased by a factor of 2.9 over the same period.”⁷⁵

As Madgavkar et al. (2025) point out, “Almost 80 percent of Americans 65 years and older are homeowners, and 60 percent of them are mortgage-free.” However, this has largely come at the cost of future generations, who, as the authors note:

“may face challenges in buying a house, an asset that has increased markedly in

⁷⁴Madgavkar et al., 2025

⁷⁵Madgavkar et al., 2025

price over the past two decades. . . . Younger families buying homes may be left with a double burden of a higher mortgage and higher taxes to fund retirees.”⁷⁶

The authors further expound upon the “outsize” gains in the wealth of the older population due to their participation in the stock market as corporate shareholders:

“Other sources of private wealth have also had outsize returns in recent years. For example, returns from US stock markets averaged 10.8 percent annually after adjusting for inflation from 2013 to 2023, significantly higher than the 50-year average of 6.4 percent from 1973 to 2023. A significant portion of 401(k) retirement assets benefit from these stock market returns for the 56 percent of US workers who have them.”⁷⁷

Where—or from whom—could those “outsize” gains be coming from? “Future generations,” Madgavkar et al. (2025) claim, “may face obstacles to accumulating the same levels of private wealth as today’s seniors, and more of them will be retiring and living longer in their retirement”⁷⁸

Unfortunately, given the state of things, that last prediction—of increased life expectancy and proportion of life lived in retirement—may be the only one to turn out false.⁷⁹ Let’s hope it is not.

What can be done?

The causes of this crisis are obvious, as are the solutions. I will conclude with several of those solutions:

1. **Require, by law, that when employers displace domestic workers with offshoring or automation that they adhere to the *Rule of Thirds*:** When an employer displaces a domestic worker with offshored labor or automation, the employer gains wealth due to the reduced cost resulting from the lower wage of the offshore

⁷⁶Madgavkar et al., 2025

⁷⁷Madgavkar et al., 2025

⁷⁸Madgavkar et al., 2025

⁷⁹National Academies of Sciences, Engineering, and Medicine, 2021; Rogerts et al., 2022; Woolf et al, 2023; Wrigley-Field et al., 2025

worker or negation of a wage due to automation. I define the *Rule of Thirds* to state that, whenever a worker is displaced due to offshoring or technological progress, one third of the wealth gained is given each to the displaced worker, the owners of the company, and either the foreign worker through increased pay, in the case of offshoring, or the scientists, engineers, and other workers who developed the technology resulting in the efficiency gain, in the case of technological progress. As suggested below, it is also necessary to offer the displaced worker a free education in an economically productive field.

2. **Prevent, by law, the exploitation of foreign workers:** The government must require, by law, that all workers who perform any work that provides significant benefit to American corporations are paid a living wage, work in good conditions, and work for no more than the same amount of time as an American worker performing the same duties.
3. **Prevent, by law, the exploitation of H-1B visa workers:** The government must require, by law, that all H-1B workers, including contractors, be paid a total compensation equivalent to that of the median domestic worker with an equivalent responsibilities. It must be further required that companies make a good-faith attempt to hire domestic workers prior to applying for H-1B workers. Finally, H-1B visa status must not be determined by employers; rather, once a foreign worker is granted an H-1B visa, that visa must not expire for a period of several years and must not be contingent on the worker's employment status to prevent exploitation by the worker's employer. Renewal should be granted in the case that an unemployed H-1B worker has made a good-faith effort to gain employment in his field.
4. **Prevent, by law, the exploitation of domestic workers:** Domestic workers, especially recent college graduates, must be protected from exploitative labor practices. In addition to the suggestions below, corporations must be prevented, by law, from firing workers without cause, from suppressing the formation of unions, from paying workers less than a living wage, from forcing workers to work long hours or in poor conditions, and from forcing prospective employees to complete arduous interview processes.
5. **Prevent, by law, the exploitation of workers' lack of access to biological needs:** As my upcoming report makes clear, when workers lack access to all of their biological needs—such as housing, healthcare, food, and clean air—employers exploit this deficiency by compelling their employees to work longer hours, for lower pay, and in worse conditions than they otherwise would.⁸⁰ As we have seen, this is the reason

⁸⁰Van Hout, 2025

corporations outsource work to H-1B contractors in the United States and offshore work to countries with poor labor laws such as India. Workers' collective loss becomes shareholders' added value. To prevent this type of pernicious exploitation, laws must be passed *and enforced* to ensure that *all* people have access to their basic biological needs. In the United States specifically, this inevitably necessitates:

1. A large-scale, transit-oriented home-building program to meet the massively unmet demand for housing;
2. The requirement, by law, that all employees be paid at least a living wage;⁸¹
3. The requirement, by law, that all employees be protected from working long hours or in poor conditions;
4. The replacement of costly car-dependent infrastructure and housing with public transit (predominately rail-based) and transit-oriented development, drastically reducing housing, transportation, and healthcare costs and greatly increasing economic productivity and mental health;⁸²
5. The replacement of the costly private/public health insurance system with universal public health insurance, which reduces employers' leverage over their employees and inherently incentivizes the government to focus on increasing public health through preventative care, thus reducing overall healthcare costs;⁸³
6. The subsidization of all university-level degrees (e.g. Bachelor's, Master's, PhD, MD) in science, technology, engineering, mathematics, and medicine (STEMM), as well as all technical/vocational programs such as trade programs for mechanics, electricians, welders, etc., since these train the most productive members of society in economic terms;⁸⁴
7. The near-total phasing out of fossil fuels and the rapid transition to a power system predominately reliant on nuclear power—one of the safest and least expensive power options in the long-term—with the additional use of renewable power (e.g. solar and wind power), geothermal power, and limited, predominately emergency power from natural gas, drastically reducing energy and healthcare costs and increasing economic output;⁸⁵

⁸¹Living Wage Institute, 2025

⁸²Burchell et al., 2002; Miner et al., 2024; Schröder et al., 2023

⁸³Bichay, 2020; Molander, 2025; Organisation for Economic Co-operation and Development, 2023; Wager & Cox, 2024

⁸⁴Carnevale et al., 2015; Nadreau et al., 2023; Li et al., 2024; Organisation for Economic Co-operation and Development, 2021

⁸⁵International Energy Agency et al., 2020; Kharecha & Hansen, 2013; Markandya & Wilkinson, 2007

8. The strict enforcement of new, stringent anti-exploitation labor laws, including antidiscrimination laws, by entities such as the Equal Employment Opportunity Commission, the Department of Labor Wage and Hour Division, the Occupational Safety and Health Administration, and the National Institute for Occupational Safety and Health, all of which must be properly funded to fulfill their obligations;
9. The overhaul of the United States civil justice system, which must include requiring all judges to divest from equity holdings in corporations and requiring corporations to pay for the actual damages they have caused in any civil case without exception;
10. The elimination of contributions to political campaigns by non-human entities, with a maximum, low, inflation-adjusted annual cap on donations by humans; and
11. The drastic reduction in taxes on most individuals, including the wealthy, via taxation based on use, except that required to pay for the enforcement of the aforementioned initiatives.

All of these proposals are cost-effective, meaning that they will inevitably result in increased net benefit to society, and several of the initiatives in the final suggestion are supported by the academic literature. While shareholders broadly stand to lose from these policies in the short-term, all one needs to do is look at the world today to see what happens when shareholders' short-term wins are prioritized above all else, even human life itself. In the short-term, most people will benefit from these policies, and in the long-term almost everyone—even most shareholders—will benefit. It is not too much to say that the future of humanity depends upon the rapid implementation of these policies. So I will pose the question one final time: Is it worth it?

References

- Al Jowf, G. I., Ahmed, Z. T., An, N., Reijnders, R. A., Ambrosino, E., Rutten, B. P. F., de Nijs, L., & Eijssen, L. M. T. (2022). A Public Health Perspective of Post-Traumatic Stress Disorder. *International Journal of Environmental Research and Public Health*, 19(11), 6474. <https://doi.org/10.3390/ijerph19116474>
- Bichay, N. (2020). Health insurance as a state institution: The effect of single-payer insurance on expenditures in OECD countries. *Social Science & Medicine*, 265, Article

113454. <https://doi.org/10.1016/j.socscimed.2020.113454>

Bivens, J. (2005). *Truth and consequences of offshoring*. Economic Policy Institute. <https://www.epi.org/publication/bp155/>

Bose, N. (2024, December 29). *Trump sides with Elon Musk in H-1B visa debate, says he's always been in favor of the program*. Reuters. <https://www.reuters.com/world/us/elon-musk-vows-war-over-h-1b-visa-program-amid-rift-with-some-trump-supporters-2024-12-28/>

Burchell, R. W., Lowenstein, G., Dolphin, W. R., Galley, C. C., Downs, A., Seskin, S., Still, K. G., & Moore, T. (2002). *Costs of sprawl*. National Academy Press. <https://www.trb.org/Publications/Blurbs/160966.aspx>

Butters, J. (2025). *More Than 40% of S&P 500 Companies Have Cited "AI" on Earnings Calls for 5th Straight Quarter*. FactSet. <https://insight.factset.com/more-than-40-of-sp-500-companies-have-cited-ai-on-earnings-calls-for-5th-straight-quarter>

Carnevale, A. P., Cheah, B., Hanson, A. R. (2015). *The Economic Value of College Majors*. Georgetown University McCourt School of Public Policy Center on Education and the Workforce. <https://cew.georgetown.edu/wp-content/uploads/The-Economic-Value-of-College-Majors-Full-Report-web-FINAL.pdf>

Cerdá, M., Bordelois, P. M., Galea, S., Norris, F., Tracy, M., & Koenen, K. C. (2013). The course of posttraumatic stress symptoms and functional impairment following a disaster: what is the lasting influence of acute versus ongoing traumatic events and stressors?. *Social psychiatry and psychiatric epidemiology*, 48(3), 385-395. <https://doi.org/10.1007/s00127-012-0560-3>

Chaudry, A., Coley, S. C., Crouse, K., Davis, K., Ellis, D., Garrison, P., Johns, C., Malinowski, L., Purohit, R., Powell, B., Rothenberg, D., Summers, A., Vohaska, B., Turner, C., Byers, R., & Ananthakrishna, V. (2021). *2021 CWE Top 25 Most Dangerous Software Weaknesses*. MITRE. https://cwe.mitre.org/top25/archive/2021/2021_cwe_top25.html

CIO Coverage. (n.d.). *OpenAI's ChatGPT Reportedly Costs \$100,000 a Day to Run*. Retrieved June 27, 2025, from <https://www.ciocoverage.com/openais-chatgpt-reportedly-costs-100000-a-day-to-run/>

Claburn, T. (2025, March 27). *IBM US cuts may run deeper than feared - and the jobs are heading to India*. The Register. https://www.theregister.com/2025/03/27/ibm_cuts_jobs_in_us/

Consultancy.in. (2023, November 5). *Infosys founder Narayana Murthy advocates 70-hour work week*. <https://www.consultancy.in/news/4150/infosys-founder-narayana-murthy->

advocates-70-hour-work-week

Consultancy.in. (2024, March 18). *Young McKinsey consultant commits suicide due to ‘work pressure’*. <https://www.consultancy.in/news/4168/young-mckinsey-consultant-commits-suicide-due-to-work-pressure>

DeBellis, D., Storer, K., Lewis, A., Good, B., Villalba, D., Maxwell, E., Castillo, K., Irvine, M., & Harvey, N. (2024). *DORA*. Google. https://services.google.com/fh/files/misc/2024_final_dora_report.pdf

Eaton, C. (2025, April 22). Big Oil Is Offshoring Its Prized Engineering Jobs to India. *The Wall Street Journal*. <https://www.wsj.com/business/energy-oil/big-oil-is-offshoring-its-prized-engineering-jobs-to-india-2e487fd0>

Elias, J. (2024, May 1). Google lays off hundreds of ‘Core’ employees, moves some positions to India and Mexico. *CNBC*. <https://www.cnbc.com/2024/05/01/google-cuts-hundreds-of-core-workers-moves-jobs-to-india-mexico.html>

Fan, E., Mider, Z., Lu, D., & Patino, M. (2024, July 31). *How Thousands of Middlemen Are Gaming the H-1B Program*. Bloomberg. <https://www.bloomberg.com/graphics/2024-staffing-firms-game-h1b-visa-lottery-system/>

Fan, E., & Patino, M. (2025, June 27). *H-1B Middlemen Bring Cheap Labor to Citi, Capital One*. Bloomberg. <https://www.bloomberg.com/graphics/2025-h1b-visa-middlemen-cheap-labor-for-us-banks/>

Fu, Y., Liang, P., Tahir, A., Li, Z., Shahin, M., Yu, J., & Chen, J. (in press). Security Weaknesses of Copilot-Generated Code in GitHub Projects: An Empirical Study. *Association for Computing Machinery Transactions on Software Engineering and Methodology*. <https://doi.org/10.1145/3716848>

Gartner. (2025, January 21). *CIOs to Focus Budget Increases on Price Hikes in Recurrent Spending* [Press release]. <https://www.gartner.com/en/newsroom/press-releases/2025-01-21-gartner-forecasts-worldwide-it-spending-to-grow-9-point-8-percent-in-2025>

Google. (n.d.). *VM instance pricing*. Retrieved June 23, 2025, from <https://cloud.google.com/compute/vm-instance-pricing?hl=en>

Granulo, A., Kranzbühler, A.-M., Fuchs, C., & Puntoni, S. (2025). Collective Layoffs and Offshoring: A Social Contract Account. *Journal of Consumer Research*. <https://doi.org/10.1093/jcr/ucaf001>

Hanson, A., Salerno, C., Sigelman, M., Zeeuw, M., Moret, S., Schwarb, A., Hendrickson, B., Silverman, D., Clayton, D., Brown, E., Leiden, E., Gomez, G., Johnson, J., Furr, J.,

- Valle-Palacios, K., Ferguson, M., Leavitt, M., Torpey-Saboe, N., Gunther, O., Watkins, R., Andreason, S., Reindl, T. (2024). *Talent Disrupted*. <https://www.burningglassinstitute.org/research/underemployment>
- Harding, W. (2025). *AI Copilot Code Quality*. GitClear. <https://gitclear-public.s3.us-west-2.amazonaws.com/GitClear-AI-Copilot-Code-Quality-2025.pdf>
- Heater, B. (2024, May 14). Google mentioned ‘AI’ 120+ times during its I/O keynote. *TechCrunch*. <https://techcrunch.com/2024/05/14/google-mentioned-ai-120-times-during-its-i-o-keynote/>
- Horowitch, R. (2025, June 21). The Computer-Science Bubble Is Bursting. *The Atlantic*. <https://www.theatlantic.com/economy/archive/2025/06/computer-science-bubble-ai/683242/>
- Im, C., Cahn, A., & Mukherjee, S. (2025). *What we know about the U.S. H-1B visa program*. Pew Research Center. <https://www.pewresearch.org/short-reads/2025/03/04/what-we-know-about-the-us-h-1b-visa-program/>
- International Energy Agency, Nuclear Energy Agency, & Organisation for Economic Co-operation and Development. (2020). Projected Costs of Generating Electricity: 2020 Edition. <https://www.iea.org/reports/projected-costs-of-generating-electricity-2020>
- Ji, J., Jun, J., Wu, M., & Gelles, R. (2024). *Cybersecurity Risks of AI-Generated Code*. Center for Security and Emerging Technology. <https://cset.georgetown.edu/publication/cybersecurity-risks-of-ai-generated-code/>
- Jimenez, C., Yang, J., Wettig, A., Yao, S., Pei, K., Press, O., & Narasimhan, K. (2024, May 7-11). *SWE-bench: Can Language Models Resolve Real-World GitHub Issues?* [Conference paper]. International Conference on Learning Representations 2024, Vienna, Austria. <https://arxiv.org/abs/2310.06770>
- JPMorgan Chase. (n.d.). *SEC Filings*. Retrieved June 25, 2025, from <https://jpmorganchaseco.gcs-web.com/ir/sec-other-filings/overview>
- Kharecha, P. A., & Hansen, J. E. (2013). Prevented Mortality and Greenhouse Gas Emissions from Historical and Projected Nuclear Power. *Environmental Science & Technology*, 47(9), 4889-4895. <https://doi.org/10.1021/es3051197>
- Khoury, R., Avilia, A. R., Brunelle, J., & Camara, B. M. (2023). *How Secure is Code Generated by ChatGPT?* arXiv. <https://doi.org/10.48550/arXiv.2304.09655>
- Klein, J.G., Smith, N.C., & John, A. (2004). Why We Boycott: Consumer Motivations for Boycott Participation. *Journal of Marketing*, 68(3), 92-109. <https://doi.org/10.1509/jmkg.6>

8.3.92.34770

Kosinski, M. (2024, October 29). *What is black box AI?*. IBM. <https://www.ibm.com/think/topics/black-box-ai>

Kunert, P. (2025, February 6). *Copilot+ PCs? Customers just aren't buying it - yet*. The Register. https://www.theregister.com/2025/02/06/ai_copilot_pc_sales/

Layoffs.fyi. (n.d.). *Layoff charts*. Retrieved June 23, 2025, from <https://layoffs.fyi/>

Li, J., Xue, E., Wei, Y., & He, Y. (2024). How popularising higher education affects economic growth and poverty alleviation: empirical evidence from 38 countries. *Humanities and Social Sciences Communications*, 11, Article 520. <https://doi.org/10.1057/s41599-024-03013-5>

Lino, M., Kuczynski, K., Rodriguez, N., and Schap, T. (2017). *Expenditures on Children by Families, 2015*. Miscellaneous Publication No. 1528-2015. U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. <https://www.fns.usda.gov/cnpp/2015-expenditures-children-families>

Living Wage Institute. (2025). *Living Wage Calculation for Maryland*. Retrieved June 23, 2025, from <https://livingwage.mit.edu/states/24>

Madgavkar, A., Noguer, M. C., Bradley, C., White, O., Smit, S., & Radican, T. J. (2025). *Dependency and depopulation? Confronting the consequences of a new demographic reality*. McKinsey & Company. <https://www.mckinsey.com/~media/mckinsey/mckinsey%20global%20institute/our%20research/dependency%20and%20depopulation%20confronting%20the%20consequences%20of%20a%20new%20demographic%20reality/dependency-and-depopulation-confronting-the-consequences-of-a-new-demographic-reality.pdf?shouldIndex=false>

Magesh, V., Surani, F., Dahl, M., Suzgun, M., Manning, C. D., & Ho, D. (2025). Hallucination-Free? Assessing the Reliability of Leading AI Legal Research Tools. *Journal of Empirical Legal Studies*, 22(2), 216-242. <https://doi.org/10.1111/jels.12413>

Markandya, A., & Wilkinson, P. (2007). Electricity generation and health. *The Lancet*, 370(9591), 979-990. [https://doi.org/10.1016/S0140-6736\(07\)61253-7](https://doi.org/10.1016/S0140-6736(07)61253-7)

Martin, M. (2025). *Educated but unemployed, a rising reality for college grads*. Oxford Economics. <https://www.oxfordeconomics.com/wp-content/uploads/2025/05/US-Educated-but-unemployed-a-rising-reality-for-college-grads.pdf>

Mayer, H., Yee, L., Chui, M., & Roberts, R. (2025). *Superagency in the Workplace*. McKinsey & Company. <https://www.mckinsey.com/~media/mckinsey/business%20functions/quantumblack/our%20insights/superagency%20in%20the%20workplace%20empowering%20people>

%20to%20unlock%20ais%20full%20potential%20at%20work/superagency-in-the-workplace-empowering-people-to-unlock-ais-full-potential-v4.pdf?shouldIndex=false

Mayo Clinic. (n.d.). *Post-traumatic stress disorder (PTSD)*. Retrieved June 30, 2025, from <https://www.mayoclinic.org/diseases-conditions/post-traumatic-stress-disorder/symptoms-causes/syc-20355967>

McClain, C., Kennedy, B., Gottfried, J., Anderson, M., & Pasquini, G. (2025). How the U.S. Public and AI Experts View Artificial Intelligence. *Pew Research Center*. <https://www.pewresearch.org/internet/2025/04/03/how-the-us-public-and-ai-experts-view-artificial-intelligence/>

McLaughlin, M., & Rank, M. R. (2018). Estimating the Economic Cost of Childhood Poverty in the United States. *Social Work Research*, 42(2), 73-83. <https://doi.org/10.1093/swr/svy007>

McKinsey Global Institute. (2003). *Offshoring: Is It a Win-Win Game?* McKinsey & Company. https://www.mckinsey.com/~media/McKinsey/Featured%20Insights/Employment%20and%20Growth/Offshoring%20Is%20it%20a%20win%20win%20game/MGI_Is_offshoring_a_win_win_game_perspective.ashx

Merken, S. (2025, February 18). *AI ‘hallucinations’ in court papers spell trouble for lawyers*. Reuters. <https://www.reuters.com/technology/artificial-intelligence/ai-hallucinations-court-papers-spell-trouble-lawyers-2025-02-18/>

Microsoft. (n.d.-a). *Azure Machine Learning pricing*. Retrieved June 23, 2025, from <https://azure.microsoft.com/en-us/pricing/details/machine-learning/>

Microsoft. (n.d.-b). *GitHub Copilot*. Retrieved June 23, 2025, from <https://github.com/features/copilot>

Microsoft. (n.d.-c). *Microsoft SEC Filings*. Retrieved June 25, 2025, from <https://www.microsoft.com/en-us/investor/sec-filings>

Milne, P. (2025, May 19). Chevron pushes contractors to send Australian engineering jobs overseas. *Boiling Cold*. <https://www.boilingcold.com.au/chevron-pushes-contractors-to-send-australian-engineering-jobs-overseas/>

Miner, P., Smith, B. M., Jani, A., McNeill, G., & Gathorne-Hardy, A. (2024). Car harm: A global review of automobility’s harm to people and the environment. *Journal of Transport Geography*, 115, Article 103817. <https://doi.org/10.1016/j.jtrangeo.2024.103817>

Mo, R., Zhang, Y., Wang, Y., Zhang, S., Xiang, P., Li, Z., & Zhao, Y. (2023). Exploring the Impact of Code Clones on Deep Learning Software. *Association for Computing Machinery*

Transactions on Software Engineering and Methodology, 32(6), Article 153, 1-34. <https://doi.org/10.1145/3607181>

Molander, P. (2025). Public versus private healthcare systems in the OECD area— a broad evaluation of performance. *The European Journal of Health Economics*. <https://doi.org/10.1007/s10198-025-01767-6>

Moss, S. (2024, July 24). *OpenAI training and inference costs could reach \$7bn for 2024, AI startup set to lose \$5bn - report*. Data Center Dynamics. https://www.datacenterdynamics.com/en/news/openai-training-and-inference-costs-could-reach-7bn-for-2024-ai-startup-set-to-lose-5bn-report/?utm_source=chatgpt.com

Nadreau, T. P. (2023). *The Economics of Postsecondary Attainment*. National College Attainment Network. https://cdn.ymaws.com/www.ncan.org/resource/resmgr/policyadvocacy/hosteddocs/NCAN_Technical_2023_Final_v1.pdf

Nandi, A., Galea, S., Tracy, M., Ahern, J., Resnick, H., Gershon, R., & Vlahov, D. (2004). Job Loss, Unemployment, Work Stress, Job Satisfaction, and the Persistence of Posttraumatic Stress Disorder One Year After the September 11 Attacks. *Journal of Occupational and Environmental Medicine*, 46(10), 1057-1064. <https://doi.org/10.1097/01.jom.0000141663.22902.0a>

National Academies of Sciences, Engineering, and Medicine. (2021). *High and Rising Mortality Rates Among Working-Age Adults*. The National Academies Press. <https://doi.org/10.17226/25976>

Organisation for Economic Co-operation and Development. (2021). *Education at a Glance 2021: OECD Indicators*. <https://doi.org/10.1787/b35a14e5-en>

Organisation for Economic Co-operation and Development. (2023). *Health at a Glance 2023*. <https://doi.org/10.1787/7a7afb35-en>

Organisation for Economic Co-operation and Development. (2024). *Society at a Glance 2024*. <https://doi.org/10.1787/918d8db3-en>

Office of Disease Prevention and Health Promotion. (n.d.). *Employment*. Retrieved June 26, 2025, from <https://odphp.health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/employment>

[CITATION REDACTED]

Pearce, H., Ahmad, B., Tan, B., Dolan-Gavitt, B., & Karri, R. (2025). Asleep at the Keyboard? Assessing the Security of GitHub Copilot's Code Contributions. *Communications of the Association for Computing Machinery*, 68(2), 96-105. <https://doi.org/10.1145/3610721>

Public Company Accounting Oversight Board. (2024). *Spotlight: Insights on Culture and Audit Quality*. <https://assets.pcaobus.org/pcaob-dev/docs/default-source/documents/culture-spotlight.pdf>

Reuters. (2023, January 19). *Capital One scraps 1,100 tech positions - source*. <https://www.reuters.com/technology/capital-one-scraps-1100-tech-positions-source-2023-01-19/>

Rickard, S.J. (2022). Incumbents Beware: The Impact of Offshoring on Elections. *British Journal of Political Science*, 52(2), 758-780. <https://doi.org/10.1017/S0007123420000757>

[CITATION REDACTED]

Resume Builder. (2024). *1 in 5 Companies Replaced Laid Off U.S. Employees With Offshore Workers*. <https://www.resumebuilder.com/1-in-5-companies-replaced-laid-off-u-s-employees-with-offshore-workers/>

Rogers, R. G., Hummer, R. A., Lawrence, E. M., Davidson, T., Fishman, S. H., Mather, M., Jacobsen, L. A., Scommegna, P., Pollard, K., Wojnar, R., Matuszak, N., Herne, J., & Smith, K. (2022). Dying Young in the United States. *Population Bulletin*, 76(2). <https://www.prb.org/wp-content/uploads/2022/01/population-bulletin-early-life-mortality.pdf>

SAP. (n.d.). *What is low-code/no-code application development?* Retrieved June 23, 2025, from <https://www.sap.com/products/technology-platform/build/what-is-low-code-no-code.html>

Schröder, D., Kirn, L., Kinigadner, J., Loder, A., Blum, P., Xu, Y., & Lienkamp, M. (2023). Ending the myth of mobility at zero costs: An external cost analysis. *Research in Transportation Economics*, 97, Article 101246. <https://doi.org/10.1016/j.retrec.2022.101246>

Sherwood, M. G. (2024). *Offshore Shared Services Center Usage by U.S. Big 4 Audit Engagement Teams*. SSRN. <https://ssrn.com/abstract=4780523>

Stack Overflow. (2024). *2024 Developer Survey*. <https://survey.stackoverflow.co/2024/>

Tan, K. W. K. (2025, March 14). *Anthropic's CEO says that in 3 to 6 months, AI will be writing 90% of the code software developers were in charge of*. Business Insider. <https://www.businessinsider.com/anthropic-ceo-ai-90-percent-code-3-to-6-months-2025-3>

United States Citizenship and Immigration Services. (n.d.). *H-1B Employer Data Hub*. Retrieved June 25, 2025, from <https://www.uscis.gov/tools/reports-and-studies/h-1b-employer-data-hub>

Van Hout, J. (2025). *"The Cannibalization of the Young": An Analysis of Labor Exploitation*. Manuscript in preparation.

Wager, E. & Cox, C. (2024). International Comparison of Health Systems. In Altman, D. (Ed.), *Health Policy 101*. KFF. <https://www.kff.org/health-policy-101-international-comparison-of-health-systems/>

Woolf, S. H., Wolf, E. R., & Rivara, F. P. (2023). The New Crisis of Increasing All-Cause Mortality in US Children and Adolescents. *JAMA*, 329(12), 975-976. <https://doi.org/10.1001/jama.2023.3517>

Wrigley-Field, E., Raquib, R. V., Berry, K. M., Morris, K. J., Stokes, A. C. (2025). Mortality Trends Among Early Adults in the United States, 1999-2023. *JAMA Network Open*, 8(1), Article e2457538. <https://doi.org/10.1001/jamanetworkopen.2024.57538>