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Journal *of* Future Economists

Economics of Work

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FOREWORD

The Workforce of the Future: Students Analyze the Forces That Will Shape Their Careers

For this year's Journal of Future Economists, *the fourth we've published, we asked students to research and write about the theme "Economics of Work." How and where we work, and who participates in work, have changed significantly over the past few years. Students researched the impact of current trends including changing labor policy in healthcare and shifting attitudes toward tipping. Some papers also considered how work could change in the future. This volume features 12 podcast* *scripts addressing different subjects, such as the aging workforce, the trucking industry, Artificial Intelligence, a four-day workweek, and the gig economy. All 12 podcast scripts demonstrate the students' skills in research, evaluating data, writing, and collaboration.*

The Journal continues to capture the hard work that students devoted to their research and writing. Eighty-one schools submitted podcast scripts, each reflecting the dedication and diligence of a team of student authors and their faculty advisors. This volume contains insights and analysis on topics students have deemed significant. Some suggestions for future policies are also included, demonstrating the thought leadership of our student authors.

We hope this program encourages young minds to pursue careers in economics, public service, and policy. The High School Fed Challenge is honored to help amplify student voices and provide an opportunity to share their perspectives. We also thank you for engaging with the students' work by reading this year's Journal, and hope you enjoy the variety and creativity within the selections as much as we have.

Dear Future Economists,

John C. Williams
President and Chief Executive Officer of the Federal Reserve Bank of New York

Congratulations on your outstanding contributions to the Journal of Future Economists! *This collection of work demonstrates your talent for the discipline of economics, as well as your commitment to take on the critical challenges that face the world now and in the future.*

You could not have chosen a better time to explore the economics of work. We recently witnessed unprecedented shifts around remote and hybrid work during the pandemic era. You laid out the impact of those developments in your podcast scripts, which is similar to the conversations taking place among thought leaders and organizations today.

This area of focus is a large part of what we economists at the Federal Reserve do each day. Because our work and actions are guided by our *dual mandate set by Congress to achieve maximum employment and price stability, we closely monitor labor market data and trends in the working world. You should be incredibly proud of your additions to this conversation. As future policy makers, your ideas and perspectives on this topic are so valuable. I hope that you've been inspired by the study and application of economics, and by the importance of this work.*

If you enjoyed this process, perhaps consider a career as an economist. It is a challenging yet rewarding field. The Federal Reserve is one of many institutions that offers countless professional opportunities to ensure the safety and soundness of the financial system. Whichever path you choose, I know that you have a successful future ahead of you.

JOHN C. WILLIAMS

congratulations!

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We had

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Entries in Total!

THANK YOU TO ALL PARTICIPANTS!

Left to right: Claire Lee, Amelie Genao, Daniel Pak, Ellie Choi, Seohyun Kim

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The Elderly Economy: America's Aging Workforce

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CITATION STYLE

MLA 9th Edition

DANIEL PAK (DP): Welcome back, folks. I'm your host, Daniel Pak, and you're on the latest episode of "The Econo-Me," where we explain how the latest news in the United States economy is important to *you*. In today's episode, "The Elderly Economy," we will explore the trend of how the American labor market has grown progressively older over the past few years, the reasons for this shift, and, maybe what our listeners are most interested in: does the aging workforce pose a threat to potential job prospects? To answer these questions and more, I'm joined now by economist Amelie Genao.

AMELIE GENAO (AG): Hey, Dan!

DP: Hey, Amelie!

AG: Let me start by asking a pretty pointed question: how old are you?

DP: Oh boy, that's a hard one. Hmm...let's just say that I'm part of the generation that saw Blockbuster in its prime.

AG: Man, that's a name I haven't heard in a while. Maybe you should explain what that is for our younger audience?

DP: Of course. For those of you who don't know, Blockbuster was essentially the Netflix of the '90s and 2000s. You could hang out with your friends at one of their stores, rent a movie, then go home and have a blast. It was awesome. Truly the good old days. *Sighs*.

AG: *Chuckles*. Careful, Dan, you're starting to sound like my dad.

DP: *Laughs*. Oops, I'll keep that in mind. Maybe I shouldn't talk so much if no one around me even knows what Blockbuster is.

AG: Maybe, but you might not need to worry about that so much anymore. In fact, you might want to start thinking about what came before Blockbuster.

DP: Before Blockbuster?! What are we talking about, the Stone Age?

AG: *Laughs*. Not quite so, but you're on the right track. If the data I'm looking at is correct, it looks like you'll have plenty of people to talk to about Blockbuster — and then some. Apparently, 19% of Americans aged 65 and older are employed, nearly twice the percentage in the '80s and '90s (Fry and Braga).

DP: Oh wow, so you're saying that all these people grew up in the '60s?

AG: Yup.

DP: Geez, I wonder what the Blockbuster of the '60s was...

In 2023, 48% of people who were unretiring were doing so due to financial concerns and the need for a cash flow outside of Social Security.

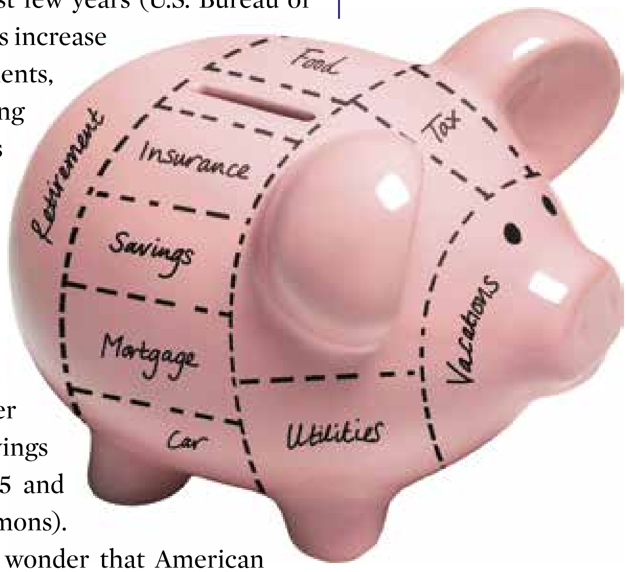
AG: I'm sure you'll have plenty of opportunities to ask, since it doesn't look like this trend is letting up anytime soon. In fact, the idea of "unretirement" has become pretty common, with the number of un-retirees in the workforce, individuals who rejoined the workforce after leaving it within a year, having risen from a low of 2% during the pandemic to 3.2% in 2022 (Bunker). While the percentage is roughly equal to that of before the pandemic, with a very hot overall job market, this trend appears poised to continue upwards.

DP: Really? I'd imagine people who've already retired would prefer to stay in retirement...

AG: That is probably the case for most people. Some, though, don't really have any other option. In 2023, 48% of people who were unretiring were doing so due to financial concerns and the need for a cash flow outside of Social Security (Taylor).

DP: I thought the entire point of Social Security was to prevent this from happening.

AG: It is, but what you have to understand is that we had some of the strongest inflation in decades over the past few years (U.S. Bureau of Labor Statistics). While Social Security does increase with inflation via Cost-of-Living Adjustments, or COLAs, it only does so at the beginning of each year, and not all inflationary costs are always counted (U.S. Social Security Administration). The heavy impact of inflation from the COVID-19 pandemic is evident in another survey which found that 43% of un-retirees return to work primarily due to inflation (Braun). On top of that, a worrying number of older Americans have very few retirement savings themselves, with 30% of workers aged 65 and older saying they have no savings (Simons). Taking all this into consideration, it's no wonder that American retirees are returning to the workforce — they simply have no choice.



DP: Wow, that's really unfortunate. All these people are supposed to be enjoying the last years of their life, and instead they're stuck toiling away to make a meager living. That makes me wonder, how are they paid? Does their previous experience count for anything?

AG: Yes, actually! The average wage for American workers over 65 years old has been steadily increasing over the past few decades or so, with them now having almost the same average salary as workers aged 25-64 (Fly and Braga). A lot of that has been thanks to the desirability of their accumulated work experience and knowledge. That's not the only benefit of rejoining the workforce, though. A lot of older Americans who un-retire also cite loneliness and the desire for companionship as a significant reason for coming out of retirement (Taylor). Approximately 45% of American workers working out of retirement say they are working for social and emotional purposes, possibly indicating that rejoining the labor market gives retirees a sense of purpose and connection with others (Ward).

DP: That's sort of sad though, in a way. That retirees are working again just to spend time with other people.

AG: Yeah, that's true. Goes to show why young people shouldn't be dismissing the time that they spend with their older relatives and friends. Here's your reminder to tell any elderly in your life that you care about them!

DP: Speaking of young people, I think we should begin talking about how they might be affected by this un-retirement trend.

AG: Sounds great. For those of you in the audience who didn't get the Blockbuster reference earlier, you might want to start paying attention.

DP: *Chuckles*. Yes, yes. Anyways, now that there are more old people working, it only makes sense that there would be fewer young people working, right? The labor pool is only so large, and so many retirees reentering the workforce has to have some impact on the employment of other demographics.

AG: You know, you're basically describing the "lump of labor" theory.

DP: The what now?

AG: The lump of labor theory. Or fallacy, really. It's basically the idea that there's a set number of jobs within the economy and if some people take more of the jobs, like the older population, then there will be fewer jobs for everyone else (Kagan). It's been proven false for a while now, but it's still pretty common in public thinking. For example, young workers appear to blame older workers for stealing jobs, with 44% of workers aged 18 to 29 viewing the steady increase of older workers in the economy as a bad thing for American laborers, compared to just 14% of workers aged 60 and over (Associated Press).

DP: So what makes them incorrect?

AG: Mainly the fact that there is no set number of jobs in the economy. The number of jobs fluctuates with an innumerable number of variables. It could easily be the case that having an older worker get a job ends up producing ten new jobs for younger workers. For example, if the older worker creates a new business, there will be plenty of new job opportunities for workers of any kind.

DP: That makes sense. What about the dip in teenagers participating in the labor force, though? The population of teenagers participating in the labor force has declined by more than 10 percentage points over the past two decades, from 42% in 2000 to 31% in 2022 (Montgomery). If not older workers stealing jobs, why are younger Americans working less?

AG: This has a relatively simple explanation. In the same time frame that there was a 10 percentage point drop in the share of teenagers participating in the labor force, many also began pursuing higher education and university degrees. The share of Americans age 18 in school has increased by 13 percentage points compared to 2000, with many students using free time to prepare for college rather than taking on a part-time job (Montgomery). So really, the drop in labor force participation by young Americans could simply be attributed to the pursuit of higher education, rather than being pushed out by older retirees returning to the workforce.

DP: Huh, interesting. So you're saying that the retirees aren't stealing jobs at all, but young Americans are actually just going to university?

AG: Yup. That would mean that the younger generation won't have to worry so much about job opportunities being stolen from them, but rather gaining the knowledge and skills required to flourish in the job they are in after school. Of course, this also seems to be lacking, as employers are often complaining about the inefficiency of the American education system in instilling skills and traits into workers before they enter the workforce (Alix).

DP: That is certainly an issue and one we will discuss in next week's episode. In the meantime, though, let's go back to unretirement. We've established that older workers are not truly a threat to the younger generation and their employment prospects. We've also seen that the trend doesn't seem to be disappearing any time soon. So, Amelie, I've got a question for you — could unretirement actually be beneficial to businesses?

AG: As I mentioned before, many older workers possess knowledge and experience from their previous time in the workforce. Their

Approximately 45% of American workers working out of retirement say they are working for social and emotional purposes, possibly indicating that rejoining the labor market gives retirees a sense of purpose and connection with others.

wisdom is an extremely valuable resource for companies to have, as they can interact with younger people and impart that wisdom upon them, expanding their perspectives. For example, many businesses engage in a mentoring and reverse-mentoring system, in which younger and older workers interact with each other to exchange skills and knowledge (Done). In the long term, this system can maximize the business' efficiency by incorporating real-life experiences and innovation that younger generations bring to the table.

DP: Alright, that brings us to the end of today's episode! A quick recap for the audience: unretirement has been a persistent trend, mainly due to financial and psychological reasons. However, regardless of how many older people are reentering the workforce, studies show that the younger generation don't have to worry about having their job prospects ruined by them, and businesses can even gain various benefits from the phenomenon. A big thank you to our guest speaker, Amelie Genao, for her time today. Tune in next week on "The Econo-Me" to learn how the next big economic headline could affect you!

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The AI Takeover: A Hoax or Reality?

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CITATION STYLE

MLA 9th Edition

ZEKE: When you think of Artificial Intelligence you probably think of some high-tech robots that want to take over the world, like in *The Terminator*. But what if I told you that AI is already around us and it may be impacting your livelihood in the near future?

Hey, I'm Zeke, your host of Labor Lens, the podcast where we take a look at the evolving labor market through a different lens.

[Intro Music Plays]

ZEKE: Today, I'm joined by two intelligent and leading figures in the world of AI, Sam Altman and Dr. Fei-Fei Li. Could you two please introduce yourselves and share some of your experiences?

SAM: Thanks for the kind words. Hey everyone, I'm Sam Altman, the current CEO of OpenAI. I started my career after dropping out of Stanford University by co-founding a company called Loopt, a social networking application. From there, I became a partner and eventual president at Y Combinator, a startup accelerator, through various investments, and now I find myself, as Zeke so kindly worded, a leading figure in the AI boom through my involvement in Open AI.

DR. LI: And I'm Fei-Fei Li. I currently serve as a professor at Sam here's alma mater, Stanford, and I co-direct their Human-Centered AI Institute. I received my bachelor's degree from Princeton University and earned my doctorate in electrical engineering at Caltech.

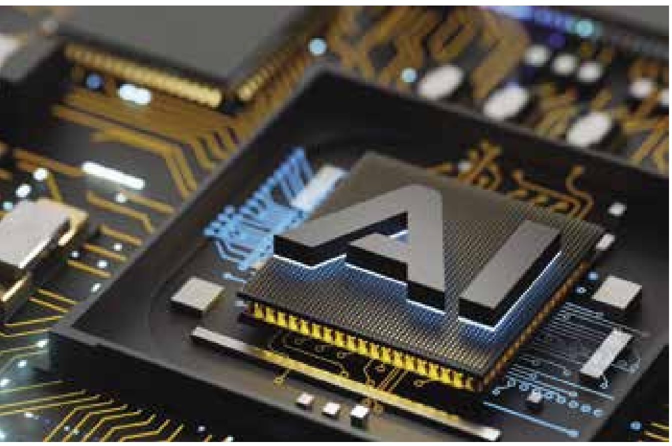
The interview portrayed in this submission is a product of the authors' imagination. While the interview may reference actual people, the subject matter and language attributed to those people is entirely fictitious.

ZEKE: Dr. Li is being too humble. She also invented ImageNet, a pivotal dataset in AI research, and co-founded AI4ALL, a non-profit focused on creating diversity and inclusion in the world of AI.

DR. LI: Thank you for the recognition. My mission has always been to democratize AI and promote inclusivity and equality in the field.

ZEKE: It's so nice to meet you both, and we appreciate your help with the podcast today. The term AI is thrown around a lot nowadays with the rise of AI products, like Sam's ChatGPT, but what exactly is AI?

DR. LI: At its core, AI is much broader than advanced robotics and machines. It is a computer's ability to solve problems and perform tasks that would be commonly associated with human intelligence. For example, categorizing animals based on an array of photos would be an easy task for the average middle school student, but difficult for a standard computer algorithm.



ZEKE: I totally agree, and with this new technology comes many implications for our economy and the labor market. Dr. Li and Sam, how would you describe the development of AI and its adoption into our industries?

DR. LI: Over the last decade or so, we've seen groundbreaking advancements in AI. Specifically, we've seen large datasets like ImageNet used to organize annual classification competitions, such as the ImageNet Large Scale Visual Recognition Challenge (ILSVRC) which first started in 2010 (Chow). This competition led to the introduction of large-scale deep learning models like AlexNet, the winner of the ILSVRC in 2012, marking significant breakthroughs in computer vision, the ability of computers to understand and identify visual information, as a whole. AlexNet also led to the widespread adoption and popularization of many previous AI techniques, like Convolutional Neural Networks for example. A few years after AlexNet, Google DeepMind also showcased the power of reinforcement learning techniques, which excelled at playing games like Go on a superhuman level (Davids).

ZEKE: This advancement continues to increase, with techniques becoming more refined and applications becoming more broad. We are seeing development through OpenAI as well!

SAM: Exactly. In 2020, we at OpenAI introduced GPT-3, an AI-powered natural language processing tool which quickly garnered significant attention and widespread adoption within the AI community. Open AI then released ChatGPT two years later, a similar AI tool optimized for a more conversational format. The power and performance of ChatGPT was extraordinary, able to return cohesive responses to all kinds of prompts from the user (Experts). Now, AI is continuing to advance, and skills such as image recognition, reading comprehension, and language understanding have already reached and, in some benchmark tests, surpassed human levels (Giattino et al.).

ZEKE: Wow, it's amazing to see how far AI has come!

SAM: It really is! With this constant growth in the ability of AI, the likelihood of its adoption in the workforce only increases. We can think of AI as a component of the bigger trend of automation. Automation has been developed since the Industrial Revolution with the discovery of mechanization to improve the efficiency of internal processes and boost productivity (Fleming). In a way, Artificial Intelligence is just the latest form of automation!

DR. LI: Honestly, the prospect of AI adoption into the workforce is fascinating, and we can already see some examples being implemented now. Specifically, AI tools such as Github Copilot are designed to aid developers by providing code suggestions and auto-complete coding syntax. Studies found that, although success rate wasn't affected, Github Copilot led to a 56% reduced project completion time. In fact, the study also furthered that developers with a heavier workload and who were older experienced greater benefits from Copilot (Peng et al.).

SAM: We've even seen similar results with our GPT-3 model, which has enhanced human performance in programming with a recorded 27% improvement in programming speed. These tech tools can help bridge the gap between professionals and less experienced developers (Campero et al.).

At its core, AI is much broader than advanced robotics and machines. It is a computer's ability to solve problems and perform tasks that would be commonly associated with human intelligence.

The prospect of AI adoption into the workforce is fascinating, and we can already see some examples being implemented now.

ZEKE: I also heard that ChatGPT itself could get hired as an entry-level software engineer at Google (Elias). Now that's a true testament to its programming ability! It seems that the impact of these tools could be really beneficial for the tech industry, but does it really have an impact on other parts of the workforce?

SAM: Of course, one of AI's greatest uses is in recruitment, which impacts every single sector. In fact, 67% of human resource professionals say they already see the value of artificial intelligence tools, and that the hiring process is already in major transition (Stefanowicz).

DR. LI: The reason is because of the automation that AI provides in evaluating candidates' résumés and skills faster. AI can use data to look at skills, background, and experience to determine how successful someone would be in a role before hiring them. It can also rank candidates based on how well they match the qualifications of previously successful candidates.

SAM: But other than recruitment, AI's automation is felt in a variety of fields. For example, media jobs have started using ChatGPT's generative AI to aid their writing. It's also beneficial in the legal industry because AI is more efficient at dealing with large pieces of information. It's better at synthesizing data and can make it more digestible by making things like legal briefs.

DR. LI: AI can also help teachers create things like lesson plans, and can even be used in the financial sector with its ability to find general trends through large datasets. Specifically, financial analysts can use AI to highlight what investment portfolios are doing good to forecast a better investment mix (Zinkula and Mok). Examples like these were why Cognizant and Oxford Economics found in their study that more than half of the workforce would have many tasks replaced by AI, allowing for increased efficiency (Cognizant and Oxford Economics).

ZEKE: With all these improvements, what are we looking at in terms of predictions for economic growth and the nation's advancement as a whole?

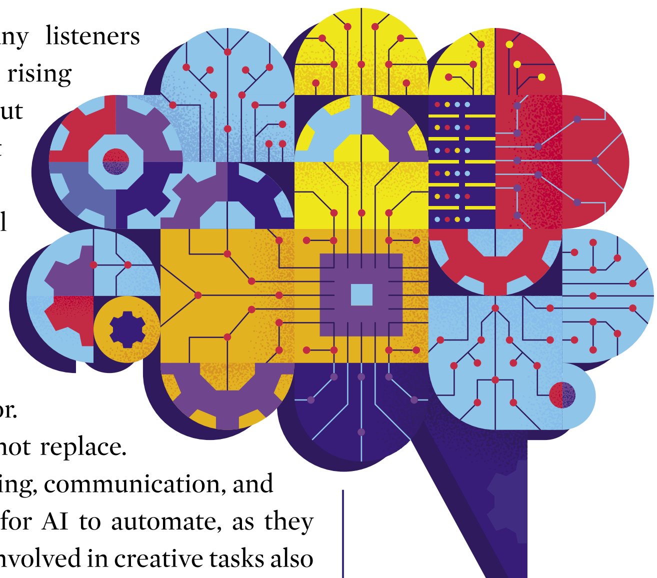
SAM: With AI implementation increasing, a study by Oxford Economics estimates that generative AI could inject $1 trillion into the U.S. economy over the next decade. This injection would consequently lead to a rise in U.S. GDP by $477 billion to $1 trillion annually (Cognizant and Oxford Economics). That could be around a 40% increase after just 10 years![1]

ZEKE: Wow, that is crazy to think about. The reason that these predicted injections are probably so high is because of AI's role as a capital good, right? Capital goods are used in producing other goods, which allows for increased labor productivity and efficiency, one of the key ways to spark economic growth.

SAM: Definitely! The improvement of AI can lead to an increase in the long-run aggregate supply of fixed resources. This basically means that output at full employment is higher, resulting in the increase in GDP that the various studies predict.

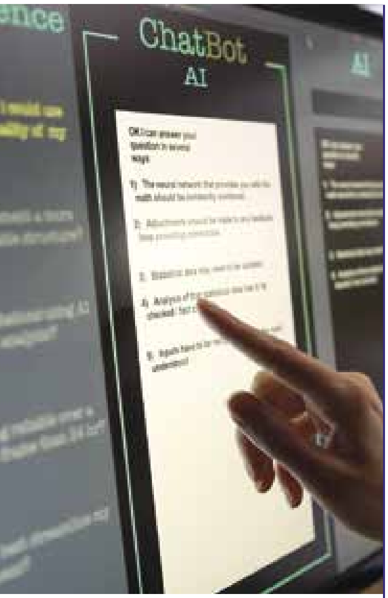
DR. LI: However these studies aren't all sunshine and rainbows, as they also predict many jobs being replaced by AI. The reason is because of a subset of AI: machine learning. Machine learning is a way that AI constantly improves itself, using algorithms to find patterns and even incorporating abstract thinking into automation. That's why there is a chance that white-collar jobs may not be needed anymore.

ZEKE: That's interesting, in fact, many listeners have expressed their concerns with the rising capabilities of AI and are anxious about job security. Ultimately, anxiety about the "AI takeover" boils down to whether or not these advancements in Artificial Intelligence have the intention to either complement or replace humans.



SAM: The advancement of AI seems unlikely to entirely replace human labor. People have skill sets that AI simply cannot replace. For instance, tasks including decision making, communication, and unpredictable environments are difficult for AI to automate, as they include abstract thinking. The ambiguity involved in creative tasks also adds to its resistance to automation (Gaynor).

[1] This was calculated using data collected from the Bureau of Economic Analysis (BEA) and Oxford Economics.



DR. LI: What's more, many say that AI won't replace jobs that workers need, but rather jobs that are hazardous and have high rates of injury. Employing AI in these fields would be perfect for reducing workplace casualties (Gihleb et al.).

SAM: Additionally, the rise of AI might even bring in more jobs associated with the field. The U.S. saw this occur after the rise of personal computers, the web, and the cloud. A study from the National Bureau of Economic Research found that as a result of innovations, 74% of people employed in professional occupations in 2018 worked in job titles that did not exist in 1940 (Autor et al.).

DR. LI: Many empirics seem to reject the idea of mass job displacement from tech advancement. Like when ATMs were invented, bank teller employment actually went up. Banks used ATMs to expand their facilities which ended up giving people more jobs (Bessen).

ZEKE: Although previous tech advancements haven't led to nationwide job loss, there is still cause for concern. The very development of AI could pose unique risk, as the goal of AI is to mimic human intelligence.

DR. LI: I agree. White-collar jobs could be at risk because of AI's growing ability to perform abstract thought. Paired with the ability to absorb massive amounts of data and improve itself, top white-collar jobs such as analysts, accountants, and programmers may face layoffs after companies realize that AI is just more efficient (Zinkula and Mok).

ZEKE: Right now, AI implementation has largely been experimental, with only 13% of companies incorporating it (Cognizant and Oxford Economics). While this number is set to grow, we have already seen major telecommunication companies, notably IBM and BT Group, already announcing job layoffs.

SAM: These layoffs are really concerning, and with all these companies increasing AI involvement, there could be up to 300 million full-time jobs worldwide at risk (Goldman Sachs). The automation could be so extensive that McKinsey estimated that 30% of hours worked in the U.S. have the potential to be automated by 2030 (Ellingrud et al.).

DR. LI: With all these predictions, it's important to take each perspective with a grain of salt. Economists and experts have been wrong in the past, and many of today's predictions about AI could end up being wrong as well. Ultimately, in order to prevent disastrous effects, policy makers should take proactive efforts to regulate AI instead of reactive approaches.

ZEKE: Exactly. For example, policies protecting more vulnerable workers could include things like retraining programs to help workers use AI and safety nets to limit any negative impacts during the transition toward AI. Moreover, reversing the U.S.'s current policy of taxing labor more than capital—AI software in this case—could also help mitigate invasive automation in industries (Brynjolfsson).

DR. LI: Policies that make workers feel safe are a huge factor in large transitions that we see today. For example, in Sweden a recent survey by the European Commission found that 61% of Swedes have a positive view of robots and AI (European Commission). To contrast, 72% of Americans are worried about a future where robots and computers are capable of performing many human jobs (Solon). This discrepancy is largely due to the abundant social services available in European countries, like health care, education, and job transition programs.

SAM: How the government handles the transition to this new tech definitely has an impact on the outcome. But it doesn't just stop there, unions and work councils can also help make sure the voices of workers stay heard, and their issues are resolved. Ultimately, preventing job displacement comes down to taking a proactive stance on AI, and thoroughly preparing for possible issues along the way.

DR. LI: I completely agree. If we take initiative, we can avoid the move-fast, break-things culture that we see right now, and make sure that AI serves as a complement and not a substitute for workers.

ZEKE: While we can't make big decisions like these on our own, spreading awareness of these issues brings us one step closer to solving them, and making sure that fears of an "AI takeover" stay in the movies. Thank you all for joining us, and I'll see you all next time on Labor Lens.

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Economically Speaking Podcast: Tipping Culture: A Comparative Analysis

HOST: Welcome everyone to another episode of "Economically Speaking," where we dive into America's deepest economic topics presently affecting you. Today, we'll be talking about the rising tipping culture in the U.S. I'm your host, Easton Jordan, and here we have Dr. Jennifer Gallagher to tell us about the macroeconomics of tipping culture. Dr. Gallagher is a professor of behavioral economics at Cambridge University.

DR. GALLAGHER: Thank you for this platform. Today, the average tip is 18% (Rawson). Yet there has been a bit of a paradigm shift in the acceptability of tipping. About 60% believe tipping etiquette has changed over the past three years ("The State of Tipping"). Sixty-three percent of Americans say that too many places are asking for tips and 48% they're tired of being asked to tip (Rawson). This is why I wanted to discuss tipping today. Because of the increased debate over the effects of the current state of tipping culture.

HOST: So how did this process of paying more than the listed price originate?

DR. GALLAGHER: Tipping originated in Europe during the Middle Ages when the wealthy would give the poor extra money for their services. Tipping was brought to the states along with Americans who'd returned from abroad and liked the practice (Malinsky).

HOST: It seems like the original concept of tipping has shifted quite a bit. Nowadays, tips are expected and don't guarantee any sort of special treatment like faster service. When were the first instances of tipping as a supplement to the wages of workers?

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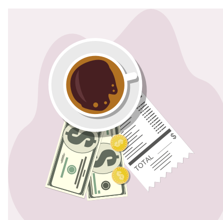

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DR. GALLAGHER: Absolutely. The true start of American tipping can be traced back to the end of the American Civil War. To give the listeners some context, during this time period, our workforce was saturated with formerly enslaved people and immigrants (Maze). The predominantly white employers still culturally viewed these people as second-class citizens and sought to exploit their labor. Thus, they encouraged customers to tip as a supplement to wages which moved the responsibility of fair pay to the consumers rather than the employer.

HOST: Can you give our listeners an example of this?

DR. GALLAGHER: The best example I can give surrounds the Pullman Company. In the 1860s, Pullman hired formerly enslaved people to work on their railroad cars. The workers would shine shoes and make beds for grueling hours. Yet instead of being paid a fair hourly wage, they relied on tipping for most of their salary. This saved the Pullman company about 75 million dollars in annual payroll when adjusted for inflation (Maze).

HOST: So how did tipping become so ingrained in our culture?

DR. GALLAGHER: When FDR passed the Fair Labor Standards Act, a minimum wage was established for some industries except for food services, retail, and construction. When restaurants were added to the act in 1966, they still weren't covered under the typical minimum wage. So restaurant owners would pay a tip credit which meant that employers would pay a percentage of the minimum wage as long as the tipped employees got enough tips to equal minimum wage or more (Maze).

HOST: I've heard a lot about tipping in the U.S. What about in other countries?

DR. GALLAGHER: The U.S.'s tipping culture has always been more than in other countries. In London, restaurant tipping is normally 10%. In France, restaurants include tip in the bill. In Italy, there is no tipping. In Greece, tipping up to 5% is normal. Not only is the U.S.'s average tipping in restaurants higher (18%), more recently, we have been tipping for other establishments, including restaurants with no table service (Dickler).

HOST: Does this have anything to do with minimum wage?

DR. GALLAGHER: Most likely, yes. Between 2010 and 2019, 134 out of 195 countries adjusted their minimum wages more frequently than three to five years (Dickler). The U.S., however, has not updated the federal minimum wage since 2009 (21 out of 50 states use the federal minimum wage of $7.25) (World Population Review). Inflation has increased prices across the board, but the minimum wage has not increased to compensate for it. The insufficient minimum wage most likely causes customers to tip because they know workers are underpaid. This is not a problem in most other countries, however, because their minimum wages are updated frequently. The U.S. has no legal requirement to review (and maybe adjust) the minimum wage (DeSilver).

HOST: How did COVID-19 impact tipping?

DR. GALLAGHER: It actually increased tipping significantly because people knew businesses and workers depended on tips. Many service workers depended on voluntary gifts of money from their customers for a very large portion of their incomes (Lynn). When eateries were struggling, many customers would tip 30% because they felt guilty (Munoz). One study found that 26% of people tipped a higher amount and 19% tipped to a wider range of services. The pandemic increased the average tip-per-order given to a pizza delivery driver as well as the average tip percentage for many transactions at quick and full-service restaurants ("The State of Tipping").

Not only is the U.S.'s average tipping in restaurants higher (18%), more recently, we have been tipping for other establishments, including restaurants with no table service.

HOST: Why is tipping so prevalent in the U.S.?

DR. GALLAGHER: Well, there are a few different reasons. A lot of people believe it's because of a social norm. But generally speaking, people act out of their own self-interest. If it were because of a social norm, we would expect to see a decrease in tipping but that's clearly not the case (Azar). Instead, people seem to tip because it made them feel generous, to show appreciation for service, or because they wanted to impress others. Also because tipping is a significant part of a worker's income, people felt like they needed to tip because they were holding back some of the workers' wages. All of these factors worked together to increase the norm for tipping over the years (Azar).

HOST: Thank you, Dr. Jennifer Gallagher, for your illumination on the historical and economic origins of tipping. With this segment of our episode completed, it's time to discuss the relationship between tipping and the gig economy. So please welcome our next guest, Dr. Victor Cruz, one of the leading professors of economics at Stanford University and a particular expert of the subject matter as well. Dr. Cruz, could you please tell us a little bit about how tipping has affected gig-economy apps, such as Uber or Doordash?

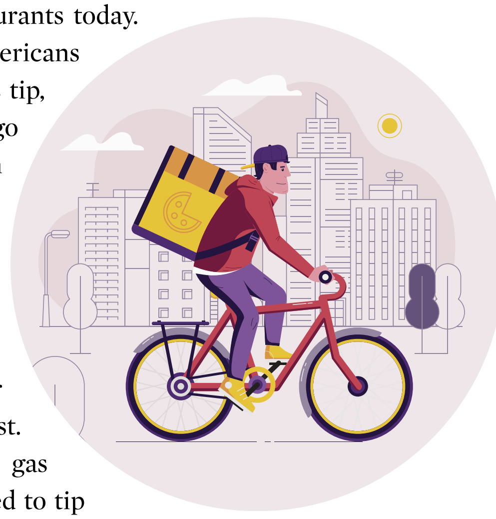
DR. CRUZ: Thank you for having me. An interesting fact for you guys to start. Gig-economy apps no longer allow their employees to see how much they are being tipped before they take an order. They removed the feature a few years ago. This means a customer can just tip small amounts of money and the employee will never know until after. This is called tip baiting, and up to 27% of Uber, Doordash, and Lyft drivers experience this (Polo). And because tipping for this type of work has gone down from 26% in 2017 to 20% in 2022 (Cornell) and especially since the tipping minimum wage is only $2.13 per hour, this change is harming delivery drivers substantially as tipping makes up large portions of these workers' incomes ("Minimum Wages for").

HOST: It seems like the gig-economy workers don't have it so well. Is this true, and if yes, why so?

DR. CRUZ: The gig-economy system is complex. To start, apps like Doordash and Uber don't want their workers to prioritize customers based on their tips, so they don't allow them to see how much they are getting until after their work is complete. In addition, many apps have additional service fees that sit-down restaurants don't have, and a study done by US Foods says 66% of customers tip based on these additional costs as well as the basic price of the food, and many may not want to tip more if these costs are high. Another thing you must take into consideration for gig-economies is weather, as the same study done by US Foods says only 53% of people tip differently based on weather conditions ("Study Reveals"). Gig-economy workers may unfortunately not receive compensation for their labor under adverse weather conditions. Finally, it also depends on the type of service being done, as a study done by Gridwise, a data analysis company that helps drivers track their earnings, said food deliveries produce tips 90% of the time, but driving services such as Uber and Lyft only get tips 28% of the time (Zinkula). None of these issues are anything sit-down restaurant workers have to deal with.

HOST: So how does that compare to tipping in other types of workplaces, such as sit-down restaurants?

DR. CRUZ: Tipping is still prevalent in restaurants today. According to Pew Research Center, over 92% of Americans who dine at sit-down restaurants say they always tip, but at the end of 2023, it was actually seen to go down for the first time in years (Pew Research Center). People are just tired of tipping and the expectation of it. A study done by Bankrate, a consumer financial services company, found over two-thirds of Americans have a negative view of tipping (Gillespie). In addition, technology has allowed counter services to introduce tipping for customers, something not prevalent in the past. At establishments such as fast-food restaurants, gas stations, and grocery stores, you will now be asked to tip after paying for your meal at the counter, even though nobody technically brought your food to you. This was not always the case, but has become very common with the easy access to digital tipping machines. In these types of places, pressure to tip is a major factor, as more than 54% of consumers surveyed in a study done by PlayUSA said they feel pressure to tip during iPad checkouts, and 51% have tipped when they otherwise wouldn't have in such a situation (Guszkowski).



HOST: Thank you Dr. Cruz.

HOST: We now welcome Dr. Mohammed Ali, an esteemed economics professor at the University of Chicago, here to discuss the fascinating topic of tipping's complex impacts on the macroeconomy and possible policy proposals in response.

DR. ALI: Thank you for having me.

HOST: Let's start by exploring the correlation between tipping culture and aggregate demand in the service industry. Can you shed some light on this?

DR. ALI: Absolutely. There is indeed a correlation between tipping culture and aggregate demand. However, it is a negative correlation. The prevalence of tipping, along with the phenomenon known as "tipflation," has a detrimental effect on demand for services (Cabano and Attari).

HOST: Could you elaborate on the factors contributing to this negative relationship?

Tipflation refers to the increasing expectations and rates of tipping over time. This phenomenon creates two broad categories of deterrents for consumers: financial and psychological.

DR. ALI: Certainly. Tipflation refers to the increasing expectations and rates of tipping over time. This phenomenon creates two broad categories of deterrents for consumers: financial (Lin) and psychological (Cabano and Attari).

HOST: Let's start with the psychological deterrents. What are they?

DR. ALI: Psychological deterrents primarily stem from the concept of psychological reactance (Cabano and Attari). When consumers feel obligated to tip a certain amount, they perceive it as a restriction on their freedom. This can lead to negative reactions and a decrease in demand for services.

HOST: That makes sense. The feeling of being compelled to tip can certainly be off-putting for consumers. What about the financial deterrents?

DR. ALI: Financial deterrents arise from the increased real cost of services. As tipping rates rise, consumers have to allocate a larger portion of their budgets to gratuities. This reduction in disposable income limits their ability to purchase other goods and services, thereby decreasing overall demand (Lin).

HOST: So, tipping culture not only affects consumers psychologically, but also financially. It's a double-edged sword. What about the impact on workers' wages?

DR. ALI: Unfortunately, many businesses in the service industry tend to keep wages low and rely instead on tips to bridge the gap between the actual wages paid and a livable income. This results in stagnant wages for workers, even amidst industry growth ("The Tipped Minimum Wage"). Thus, consumers are burdened with an ever-increasing responsibility to provide extra compensation for paid employees, exacerbating the negative effects on demand mentioned previously.

HOST: This is highly concerning. Thus, I think it's necessary to discuss potential solutions to mitigate and resolve this problem. What strategies can you discuss?

DR. ALI: There are several strategies that can address the problems associated with tipping. One effective approach is revenue sharing. By implementing revenue-sharing models, businesses can ensure that all employees receive a fair share of the profits, leading to more equitable compensation and reducing the need for tipping while increasing worker motivation and consequently business performance ("What Is Revenue Sharing? How Is It Different from Profit Sharing?").

HOST: Revenue sharing sounds like a promising solution that promises a win-win solution for all involved parties. Are there any other strategies worth considering?

DR. ALI: Absolutely. Another approach is collective bargaining. Allowing workers in the service industry to negotiate wages and working conditions collectively through labor unions or other representative organizations empowers them to have a stronger voice in determining their compensation. This can lead to fairer wages and create a more stable and equitable labor market.

HOST: Collective bargaining could indeed provide workers with more agency in determining their wages. Are there any additional strategies you'd like to discuss?

DR. ALI: One more strategy worth mentioning is the implementation of service charges instead of relying solely on tipping. Service charges are predetermined fees added to the bill, which are then distributed among the service staff. This approach eliminates the uncertainty and social pressure associated with tipping, ensuring that all service staff receive a fair share of the charges. By including service charges, businesses can provide a more transparent and equitable compensation system for their employees. Furthermore, studies have shown that service charges do not significantly increase the cost of services for consumers (Lynn), proving that this solution may be able to benefit the workforce without compromising the consumers.

HOST: That's an interesting alternative. It seems like there are several potential solutions to address the issues associated with tipping.

DR. ALI: Absolutely. Exploring these alternatives is crucial to ensure fair wages for workers and maintain a healthy demand for services in the long run.

HOST: Well, Dr. Ali, it has been a pleasure having you on the show and discussing this important topic. Thank you for sharing your insights and potential solutions. And thank you all for listening to today's podcast, and be sure to stay tuned for our next episode of Economically Speaking, "Crypto: Craze or Currency?".

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Left to right: Alicia Calabrese (principal), Krisha Patel, Ayushi Das, Anjali Narain, Carolyn Faggioni (advisor)

Floral Park Memorial High School

Floral Park, NY

"The BTS Effect": Growing South Korea's Economy and the Workforce both Indirectly and Directly

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CITATION STYLE

APA 7TH EDITION

MODERATOR: Savoring each bite of your crispy chicken nuggets, you notice a face plastered all across your McDonald's bag. Who are these individuals, you might wonder, well it's none other than South Korea's famous K-pop group, the Bangtan Boys (or BTS). BTS consists of seven young men who have become global sensations, captivating the hearts of many. Now let's introduce our hosts.

[DYNAMITE by BTS is playing while speakers get settled in]

KRISHA (CO-HOST): Hello everyone, I am Krisha. It's so great to be here on the very first episode of our podcast, PopEconomics. Today we will be talking about the major impact of BTS on South Korea's economy, specifically how BTS has created job opportunities within the entertainment and tourism industries. As a matter of fact, our podcast series was inspired by BTS and their global presence.

AYUSHI (CO-HOST): Most definitely! BTS's estimated fanbase is around 89.19 million fans (Kelley). Greetings! I'm Ayushi, and I'm so excited to be here. I am an enthusiast of all things K-pop-related, and my first introduction to K-pop was actually through BTS. Today we are joined by two very special guests, Kim Namjoon and Bang Si-Hyuk.

The interview portrayed in this submission is a product of the authors' imagination. While the interview may reference actual people, the subject matter and language attributed to those people is entirely fictitious.

NAMJOON: Hi! Thank you for the introduction! I am so glad that you are a fan of BTS! My name is Kim Namjoon, but most know me as RM, the leader of BTS's group. I'm extremely delighted to take part in this podcast and share more information regarding BTS's widespread growth.

BANG SI-HYUK: Hello, Krisha and Ayushi! Thank you for having us today. A big hello to everyone listening as well! I am Bang Si-Hyuk, the founder of HYBE.

MODERATOR: Could you please tell us more about HYBE?

BANG SI-HYUK: Certainly! HYBE Corporation is a South Korean entertainment company that specializes in artist management, music production, concert organization, and other aspects of the entertainment industry. We manage several major artists in the global music industry, especially in the K-pop genre. Some artists include BTS, Tomorrow X Together, NewJeans, and Enhyphen.

BTS's estimated fanbase is around 89.19 million fans.

AYUSHI: Wow, that is quite a lot of popular K-pop artists! HYBE must be busy managing all these large concerts.

NAMJOON: You can say that again. On average, BTS alone has 49,924 attendees at each concert (Hicap). Forbes even wrote an article mentioning how one of our earliest North American concerts, where the venue had around 42,000 seats, sold out in just minutes. It's crazy to think that we have that kind of influence.

MODERATOR: In regards to these enormous concerts, how many staff members are needed to make this event go smoothly?

NAMJOON: Smooth like butter?

KRISHA: Ha ha! Butter by BTS has been playing on repeat on my playlist! I love that song.

BANG SI-HYUK: Great to hear! With BTS's rising fame, we began to need numerous staff members for all the concerts and tours in South Korea and globally. Approximately 150 to 200 employees from South Korea accompany BTS on their global tours. From stylists to hair and makeup team members, there are a lot of employees who work behind the scenes to help BTS thrive. There are also employees working for the concert venue itself, and they play a critical role in ensuring a successful concert. Concert venues hosting BTS require management services for ticketing, security, stage setup, and much more. The number of employees assisting BTS has also grown greatly. In 2017, there were only about 73 employees. Then in 2021, HYBE had over 450 employees working for BTS, with 60+ new job openings (Sun-hwa). This number has since grown. We have employees who serve as trainers and singing coaches, and our marketing team has also grown in numbers. HYBE itself has seen an increase in the number of employees overall. Within the past two years, 1,000 employees have joined HYBE, and this aligns with the growth of the company (Yoon). In 2021, we even launched a business solution unit called HYBE IM. This initiative created more job opportunities as well.

Photo by Cindy Ord/Getty Images for SiriusXM

AYUSHI: Wow, that is a lot of people! It's so great to see how BTS's popularity has directly helped create jobs for so many South Koreans.

KRISHA: Since we spoke about BTS concerts in North America, how about South Korean concerts? Do BTS concerts attract many individuals there too? I have read articles about people from all over the world traveling to South Korea to see BTS!

BANG SI-HYUK: Yes, absolutely. I've been in this industry since 2005 and have assisted in the growth of BTS with my own hands. According to the Hyundai Research Institute (HRI), 796,000 foreigners visit South Korea annually because of BTS, which greatly boosts the local tourism industry in the country. In 2017 alone, 7.6% of visits to South Korea were influenced by BTS. What you have read about people traveling from all around the world to see BTS is most definitely true! Data from the HRI indicates that one in thirteen foreign visits to the country is related to BTS (Min-hyung).

AYUSHI: That explains the growth of the tourism industry in South Korea! BTS's influence has greatly grown the workforce within the tourism industry while making South Korea a center for attention. There are also so many BTS-related places and establishments around Seoul, Korea, but there are also many more outside of Seoul! During my trip to South Korea, I saw so many cafe shops selling BTS-inspired drinks, and there were so many merchandise stores! It's almost as if BTS has given many individuals the ability to start unique businesses surrounding K-pop and take advantage of the growing K-pop-related tourism.

[Mrs. Kang Sun-Ja enters and takes a seat]

MODERATOR: We have another guest. Now we will hear Mrs. Kang Sun-ja's story about her BTS inspired restaurant.

Photo by Chung Sung-Jun/ Getty Images

AYUSHI: Welcome, Mrs. Kang Sun-ja! We're so glad you made it.

NAMJOON: It's great seeing you again!

KANG SUN-JA: Thank you for having me, and hello Namjoon! I'm the owner of Yoojung Sikdang, a restaurant that used to feed BTS when they were trainees. I have always seen the BTS boys as my own sons and knew that they would be immensely successful. And guess what? They absolutely are! Nowadays, my restaurant is a hotspot for BTS lovers in South Korea and abroad. I've even had to hire additional part-time workers to further help me within my restaurant. Since BTS, my restaurant has been thriving, allowing me to further create my dishes with love, just like I had done for BTS. Our revenue has also increased as BTS began to garner major traction.

KRISHA: You are such a kind soul! I am so grateful that you were there to continue spreading the BTS love. Similar to Yoojung Sikdang, local South Korean establishments allow for direct employment as they require staff to manage operations, administrative tasks, customer service, and maintenance. This also allows for indirect employment, as BTS-related places tend to stimulate economic activity even in surrounding areas, which leads to indirect job creation. Tourism creates an increased demand from visitors for restaurants, hotels, and transportation services, meaning that additional staff may be needed to meet such demands.

AYUSHI: Especially as BTS has become a symbol quite synonymous with South Korea, new jobs have opened up to serve tourists who come from all over the world to immerse themselves in BTS-related experiences. Therefore, there has been an increase in tour guides all across the country, which helps with the growing tourism industry, and there's research showing that there are 26,785 licensed tour guides but around 10,000 unlicensed guides as well (With More Tourists, Unofficial Travel...).

KRISHA: RM, I'm not sure if you're aware of this, but there's even a phenomenon called the BTS effect, which relates to fans' growing interest in whatever BTS does. In fact, according to a study by South Korea's Ministry of Culture, Sports, and Tourism and a government tourism institute, BTS's U.S.-chart-topping single 'Dynamite' of 2020 was predicted to generate more than $1.4 billion for the South Korean economy and around 8,000 new jobs in the country since the COVID-19 pandemic (Presse).

NAMJOON: Woah! I haven't heard of that phenomenon before, but I am so grateful that BTS is able to make such a major impact on the lives of so many Armies (BTS Fandom name). I've even heard of a term called the BTS effect.

AYUSHI: Ah, yes! The BTS effect refers to how BTS has created new world records and has become heavily successful. BTS has most definitely impacted the South Korean and global markets as more young people wish to become idols themselves. Now we see so many talented young women and men going on producer shows that incorporate brand new staffers for makeup, hairstyle, lunchroom duty, dance/singing/rapper coaches, and more to allow the show to proceed smoothly. All these people are beneficial for these idol elimination shows like A2K JYP, which have over 1,000 contestants. From those contestants, they are weeded out until the final few come to South Korea for their final competition.

Analysts have projected that BTS would have contributed 29.1 trillion won to the South Korean economy from 2014 to 2023.

KRISHA: Because of the growth of the K-pop industry, there are also more positions available for K-pop idol managers and recruiters. This means that these individuals will also reach out to potential idols, which creates more positions.

MODERATOR: Now that I think about it, I've seen so many videos and articles about these infamous shows. As the top six participants become a girl or boy group, how do these entertainment companies have such revenue to support these up-and-coming artists?

BANG SI-HYUK: It's really due to the earlier investments this company made. Money made from BTS and other K-pop boy bands has absolutely been used as further investment in new and upcoming bands.

AYUSHI: Would you say that this process mirrors a cycle where more people try to become K-pop idols, then this creates more talent/management positions to find new talent, and afterwards, when the idols gain fans, the company gains revenue to reinvest to create more jobs directly in front of the spotlight like idols or behind the scenes like makeup artists?

BANG SI-HYUK: I would say that is correct.

KRISHA: That's quite interesting. To add to your prior comment, analysts have projected that BTS would have contributed 29.1 trillion won to the South Korean economy from 2014 to 2023 (Taylor). This is a staggering number, and it's equivalent to approximately 21.8 billion USD. Can you tell us about the revenue BTS generated for HYBE over the past few years?

BANG SI-HYUK: Certainly! HYBE is so proud of the boys' accomplishments. They have broken record after record! In 2020, the revenue generated by BTS for HYBE was in the millions (USD). Along with that, HYBE has also made several strategic investments. This revenue has allowed us to expand HYBE as a whole, as it has equipped us with the monetary resources to hire more employees.

AYUSHI: That's so impressive! It's clear that BTS has left an everlasting impact on the K-pop industry and on the South Korean economy!

KRISHA: Well, thank you so much for joining us today, Namjoon, Mr. Bang Si-Hyuk, and Mrs. Kang Sun-Ja. It was so nice to understand how much of an impact BTS has had on the South Korean economy and workforce from three inside sources!

AYUSHI: Maybe in a future podcast episode we can have all seven members join us!

NAMJOON: Thank you so much for having us! I would love to come back with the rest of the guys!

[Special guests exit after saying goodbye.]

KRISHA: BTS's global popularity has been a crucial factor in growing the K-pop industry overall. By talking to our special guests today, we got an insight into how BTS has grown Hybe; BTS's influence on the K-pop industry has been unparalleled. The K-pop industry has created job opportunities for many people, both directly and indirectly. There have been jobs in sectors like music production, talent management, marketing, tourism, fashion, and many more. According to the Ministry of Culture, Sports, and Tourism, the K-pop industry alone employs 92,000 people in South Korea (Romadhoni).

AYUSHI: Yes absolutely! It's absolutely insane to see exactly how seven boys created a whole new future for South Korea. We'll see where this journey leads us. Thank you for tuning into episode one of PopEconomics.

[Butter by BTS plays]

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Left to right: Sophie He, Saanj Selarka, Virginia Liang, Una Kearns (advisor), Jordyn Amram, Noah Fintzy, Michael Witmer

Glen Rock High School

Glen Rock, NJ

Barbie Photo Credit: ivanastar

*She*conomics: Beyond Plastic— Barbie and Women Shaping the Workforce

GRETA: Hello! Welcome back to "*She*conomics," the podcast where I interview leading women in economics. I'm your host, Greta Gerwig. For those who don't know, I am a director, writer, and producer, and some of my work includes *Lady Bird* and *Little Women* (McEvoy). Today, I'm interviewing the star of my latest movie, *Barbie*!

BARBIE: Hi, Greta! Thanks for having me on. I'm so excited to tell everyone a little more about *Barbie*, — the highest-grossing film ever directed by a woman (Warner Bros. Home Entertainment)!

GRETA: It wasn't easy. As a child, I dreamed of directing movies, but when I entered the industry, I realized most directors were men. It's not much different now — as of 2022, women accounted for just 14.6% of all movie directors in the U.S. (Robb)!

BARBIE: Unfortunately, that's not surprising. Women often face unfair challenges in male-dominated industries due to social and structural barriers that make it harder for us to advance.

GRETA: And that's exactly why I started this podcast — to give representation to trailblazing women like you, Barbie.

BARBIE: Absolutely, Greta. Representation is key to empowering the next generation of women to believe in themselves. I'm so excited to share my story with you today.

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CITATION STYLE

MLA8

The interview portrayed in this submission is a product of the authors' imagination. While the interview may reference actual people, the subject matter and language attributed to those people is entirely fictitious.

GRETA: Let's get right into it. Barbie, it seems like you've worked every job. You've got quite the resume: Model Barbie, Paleontologist Barbie, Presidential Candidate Barbie, and even Astronaut Barbie! Throughout your extensive experience, how have you seen women's work evolve and affect the economy?

BARBIE: In the past 60 years, I've worked over 250 jobs (DeCarbo), and I have seen women's impact on the workforce and the economy. The changes have been incredibly significant!

GRETA: Tell me about these changes.

BARBIE: Well, Greta, when I started working in the 1960s, there weren't many jobs *for* women. I was a model, and other women worked as nurses, teachers, and secretaries. While those are all respectable jobs, they were known as "pink-collar jobs" — jobs dominated by women. Pink-collar jobs paid significantly less than male-dominated professions ("The Increasing Demand for Pink-Collar Jobs: Understand How they Are Evolving in the Digital Age?").

GRETA: Why were women confined to pink-collar jobs?

BARBIE: It was all about those old-fashioned gender stereotypes. Women were limited to only pink-collar jobs because they were associated with "feminine" traits like caregiving. Despite the lack of opportunities, women were seizing the chance to join the workforce. Between 1950 and 1960, the number of women in the workforce surged by over 35%, bringing the total population of working women to 22.5 million (Wirtz).

GRETA: That's astonishing! What exactly caused this rapid change in labor participation?

BARBIE: As the economy was growing in the 1950s and 60s, there was an increased demand for pink-collar office jobs which raised wages. As women had more jobs to choose from, the female labor supply became more elastic (Goldin).

GRETA: What does "elastic" mean?

BARBIE: Wage elasticity is a measure of the labor supply's responsiveness to changes in income. So, as wages increased, more and more women saw the workforce as a viable option and were eager to seize those opportunities.

GRETA: Interesting!

BARBIE: Institutions of higher education soon saw the same trend. More and more women started enrolling in college to pursue advanced jobs in higher-paying industries. The late 1960s saw Ivy League Universities opening their doors to women for the first time! In 1960, only 34% of women had a bachelor's degree. By 1970, it was 43% (Ludowise).

GRETA: Woah, that's quite the leap! Did access to higher education allow women to enter different professions?

BARBIE: With education came empowerment! College equipped women with hard skills and knowledge, making them strong competitors in the job market — allowing them to enter traditionally male-dominated professions. It's like upgrading from a basic Barbie to a CEO Barbie with all the different degrees under her belt! By the end of the 1970s, a quarter of medical school students and a third of law school students were female ("Women in the Workforce: 1970s — A Decade of Change").

GRETA: It sounds like a major shift in the workforce. What about the economic climate? Did that play a role too?

BARBIE: Definitely. The 1970s brought some tough economic times with stagflation — a blend of soaring prices and economic slowdown ("Women in the Workforce: 1970s — A Decade of Change"). Housing costs tripled and college tuition nearly doubled. As a result, it became a lot more common for women to go to work to help make ends meet at home. The women's labor force participation rate rose from 37.7% in 1960 to 43.3% in 1970, and to over 51% by 1980 (Toossi)!

GRETA: It's amazing how economic conditions can drive significant changes in labor force participation.

BARBIE: Absolutely! But this was just the beginning — women still had to battle against prejudice and discrimination.

GRETA: Oh I know, I've witnessed it myself. Were there any specific plans or solutions to tackle those obstacles?

BARBIE: Thankfully, there were! Women were helped by both the Civil Rights Movement and the Second Women's Movement, which occurred throughout the 1960s and 70s. These societal upheavals were all about championing equality in the workplace.

GRETA: How did these movements encourage women's participation in the workforce?

BARBIE: Well, they essentially pushed the idea that women could excel in any job, not just the ones society labeled as traditionally "feminine." There was an entire social revolution throughout the 60s and 70s, and the government had to take notice! So, they passed laws that matched what people were demanding: the Equal Pay Act, the Civil Rights Act of 1964, and Title IX — all critical for getting more women into the workforce.

GRETA: Those laws sound like absolute game-changers! Can you break them down a bit for me?

BARBIE: Of course! Back in 1963, women were only getting 59 cents on the dollar compared to men ("Honoring 60 Years of the Equal Pay Act and Advancing Pay Equity"). So, the Equal Pay Act said "If you're doing the same job, you deserve the same pay."

GRETA: Equal pay for equal play! A much-needed change for sure! What about the Civil Rights Act?

BARBIE: The Civil Rights Act of 1964 prevented companies from discriminating against employees based on race, color, religion, sex, or national origin ("Legal Highlight: The Civil Rights Act of 1964").

GRETA: And Title IX?

BARBIE: Title IX was put in place in educational institutions in 1972 to protect women against gender discrimination. It played a significant role in promoting equal opportunities in employment, reducing the within-job gender gap in pay by around 58% between 1964 and 1968 (Bailey, Helgerman, Stuart)!

GRETA: That's impressive progress! Women brought in more money to support their families and themselves! And speaking of families, what about working mothers? Was there any legislation passed to support them and their unique struggles?

BARBIE: One of the largest challenges for working women is motherhood. To combat this issue, the Pregnancy Discrimination Act was enacted in 1978, which prohibited discrimination in employment and hiring based on pregnancy. It worked! The labor force participation rates for working mothers nearly doubled from 27.6% in 1960 to 54.1% by 1980 ("Fifty Years After the Equal Pay Act")!

GRETA: That's music to my ears! But honestly — being a working mom still isn't all sunshine and rainbows, is it?

BARBIE: Sadly, you're right. Working as a mother is like juggling chainsaws while riding a unicycle. In fact, 40-50% of the gender wage gap can be attributed to the difference between being a mother versus a father (Budig). While progress has been made in narrowing the overall gender pay gap, the specific pay gap related to parenthood is on the rise, a phenomenon sociologists call the Motherhood Penalty, where mothers make 58 cents for every dollar paid to fathers ("The Motherhood Penalty").

GRETA: As a working mother of two children myself, I've seen that the disparities between mothers and fathers are striking.

BARBIE: Tell me about it! Research shows that mothers take anywhere from a 5-20% hit in wages for every kid they bring into the world, while dads get a great 6% pay boost for every bundle of joy (Ma). For every child we bring into the world, our paycheck shrinks even though we have one more person to provide for!

GRETA: It's a tough reality for moms out there, but the gender pay gap isn't just a mom thing — it affects all women.

BARBIE: Did you know that in recent years, women still made just 82 cents to a man's dollar (Aragão)?

GRETA: Is this gap getting any smaller, or are women stuck in an unequal pay world?

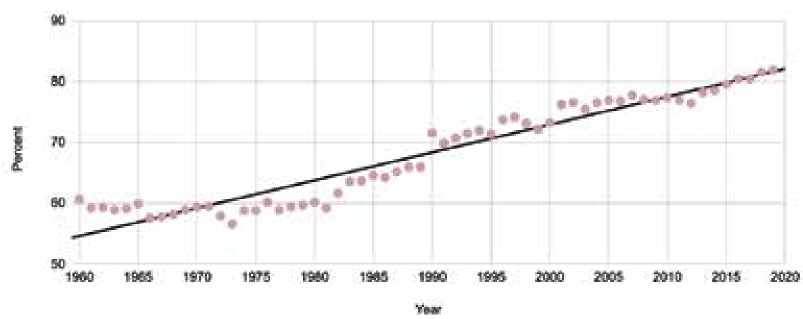
BARBIE: The gap is closing, but I predicted that it would take until 2059 for it to completely happen.[1]

GRETA: That's so far away! How were you able to predict this?

BARBIE: Great question! Using regressional analysis, I was able to compare the year and the women's median wage as a percent of men's. I posted a photo of the graph on my Instagram page.

GRETA: It's interesting to see the data points' linear formation.

Year vs. Women's Median Wage as a Percent of Men's Wage

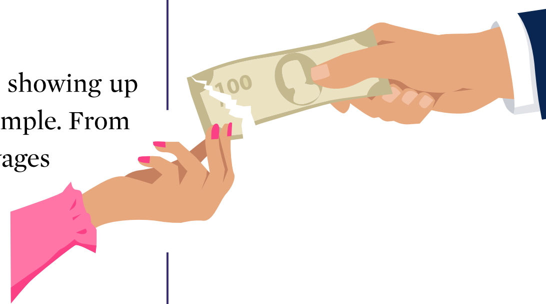


BARBIE: Totally! The correlation coefficient is off the charts — it's a whopping .96, indicating a super strong linear relationship between the years and women's wages.

[1] Final calculation was produced by students. Data from the National Committee on Pay Equity lists the median wages for men and women from the years 1960 to 2019. For each year, the median women's wage was taken and divided by the median men's wage. Taking each calculated value and the year, the scatterplot above was created. The independent variable on the x-axis is the year and the dependent variable on the y-axis is the calculated values. Between these two variables, there is a strong, positive, linear relationship with no unusual points. This gave us the confidence to create a line of best fit for this data set and perform regression analysis. Using a Ti-84 calculator, the line of best fit was calculated to be Y = 0.459427618783X - 845.86458090211 (X -› Year, Y -› women's median wage as a percent of men's median wage). If you plug 100 for the Y value it is predicted that men's and women's wages would be the same in the year 2059.

GRETA: It's fascinating to see such a strong relationship. I would love to zoom out and look at the bigger picture! How has the increase of women in the workforce impacted the entire economy?

BARBIE: That's a brilliant question! Women aren't just showing up — we are making a real impact. Take wage growth, for example. From 1980 to 2010, as more women jumped into the workforce, wages in over 250 cities got a tremendous boost. For every 10% increase in female labor force participation, both men and women saw their median real wages climb up by 5% (Weinstein)!



GRETA: Wow, I never realized how impactful women are in the workforce!

BARBIE: That's not all. Between 1970 and 2009, we saw a massive surge in the number of women hitting the workforce — 38 million to be exact! That's like cramming the entire population of Canada into the job market! Without the participation of women, our economy would be a staggering 25% smaller today, equivalent to the combined GDP of California, New York, and Illinois ("Unlocking the full potential of women in the U.S. economy").

GRETA: It sounds like women are the real MVPs of the economy!

BARBIE: You got that right! And get this, if we can get our female labor participation rates up to Sweden's level — 87%, by the way — we're looking at a $1 trillion boost to our economy over the next decade ("Unlocking the full potential of women in the U.S. economy"). Talk about leveling up!

GRETA: That's crazy! Unlocking that untapped potential could revolutionize our economy!

BARBIE: Totally! It's also important to note that women don't just participate in the workforce, they run a lot of it too! In the U.S. alone, women are rocking the business world, owning over 14 million businesses. And, they're employing around 12.2 million people and raking in $2.7 trillion in sales ("New Report Finds Growth of Women Business Owners Outpaces the Market").

Without the participation of women, our economy would be a staggering 25% smaller today, equivalent to the combined GDP of California, New York, and Illinois.

For every 10% increase in female labor force participation, both men and women saw their median real wages climb up by 5%!

GRETA: You mentioned some compelling research — how exactly does having more women in control affect companies?

BARBIE: Research suggests that employing women on an equal basis creates significant progress in companies. For example, 60.2% of gender-diverse companies reported increased profits and productivity in 2022 (Dennison). And let's not forget about consumer markets—women know what women want, therefore companies with female managers are better at meeting those demands.

GRETA: Why is catering to markets composed of women so important?

BARBIE: Great question! As more women join the workforce, their household's demand for goods and services skyrockets. It's like a domino effect — more women working means more spending on household needs such as childcare and cleaning. This is known as "home production," and this boost in household demand benefits many industries ("Employment Growth and Rising Women's Labor Force Participation").

GRETA: Barbie, as a working mom, I am particularly interested in how childcare has been impacted by women joining the workforce. While directing the "Barbie" movie, my busy schedule made me reliant on childcare. Were there economic impacts on that particular industry?

BARBIE: Absolutely, Greta! It's a topic close to home for many. The rise of working moms has been a game-changer for the childcare industry. With more and more women juggling work and family, private daycare centers have seen a massive surge in demand. From 1975 to 1995, the industry boomed by over 250%, creating nearly 400,000 new jobs (Goodman) — 88.7% of which were filled by women ("Child Daycare Worker Demographics and Statistics in the US")!

GRETA: So, what I'm hearing is that women getting jobs is creating jobs for more women? Sounds like a positive cycle! With all these women joining the workforce, are we on track to see equal participation rates someday between men and women?

BARBIE: I wish I could say yes, but recent trends paint a different picture. While women's participation rates soared throughout the second half of the 20th century, we hit a bit of a roadblock in the

2000s. It's like we've plateaued at around 60%; and that stagnation is costing us big time — $650 billion in GDP every single year (Srikanth)! I've got some more data posted on my Instagram for a deep dive into the numbers.

GRETA: These numbers are eye-opening! It seems like the lines representing men and women in the workforce are getting closer over time.

BARBIE: That's right, Greta. The gap between men and women has narrowed over the years, but, as I said, we've hit a bit of a snag recently as you can see. It's like we've been stuck in the same place for nearly 30 years.

GRETA: What's been holding us back from closing that gap?

BARBIE: Where do I start? Traditional gender roles are still a problem, with outdated expectations putting pressure on 40% of women who still prioritize their partner's career over their own (Morgan).

GRETA: It's upsetting to hear that women are still made to feel as though their ambitions are inferior.

BARBIE: Though that mindset is totally outdated, it's still pervasive. Unless men step up to the plate and take on more domestic responsibilities, we've got a long way to go before we match their participation rate. It also doesn't help that working moms have hardly any support as benefits such as childcare and re-entry programs are severely lacking (Sahay and Rawlings).

GRETA: Got it. So, if we tackle these issues, can women's labor force participation rate begin to rise again?

BARBIE: Yes, that would help, but it's not entirely that simple. To get women back into the workforce, we need to be more active within our own communities. We need to educate women on what jobs are in demand and provide them with the resources they need to become qualified applicants. Specialized training in high-demand fields like STEM can help break down occupational barriers ("The STEM Gap: Women and Girls in Science, Technology, Engineering and Mathematics").

As we continue to evolve to meet the demands of the job market, pushing for pay transparency to squash gender pay gaps, and ensuring accessible, high-quality childcare are more critical steps to achieving equality in the workforce!

GRETA: Barbie, thank you for giving your insights on the complexities of women's effect on the workforce. It's clear that there's still work to be done. As we discussed, as more women continue to enter the workforce, the economy will undoubtedly continue to benefit.

BARBIE: I couldn't agree more, Greta! I have to run! Ken is taking me to Nobu where we are doing the $1,000 tasting menu! Of course, Ken will pay for it all because he recently made $1.00 for every 82 cents I make (Aragão).

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Left to right: Zara Haque, Cindy Li (on computer), Sophie Trudeau, Katie Duff, Helena Kennedy, Ryan Kaufman, Amrutha Nandakumar, Max Lu (on computer)

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Gig-a-Bite: Food Delivery and the Rise of the Gig Economy

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CITATION STYLE
Chicago Manual of Style, 17th ed.

CINDY: Hello, listeners! On today's episode, "Gig-a-Bite," we'll explore why "stranger danger" doesn't apply when the stranger is carrying your food. I'm Cindy Li.

RYAN: And I'm Ryan Kaufman. Welcome back to *Marginally Productive*.

CINDY: Ryan, picture this: a car pulls up, and a person you've never met hands you a meal through the window. It sounds like a scene from the cautionary tales our parents told us as kids, yet this situation has become a staple of modern life, thanks to services like DoorDash.

RYAN: This constant availability of gig labor is a demonstration of how the gig economy has improved workforce participation and increased the adaptability of the economy.

CINDY: Let's step back for a moment for our listeners who may not be so familiar with the term 'gig economy.' Could you define it?

RYAN: Well, here's the thing — gig work spans various sectors and takes on many forms, so the Bureau of Labor Statistics doesn't have a standardized definition for it. As such, different researchers have been left to come up with their own working definitions. For instance, Gallup, an analytics and advisory company, defines gig work as "alternative work arrangements" including "independent contractors, online platform workers, contract firm workers, on-call workers and temporary workers."[1]

[1] Gallup. "Gallup's Perspective on the Gig Economy and Alternative Work Arrangements." Acrip. Accessed March 14, 2024. https://acrip.co/contenidos-acrip/gallup/2020/mayo/gallup-perspective-gig-economy-perspective-paper.pdf

CINDY: Moreover, it is very difficult to gather comprehensive and accurate data on the gig economy due to its amorphous nature. Data collection attempts by government agencies like the BLS have been few and far between; the last major survey about "electronically mediated employment" occurred in 2017.[2] What's more, the W.E. Upjohn Institute for Employment Research exposed major flaws in the BLS' methodology, finding that they significantly undercounted independent contract workers in their survey.[3]

RYAN: No matter how it's defined, there's no arguing that the industry has exploded in the past few years. Consumer preference for convenience and efficiency skyrocketed during COVID and has continued to accelerate in the post-COVID era. Many establishments are reshaping their business models to permanently incorporate gig work.

CINDY: Today, we'll hear insights from local business owners about their experiences with one small corner of the gig economy: delivery. Delivery services are a great case study for the rest of the gig economy as they demonstrate the tangible effects of digitization. While delivery used to only be accessible by a landline, we now live in a world where the tap of a screen can bring food to your door.

RYAN: Before we investigate a local angle, it's important to understand the bigger picture. In 2016, McKinsey estimated that gig workers constituted about 27% of the American workforce. In 2022,

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2 "Labor Force Statistics from the Current Population Survey." Bureau of Labor Statistics. Last modified September 28, 2018. Accessed March 14, 2024. https://www.bls.gov/cps/electronically-mediated-employment.htm.

3 Abraham, Katharine G., Brad Hershbein, Susan N. Houseman, and Beth Truesdale. "The Independent Contractor Workforce: New Evidence on Its Size and Composition and Ways to Improve Its Measurement in Household Surveys." W.E. Upjohn Institute for Employment Research. Last modified November 2022. Accessed March 14, 2024. https://www.upjohn.org/sites/default/files/inline-files/Independent%20contractor%20workforce_11-14-2022_0.pdf.

they increased their share to an estimated 36%.[4] So what motivates people to take on gig employment?

CINDY: Well, to answer this question, let's bring in Max Lu, a labor economist.

MAX: Thanks for having me. To start, let's put ourselves in the shoes of an average 25-year-old unemployed American who is looking for a full-time job. To find one, they have to undergo a lengthy process of searching for openings in a sector they're qualified in, applying and interviewing for various positions, and hoping that at least one offers them a job. But digitization has promoted easier access to another option.

RYAN: Gig work.

MAX: Exactly. Unlike many other sectors, gig work offers relatively low barriers to entry, helping individuals bypass the arduous job-search process associated with traditional employment. They can simply open their phone, download an app like DoorDash or UberEats, and start earning money right away.

CINDY: That sounds like a much faster and less stressful process! Could its accessibility also attract people who aren't looking for a full-time job?

MAX: Certainly. Take DoorDash, for instance, where 72% of drivers work less than four hours per week.[5] In times of economic uncertainty, a part-time gig can provide additional income. In 2023, 40% of American adults reported that they struggled to cover basic expenses each month, up from 26.7% in 2021.[6] This ability to tailor hours to fit other jobs and commitments makes gig work appealing to many.

In 2016, McKinsey estimated that gig workers constituted about 27% of the American workforce. In 2022, they increased their share to an estimated 36%.

4 Dua, André, Kweilin Ellingrud, Bryan Hancock, Ryan Luby, Anu Madgavkar, and Sarah Pemberton. "Freelance, Side Hustles, and Gigs: Many More Americans Have Become Independent Workers." McKinsey and Company. Last modified August 23, 2022. Accessed March 15, 2024. https://www.mckinsey.com/featured-insights/sustainable-inclusive-growth/future-of-america/freelance-side-hustles-and-gigs-many-more-americans-have-become-independent-workers.

5 Policy Research. "Behind the Dash: Insights into the Flexibility and Freedom of Dashing." Doordash. Last modified July 27, 2023. Accessed March 14, 2024. https://about.doordash.com/en-us/news/insights-into-the-flexibility-and-freedom-of-dashing.

6 "Large Percentage of Americans Report They're Struggling to Make Ends Meet." State Science and Technology Institute. Last modified May 25, 2023. Accessed March 14, 2024. https://ssti.org/blog/large-percentage-americans-report-they%E2%80%99re-struggling-make-ends-meet.

RYAN: Alright, so far we've explored gig workers committed to full-time or part-time roles. Who else might find value in this work?

MAX: In any economy, there is frictional unemployment—a period of transition when workers leave their old jobs and search for new ones. For these workers, known as 'temporary holdovers,' gig work can become a vital source of income. For example, 15% of DoorDashers don't have another primary job, but over half of that group is employed through the platform while searching for one.[7] That said, even those who are not temporary holdovers can reap the benefits of gig work. During the 2018 government shutdown, for instance, many federal employees turned to the gig economy[8] to make ends meet, even though they weren't seeking a career change.

CINDY: So if gig work is so easy and convenient, why isn't everyone doing it?

MAX: There are some drawbacks. For full-time gig workers, there's a catch: they're not "employees" in the traditional sense—they aren't covered by their employer's insurance or health benefit programs. There's also very little job security. Food delivery drivers, for example, only get paid for the time they're actually delivering—during off-peak hours, there's no guarantee that they'll have orders to fill. Moreover, maximum flexibility on DoorDash is only available to "Top Dashers," drivers who meet the company's highest activity standards—completing over 100 deliveries in the previous month and accepting over 70% of orders.[9] Though less active drivers can also choose their working hours, they are forced to schedule them in advance and are confined to working within a specific geographic region.

RYAN: Why does DoorDash do this?

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7 "Understanding Dashers: The Results of Our National Dasher Survey." Doordash. Last modified August 11, 2021. Accessed March 14, 2024. https://about.doordash.com/en-us/news/understanding-dashers-the-results-of-our-national-dasher-survey.

8 Shrikant, Aditi. "'I Want to Make Myself Shutdown-Proof': Federal Workers Turn to the Gig Economy." Vox. Last modified January 23, 2019. Accessed March 14, 2024. https://www.vox.com/the-goods/2019/1/23/18194924/federal-workers-uber-government-shutdown-airbnb.

9 "DoorDash Dasher Support." Doordash. Accessed March 14, 2024. https://help.doordash.com/dashers/s/article/Top-Dasher?language=en_US.

MAX: Well, they want to make sure that their driver supply meets their consumer demand, especially during the most active periods. By adding these requirements, they reward productive and hard-working employees with more flexibility.

CINDY: This leads us to our next question: as gig workers flock to these delivery platforms, how are restaurants grappling with the rapidly expanding industry?

RYAN: To gain a local perspective on the cost-benefit analysis of delivery, we turned to Raphael's Bakery, a local establishment that has successfully integrated online delivery into their service.
Joining us is Kelian Dequeker, the bakery's manager.

KELIAN: Pleasure to be here.

CINDY: Could you start by describing why you offer delivery?

KELIAN: We actually didn't offer delivery until our customers specifically requested it, and UberEats was the easiest way to start. They take a 30% cut on profits, so we've addressed this by increasing costs for customers. If an item costs $10 in-store, it costs $14.30 on UberEats.[10]

RYAN: So this pricing model doesn't cut into your profit margin.

KELIAN: Exactly. But for customers willing to pay extra, UberEats is a convenient way to expand access to our business.

CINDY: Why have you implemented delivery through these online services rather than hiring your own driver?

KELIAN: To be frank, we don't have enough demand for delivery to justify the cost of hiring our own driver. Just today, we've had 304 purchases in-store, but only 14 on UberEats.

RYAN: From the perspective of a delivery driver, we know that app-based platforms are attractive because they offer high flexibility. Are they similarly attractive in this regard for restaurants?

[10] Kelian Dequeker, personal interview, March 6th, 2024.

KELIAN: Yes. UberEats is very flexible—we can turn it off for a day, an hour, or indefinitely with a few buttons—makes it easy for us to focus on in-person orders during busy times.

CINDY: Thanks Kelian! But not all restaurants operate the same. To get another perspective, we're here with Matt Criscuolo, the owner of Pizza Post, a popular local pizzeria with an unconventional approach to delivery: they just don't do it.

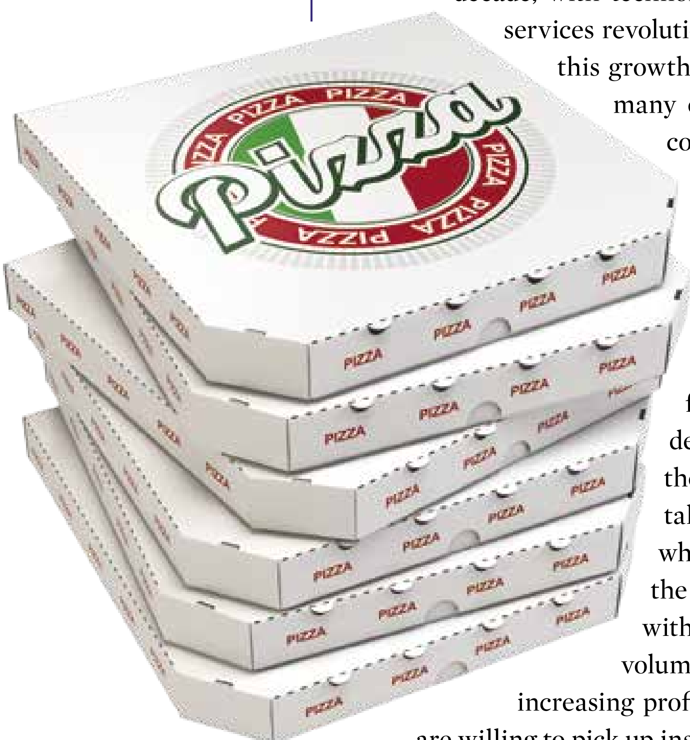
RYAN: More on that, after this break.

AD BREAK

RYAN: Welcome to *Marginally Productive*, Matt.

MATT: Thank you very much!

CINDY: The delivery scene has drastically changed over the past decade, with technology and the growth of food delivery services revolutionizing the industry. However, despite this growth and the adoption of these services by many of your competitors, you've remained consistent in not offering delivery of any kind. Why is that?



MATT: Well, for one, we're a local staple—we opened here in 1972 and have cultivated a loyal customer base with consistently high demand for pickup. I've gotten calls from delivery companies asking me to join their platforms, but the problem is they take almost your entire profit margin; whatever you charge, they get 25-30% of the check. I could haggle and negotiate with them, but then I've doubled the volume of pizza I need to produce without increasing profits. Why would I do that when people are willing to pick up instead?[11]

[11] Matt Criscuolo, personal interview, February 29th, 2024. This interview was edited for clarity.

RYAN: It sounds like these food delivery services operate in a relatively oligopolistic market, where a few big players dominate. If they all charge a similar commission, there simply aren't that many other options that restaurants can turn to.

MATT: Exactly. We do have the option to push the cost of the delivery onto the customer, but we're such a part of the community—do I really want to start charging people $30 for a pizza?

CINDY: That totally makes sense. And this is likely exacerbated by the fact that pizza, as a product, is relatively elastic — customers are sensitive to price increases. Since there are a handful of other pizzerias in town, the local pizza scene is what economists call 'monopolistically competitive.' It's a real challenge for these restaurants to add on delivery charges without turning customers away.

RYAN: So Matt, hypothetically, if you were to expand your business to include delivery, how would you do so?

MATT: I'd prefer to let the online delivery platforms handle the drivers. Hiring our own would lead to several challenges, like not being able to adjust driver supply to meet changes in consumer demand and the lack of efficiency in optimizing delivery routes. This could result in some customers receiving a cold and soggy pizza, which would reflect poorly on our business.

CINDY: Matt, thanks for your insights. The gig economy has been thriving in America, but has also been on the rise globally. To find out how other countries have been dealing with the nuances of gig work, we welcome Helena Kennedy, an economist specializing in comparative policy.

HELENA: Glad to be here.

RYAN: Legislating the gig economy presents a uniquely complex challenge due to how it varies across different nations. So far, what has been done?

HELENA: Around the world we see many approaches to addressing the drawbacks of gig work. The European Union, for instance, has

Legislating the gig economy presents a uniquely complex challenge due to how it varies across different nations.

taken a strong stance in favor of gig workers' rights.[12] The Platform Work Directive, an act implemented this March, classifies gig workers as employees rather than independent contractors, pressing those companies to improve pay and provide other benefits.[13] Online gig platforms are criticizing this change, claiming that it will force them to reduce flexibility — currently one of workers' biggest incentives to join the gig economy.[14]

CINDY: Understandably, companies in the EU are reluctant to shoulder the costs of improving workers' benefits. How have other governments arranged for the funding of their gig economy policies?

HELENA: One example comes from India's largest state, Rajasthan, which recently passed a law that would impose a 2% tax on digital platforms like Amazon. This revenue will be funneled into a fund that would provide welfare and social security to the state's roughly two million gig workers.[15]

RYAN: It seems like governments must weigh the benefits of improving gig workers' rights against these policies' cost to companies. Thank you for joining us, Helena. Considering all these international policies makes me wonder: how is the gig economy legislated here in America?

CINDY: Recently, California enacted the AB5 Gig-Worker Law, which, similar to the EU's new legislation, makes it easier for workers to be classified as employees rather than independent contractors.[16]

It seems like governments must weigh the benefits of improving gig workers' rights against these policies' cost to companies.

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[12] Smith, Allen. "EU Strengthens Gig Workers' Rights, Limits Use of Algorithm Systems." Society for Human Resource Management. Last modified January 3, 2024. Accessed March 14, 2024. https://www.shrm.org/topics-tools/news/technology/eu-gig-worker-rights-algorithm-systems.

[13] "Platform Workers: Council Confirms Agreement on New Rules to Improve Their Working Conditions." Council of the European Union. Last modified March 11, 2024. Accessed March 14, 2024. https://www.consilium.europa.eu/en/press/press-releases/2024/03/11/platform-workers-council-confirms-agreement-on-new-rules-to-improve-their-working-conditions/.

[14] Ramsay, Max, and Agatha Cantrill. "EU Gig Workers Rule Opposed by Industry Faces Key Vote." Yahoo Finance. Last modified February 16, 2024. Accessed March 14, 2024. https://finance.yahoo.com/news/eu-gig-workers-rule-opposed-050000036.html.

[15] Kaur, Pawanjot. "Indian State's New Tax on Digital Platforms Sets Gig Workers against Firms." Aljazeera. Last modified July 27, 2023. Accessed March 15, 2024. https://www.aljazeera.com/economy/2023/7/27/indian-states-new-tax-on-digital-platforms-sets-gig-workers-against-firms.

[16] "Worker Classification and AB 5." State of California Franchise Tax Board. Accessed March 14, 2024. https://www.ftb.ca.gov/file/business/industries/worker-classification-and-ab-5-faq.html

RYAN: The NYC Department of Consumer and Worker Protection also announced new regulations raising the minimum wage for gig workers. Under these regulations, companies will be required to uphold a minimum wage — currently $17.96 per hour — adjusted for inflation every year.[17] Shortly after, Seattle implemented a similar mandate,[18] and more states and cities are likely to do the same.

CINDY: That said, these regulations have the potential to make gig work significantly more expensive, which could be a large blow to an industry whose essence lies in providing flexible, affordable labor.

RYAN: It's a delicate balance indeed. In theory, the gig economy allows employees to leave jobs that aren't as desirable to them. This creates faster turnaround, increasing employee productivity and satisfaction while providing flexible work hours. Employers also have the flexibility to scale up and down with greater efficiency and fewer sunk costs.

CINDY: Also, in specific situations like in an economic downturn where mass layoffs are occurring, gig work can prevent a complete nosedive by providing a fallback for those who are laid off. In 2020, at the height of the COVID pandemic, 2.1 million new workers joined the gig economy, twice as many as the previous year.[19]

RYAN: However, the current state of the gig economy is not necessarily sustainable for workers. In 2020, the Economic Policy Institute found that over 29% of surveyed gig workers earned less than the state minimum wage that would be applicable if they worked a

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[17] "Delivery Workers." NYC Consumer and Worker Protection. Accessed March 14, 2024. https://www.nyc.gov/site/dca/workers/workersrights/Delivery-Workers.page

[18] "App-Based Worker Minimum Payment Ordinance." City of Seattle. Accessed March 15, 2024. https://www.seattle.gov/laborstandards/ordinances/app-based-worker-ordinances/app-based-worker-minimum-payment-ordinance.

[19] Belsie, Laurent. "The Evolving Role of Gig Work During the COVID-19 Pandemic." National Bureau of Economic Research. Last modified August 1, 2023. Accessed March 14, 2024. https://www.nber.org/digest/20238/evolving-role-gig-work-during-covid-19-pandemic

traditional job.[20] On top of that, they may not always be able to find jobs at times when they want to be working.

CINDY: But regulating this industry is a struggle. If governments require gig companies to improve pay and benefits for their workers, it will increase their operating costs. These companies are then likely to pass costs onto restaurants and other businesses, some of whom, like Pizza Post, are already avoiding gig services due to high revenue cuts.

RYAN: Well said. The issues inherent to gig work are prompting varied legislation, the extent of which will significantly impact the future of gig work.

CINDY: And that's all the time we have for today. I'm Cindy.

RYAN: I'm Ryan.

CINDY: Thanks for tuning into this week's episode of *Marginally Productive*. See you all next week for another enthralling dive into the world of work!

The issues inherent to gig work are prompting varied legislation, the extent of which will significantly impact the future of gig work.

[20] Zipperer, Ben, Celine McNicholas, Margaret Poydock, Daniel Schneider, and Kristen Harknett. "National Survey of Gig Workers Paints a Picture of Poor Working Conditions, Low Pay." Economic Policy Institute. Last modified June 1, 2022. Accessed March 14, 2024. https://www.epi.org/publication/gig-worker-survey/.

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Left to right: Atula Ravi, Naomi George, and Riddhi Wadhwa

John P. Stevens High School

Edison, NJ

Ear to the Ground: Unearthing the Decline of Labor in Corn Farming

STUDENT AUTHORS
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Atula Ravi
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Rebecca Casey

CITATION STYLE
MLA 9th Edition

KERNEL SANDERS: [Opening Theme Song] Corn. It's everywhere! From the food we eat and the fuel we put in our cars, to the grains we feed our livestock, it's safe to say that the corn industry really does make the world POP. Welcome back to another episode of *The Maize Craze*, where we investigate all there is to know about farming, especially corn, our favorite crop. I'm your host, Kernel Sanders, and today, we're going to be taking a deeper look at one of the major factors involved in corn farming: labor. We have two special guests joining us on this episode: economist Dr. Cornelius and Farmer Cob.

DR. CORNELIUS: Thank you, Kernel Sanders, it's great to be here. I'm really passionate about labor economics in the corn industry, having over seven years of experience researching and working in the field.

FARMER COB: Hello, everyone! I'm a local corn farmer from Iowa, the corn capital of the U.S. April is just around the corner, which means it's almost time for me to start planting (Iowa State University). Better yet, sweet corn is in season during the summer months, so get ready to start eating!

KERNEL SANDERS: Ooh, I can't wait to get my hands on some delicious corn on the cob. It's my favorite barbecue food! But it's funny; corn used to be such a small crop, limited to the Americas and unknown to most of the world. How has it managed to grow from being the simple crop it once was to a backyard barbecue staple and one of the most popular commodities in the world today?

DR. CORNELIUS: Well, ever since Christopher Columbus first brought back corn to Europe in 1493, it has become a dietary staple for millions of people around the world. Corn saw huge growth in America because of the Industrial Revolution, which brought with it advancements like the iron plow and canning technologies to streamline production. This enabled the rise of commercial farms. Especially prevalent in the Midwest, these farms were often situated near railroads which allowed for faster distribution, further popularizing the crop. The end of the 19th century saw the creation of innovations like the tractor and commercial fertilizers, both of which made farming more efficient. But the real boom came in the 1930s when farmers started using hybrid corn strains which could be grown closer together. Farmers are now able to produce over five times as much corn per acre of land as they could prior to the 1930s (National Bureau of Economic Research). Additionally, corn is a very versatile product, with a wide variety of uses ranging from food products like high fructose corn syrup to animal feed to even ethanol; in fact, ethanol production accounts for around 45% of all corn usage (USDA). The U.S. also enjoys a sizable portion of arable land, especially in the Midwest, with which it can produce large amounts of corn. And corn production is on the rise, with 15.3 billion bushels of the commodity produced in 2023 (USDA).

KERNEL SANDERS: That's amazing. With such a large corn market, there must be a huge amount of jobs in the industry as well, right?

FARMER COB: Actually, no. In the mid to late 20th century, farms began using newer pieces of technology, such as tractors, house phones, and fertilizers, as well as adopting the widespread use of electricity (Census Bureau), all of which allowed farmers to grow more productive when planting and harvesting crops. But because farmers must comply with the market forces of supply and demand, we can't just grow as much corn as we want; this means that increased productivity leads to less employment overall. As time goes on, corn becomes an increasingly less labor-intensive crop, creating severe implications for the labor force. Employment has actually been falling in recent years; from 1950 to 2000, farm employment decreased from 9.93 million to just 3.19 million (USDA), an over 50% drop! It's interesting to note that when it comes to corn farming, or even farming in general, increased productivity can actually end up hurting the labor force.

DR. CORNELIUS: That's very true. In fact, in most countries where more resources and technology are available, a smaller percentage of the population works in agriculture. In low-income countries, the average employment in agriculture is 59%, but for lower-middle-income countries, the number of workers drops down to 38% of the labor force (UC Davis). And as you move further up the scale, that percentage plummets even more. In America, only about 1.3% of the labor force works in the farming or ranching industries (USDA).

KERNEL SANDERS: Wow, I had no idea. So, what exactly makes up this labor force of farmers? Are you all hired workers employed under large companies, or do you own your own farms? And what are the demographics of these farm workers like?

FARMER COB: Well, this industry truly is different from every other when it comes to working. When you think of entrepreneurship, you typically picture tech companies or media giants, but we farmers are entrepreneurs too. I run my farm with the help of my family and like many other corn farmers, I'm self-employed, meaning that my family and I produce and manage our corn crops ourselves. Now, labor in corn farming is largely divided into two groups: hired laborers and self-employed or family farm workers. Obviously, my family and I fall into the second category. However, what's strange is that although about 60% of folks in the farming business tend to own and work on their own land (USDA), the case is completely different for most of us here in Iowa. You see, increasing efficiency due to the mechanization of corn farming has left the majority of us Iowa corn farmers in a position where we must produce twice as much corn to make enough money for corn farming to be our full-time job. As such, we need a lot more land, but it comes at a steep price, forcing us to rent instead. In the Hawkeye state, only about 40% of farmers actually own the land that they farm (U.S. News and World Report).

In America, only about 1.3% of the labor force works in the farming or ranching industries.

DR. CORNELIUS: Sadly, you're completely correct. Many of my farmer friends often complain about having to rent their land from owners who often don't even farm themselves, and are just looking to make easy money. Now, some other really interesting things are the racial demographics of these laborers. Although agriculture used to be dominated by white landowners, most modern farmworkers are actually immigrants rather than native-born citizens. More specifically, about 70% of all farm workers were born outside of the U.S., with 63% being born in Mexico (National Center for Farmworkers Health). Thus, by providing a steady source of farm labor, immigration plays a fundamental role in supporting our economy. In fact, many U.S. states that pass anti-immigration laws actually end up hurting their economies by causing shortages of agricultural labor. For example, after Georgia passed House Bill 87 in 2011, which limited immigration and thus contributed to labor shortages, they experienced a loss of about $140 million in a single year (Forbes).

FARMER COB: You're right; a huge proportion of U.S. farmers share a common ethnic background. In America, we rely heavily on migrant workers for planting, tending to, and harvesting our crops. Without a ready supply of migrant work, we corn farmers would not be able to produce the volume of corn that we currently do. And as you mentioned before, Dr. Cornelius, these workers contribute towards a farm labor force that is vital for our economy. What's sad, however, is the fact that despite all of our economic contributions, we farmers often suffer financially, especially when compared to our peers working outside the agricultural industry.

KERNEL SANDERS: Can you elaborate? I thought that because corn farming was one of America's largest industries, all farm workers would be paid well.

FARMER COB: Well, including corn farm workers, hired farm laborers generally receive a real wage significantly less than the average real wage for those not working in the farming industry. Now, this gap is decreasing, but very slowly. In 1990, the average farm wage was $11.25 as compared to a nonfarm wage of $22.27, equivalent to just over 50% of the mean nonfarm wage. However, in 2022, the average farm wage was $16.62 as compared to a non-farm wage of $27.56, having taken 32 years to increase by a mere 10% more than the real nonfarm wage (USDA). And although I'm not a hired hand, my financial situation is also upsetting. A farmer's pay is based on many variables, some of which are completely outside our control. For example, being a commodity, the price of corn is based on supply and demand, which we can't always accurately predict. This sometimes leads to severe economic crises like the Agricultural Depression of the 1920s and 30s (State Historical Society of Iowa). If we supply too much, prices plummet and we lose money, but if we supply too little, prices shoot up, creating shortages and turning people away from buying our crops. Additionally, if our corn gets ruined due to disease or insects, we won't be able to make any money, though this can be somewhat avoided through genetic modification of crops, which has become increasingly important in the corn industry (FDA). Corn has a specific planting and harvesting season, which means that in such situations, we can't just plant more to make up the loss; we have to wait a whole year to begin again and will lose out on a year's worth of income. Other factors that affect price and income include weather, natural disasters, and input costs like fertilizers and machinery. I think it's pretty clear that corn farming and farming in general is a very risky and often unsuccessful endeavor.

In 2022, the average farm wage was $16.62 as compared to a nonfarm wage of $27.56, having taken 32 years to increase by a mere 10% more than the real nonfarm wage.

KERNEL SANDERS: Oh my goodness, I had no idea! I guess due to all the uncertain variables, it makes sense that farming is a very risky business. But I'm sure although you're suffering now, in the future you'll be rewarded. I mean, we'll always need farmers because we always need food, and as you mentioned, corn makes up a huge part of the American diet. So tell me, what does the future of this industry look like? I personally would expect to see some job growth because of the necessity of corn in our food and gas industry.

FARMER COB: You're right, we do consume a lot of corn. In 2021, about 35.5 pounds of corn products were available to the average American (USDA), which goes to show how valuable the role of corn in the American diet is. Yet sadly, the corn industry looks like it's going to keep declining. Higher efficiency due to new technologies and extensive mechanization within the corn market lessens the demand for labor, and thus many farmworkers will be laid off or paid less in the future.

DR. CORNELIUS: Yes; although corn output is currently increasing due to increased productivity, farmers as a whole are using less labor. From 2023 to 2032 the employment rate for farmers, ranchers, and other agricultural managers is forecasted to decline by 5% (U.S. Bureau of Labor Statistics). And that's not all; ever since 1935, the number of farms in the U.S. has been decreasing, down by 7% from 2017 to 2023

(USDA). Furthermore, farm income was also predicted to decrease by 19% for corn farms from 2022-2023 (U.S. Senate Committee on Agriculture, Nutrition, and Forestry), a trend that is likely to continue into this year and beyond.

FARMER COB: Yes, it's unfortunate but that's the way of life; it's always full of ups and downs. When I joined the corn industry I was already aware of the challenges to be faced, especially as we continue to move deeper into the technological advancements of the 21st century. Although the corn industry may be on the decline, corn will always be a necessity as you mentioned previously due to its large and variegated role in our society. So because it is something that I am passionate about, I will continue to farm corn despite the hardships I might face along the way. After all, I got into this business for a reason: to help put food on the table, not just for my family, but for people around the country as well.

DR. CORNELIUS: Wow, well said. So to recap, corn farmers are largely immigrants making lower wages than nonfarm employees or, if they own their own farms, suffer from uncertainty in the market, mostly renting the land on which they farm. Corn output is rising due to increased efficiency from mechanization and new technologies and innovations, but such increased labor productivity means that less farm labor is needed, and thus employment, the number of farms in America, and farm income are all on the decline.

From 2023 to 2032 the employment rate for farmers, ranchers, and other agricultural managers is forecasted to decline by 5%.

KERNEL SANDERS: So there you have it folks. Now although this podcast may have scared you about the future of corn farming, never fear because popcorn will always be here! So grab a bowl while you tune in to our next episode, releasing the same time next week. Thank you all for joining us, and we hope you pop in next time!

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Left to right: Aidan Frisch, Spencer Paine, Rohan Shenoy, Mr. Staffaroni (advisor), Zachary Santiago, Lucas Williams, Ronan Hillman, Vihaan Choksi

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Why Money Matters: Immigration and the American Workforce

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CITATION STYLE
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VIHAAN: Hello everybody and welcome to the Why Money Matters podcast, episode 3, Immigration and Work. Today we will explore the implications of immigration on the job market in the USA. My name is Vihaan Choksi and I am joined by my co-host, Ronan Hillmann, renowned professors Spencer Paine and Lucas Williams, economist Aidan Frisch, and the owner of Tiny Town Toys & Trinkets, Rohan Shenoy.

RONAN: I hope everyone's doing well, this is a topic I'm really excited to talk about and I cannot wait to see what everyone has to say about it! The topic of immigration has been incredibly contentious throughout American history, and especially nowadays with the discussions surrounding the economics of it.

VIHAAN: Absolutely. For the sake of analyzing the modern effects, we will be looking at immigration following the Hart-Celler Act of 1965, which resulted in a massive influx of immigration from across the globe, with effects which we can even observe nowadays.

RONAN: Yes, the Hart-Celler Act largely wiped away the anti-immigration laws of the 1920s (Chishti et al., 2015), but I think we should give a brief history on immigration in the U.S. The U.S. has always been a destination for various immigrant groups. While some of the first immigrant groups came from Western European countries, after the Civil War immigrant groups from Southern and Eastern Europe were entering the United States even before Ellis Island was opened.

VIHAAN: And don't forget that many of these groups were not welcomed at first. For example, the Irish and Chinese were specifically targeted by anti-immigration laws and nativist sentiment (Borzich, 2016).

RONAN: Yes, very true. But since the Hart-Celler Act of 1965 numbers of immigrants have increased and the U.S. is now home to more immigrants than ever before, earning us a reputation of multiculturalism (Chishti et al., 2015).

VIHAAN: But controversy about immigration policy remains a significant political and economic issue. Thus the question still remains, how does immigration play a role in our workforce today?

RONAN: I think the most important things we ought to discuss are the impacts on wages, workplace demographics, and entrepreneurship. On that note, let's start our discussion with a labor economist who will discuss the immigration demographics in our workforce. Before we dive into our discussion, Professor Paine, could you share a bit about your background?

SPENCER: Of course. Having worked in economics for more than 53 years, I have specialized in immigration and labor market dynamics. I worked for a long time at my alma mater, the esteemed University of Pennsylvania Wharton School of Business, where I taught classes, performed research, and gave politicians advice on immigration and its effects on the economy.

VIHAAN: Thank you, Professor. Now, turning to our discussion, as an economist specializing in labor market dynamics, could you shed some light on the labor force participation rates of immigrants in the U.S.?

SPENCER: Absolutely, Vihaan. In the United States, immigrants make up a significant portion of the labor force — 18.1%, as per the most recent data released by the U.S. Bureau of Labor Statistics (2023). Their contributions are noteworthy in a number of fields; according to data from Rice University's Baker Institute for Public Policy, they account for 16% of healthcare workers and 24% of workers in the construction industry (Shakya, 2024). Furthermore, 23% of workers in the hospitality sector are immigrants. According to the National Agricultural Workers Survey, 32% of workers handling animals and 73% of workers producing crops are also immigrants (Gold, et. al, 2022).

VIHAAN: It seems like immigrants are essential to maintaining a variety of economic sectors and the overall growth of the U.S. economy.

In the United States, immigrants make up a significant portion of the labor force — 18.1%, as per the most recent data released by the U.S. Bureau of Labor Statistics.

RONAN: I've heard a lot of people talking about the relationship between immigrants and the median age in the workforce, saying that we can see the benefits of a younger median working age like in the U.S. Hispanic community (U.S. Department of Labor, 2023). While I haven't had the chance to delve into the topic too extensively, I'd love to hear what you have to say. Professor Paine, could you elaborate on the implications of an aging workforce, drawing from examples like Japan and South Korea?

SPENCER: What a great question, Ronan. Japan and South Korea serve as cautionary examples of the challenges associated with aging populations. As stated by the International Monetary Fund, in Japan, for instance, the median age is 48.4 years, one of the highest globally, and the proportion of elderly citizens is increasing rapidly (Japan, 2020). This demographic shift has led to a shrinking labor force and increased pressure on social welfare systems. South Korea is facing similar challenges, with its aging population posing significant economic and social implications. These trends show the importance of proactive policies to address demographic shifts and ensure the sustainability of the workforce and social welfare systems.

VIHAAN: That's some insightful stuff right there, Professor! Turning to our next guest, Rohan Shenoy, as a store owner, how do you perceive the contributions of immigrant workers to your business?

ROHAN: Immigrant workers are the backbone of my store's operations, particularly in the toy market, which my store specializes in. They bring diverse skills, work ethic, and cultural perspectives that enrich our team and enhance the customer experiences. In fact, according to data from the U.S. Small Business Administration, immigrant entrepreneurs are more likely to start businesses than their native-born counterparts, contributing significantly to job creation and economic growth (Dizikes, 2022). Without their contributions, it would be challenging to meet the demands of our dynamic market. Their dedication and expertise are invaluable assets that drive the success of our business and ensure we continue to thrive in a competitive industry.

RONAN: Rohan, how do you navigate workforce challenges, such as labor shortages or skill gaps, within your industry?

ROHAN: Great question, Ronan. It's definitely a delicate balance. To draw and keep people, I make training program investments, pay competitively, and place a high value on workplace inclusion. In order to address more general industrial concerns, I also support measures that assist workforce development and immigration reform. For example, the H-1B visa program has been crucial in bridging skill shortages in the technology and other high-demand industries, giving companies like mine access to international specialized talent (Immigrant Workers in the United States, 2023).

VIHAAN: You two sure know a thing or two about the flow of money. I'm glad we called you in to talk about the demographic side of the economy!

RONAN: Now I would like to introduce our next expert to help ground reality, Professor Williams from the University of Chicago. He himself was an immigrant from England many years ago, and has in the past established various ventures of his own before turning to teaching to share his knowledge with the youth. Thank you for joining us Mr. Williams.

LUCAS: It's my pleasure. I'm glad to be able to speak and hopefully aid in removing the negative stigma regarding immigrants in America.

VIHAAN: Sure thing, first give us a little background — how was it you came here?

LUCAS: I was young when I moved, but my father immigrated here with our family through an O-1 Visa, which is for exceptionally talented individuals. However, this is not the majority of immigrants and I suppose we are somewhat a rare case: but perhaps less than you'd think. See, immigration to our country is very polarized. At the macro level, immigrants are more prevalent at the lower and higher ends of the education distribution than natives in America. Among those aged 18 and older, immigrants are 20% more likely than natives to have ended their education with a high school diploma or less, but they are also 40% more likely than natives to have earned a doctorate or equivalent degree. (New American Fortune, 2022). I like to distinguish these groups as 'misfits' and 'stars.'

VIHAAN: I'm sure most of our viewers at home love the sound of the stars. On the topic of misfits, could you explain more?

LUCAS: I'd implore people listening to remember that though educational success is a big sign of future success, it is not the only determining factor. While immigrants may only represent 13.6% of the U.S. population, it's generally estimated they make up a quarter of American entrepreneurs (Kerr & Kerr, 2019). Thus, many immigrants coming into the country are creating new businesses, increasing our country's productions, and offering new jobs for Americans already here.

RONAN: But that's not all of them, right? What about the rest? There seems to be this belief that many immigrants just come here and take the jobs of native-born Americans.

LUCAS: Well, in addition to what I just mentioned regarding the high percentage of entrepreneurship in immigrants adding jobs, goods and services to the economy, many of our sectors contain a large percentage of immigrant labor. An example of this can be seen in the agricultural sector: a lot of native-born Americans are unwilling to do the toiling labor in the heat, so instead immigrant workers take up the job. These agricultural jobs require long, laborious hours with meager pay — and it is near impossible for farmers to increase pay without raising the price of their products. (Sims, 2021). This trend is nothing new, it can be seen even as far back as the Bracero program in World War Two. In fact most Americans should be encouraging immigration otherwise the price of many foods across the country would likely surge.

VIHAAN: For those who don't know; the Bracero Project was a bilateral agreement between the United States and Mexico started in 1942 to mend issues of labor shortages in the American agricultural sector. The program did have problems, including the exploitation of the Mexican workers known as braceros. However, it is a prime example of the importance of foreign workers to the American economy. Thank you, Lucas for coming on the show and talking to us!

RONAN: I would now like to introduce our guest, Aidan Frisch, an economist who has been studying the economics of immigration since long before I met him twenty-five years ago. Professor, as I'm sure you know, in this day and age, we hear more and more about immigration through a sociopolitical lens. I wanted to bring you on the podcast to discuss the impact of immigration on the wealth and wages of our economy.

AIDAN: Well, first, I'm excited to be here. Now secondly, this certainly isn't a new issue. If we look back to the 1997 study of unemployment and immigration by Richard Vedder and Lowell Galloway of Ohio University, they found that higher rates of immigrants out of the population have seen a correspondence to lower unemployment rates (Vedder and Galloway, 1997). This is a result that challenges the notion that the unemployment situation would worsen with immigrants. I also cite this study because it found that immigrants expanded total output and the demand for labor due to their high productivity.

VIHAAN: That's rather interesting, since it seems that many of these sources challenge the conjecture surrounding the question of immigration. Because of how immigration expands the national productive capacity, it's clearly a positive benefactor that helps grow our economy.

AIDAN: Yeah, it's truly remarkable. When immigrants come to this country, it allows our domestic industry to stay competitive by filling many entry-level positions. I can say from personal discussions with business owners that they've been suffering from job shortages, and one of the only things that seems to be easing this challenge is immigration. But even something so simple as taking needed jobs has a widespread impact, as this allows our domestic industry to be competitive and develop.

VIHAAN: Definitely. On the subject of wages, we actually have some historical precedent which shows the impact of immigration on wages. The Mariel Boatlift, a mass immigration of Cubans from Mariel Harbor to Florida was studied to determine the impact this event had on labor markets. David Card, in his 1990 paper, *The Impact of Mariel Immigration on the Miami Labor Market*, stated that there was no provable effect which these immigrants had on wages. The Mariel Immigration event not only demonstrated that immigrants do not directly cause wage decreases but also underscored the significant advantages immigration can bring to national productivity. Card notes that Mariel Cubans boosted Miami's labor force by seven percent and made substantial contributions to less-skilled job sectors.

RONAN: Thanks for sharing that! Altogether, the Mariel Boatlift is a great example of how wages are not a zero-sum game in relation to immigration. While native-born American high school dropouts face wage challenges, the data continues to show the broad economic benefits immigration had for the American workforce and overall economy.

VIHAAN: With that being said, we have come to the end of our episode on immigration and labor. I'd like to thank all of our guest speakers, and our audience as well. We hope to see you next week, where we will delve into another exciting topic!

While native-born American high school dropouts face wage challenges, the data continues to show the broad economic benefits immigration had for the American workforce and overall economy.

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Nurses on Strike: Who Will Take Care of Them?

DANIEL: Hello, listeners, and welcome back to The Healing Podcast where we talk about all things finance! Here, we invite students to address economic issues in the workforce. I'm your host, Daniel, and here with me is my co-host, Alexa.

ALEXA: Today's topic concerns nurses on strike and the economic impact on its workforce. Since the Covid-19 outbreak, many jobs have been at stake. Covid-19 has changed the lives of many workers, especially in the medical field. One of these jobs includes nurses.

DANIEL: You're probably wondering, what's the point of this? Well, it's to inform people about the workforce, specifically with nurses having very few policies and regulations regarding the number of patients a nurse may help and the possible effects this can have on us. But you also might be asking yourself, what is causing these shortages in the first place?

JUDY: Well, nurses have been leaving their jobs for more sustainable professions, especially after working under unsafe conditions that put themselves and their patients at risk. A recent study conducted in 2020 estimated that almost a third of nurses have left their jobs in the last three years (New Jersey State Nurses Association).

ALEXA: That is a lot, considering how important nurses are in hospitals. There was a recent nurse strike at Robert Wood Johnson Hospital. Did that also contribute to it?

JUDY: Yes, definitely. Over 1,700 nurses at Robert Wood Johnson Hospital went on strike because their concerns about nurse-to-patient ratios and safe staffing issues were ignored. These nurses on

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strike wanted better and safer working conditions, fair pay, and other benefits (Jean).

ALEXA: Safer working conditions? Hospitals are usually viewed as safe, so how is it possible that we have patients and nurses being put at risk?

JUDY: Surprisingly, there aren't many laws or policies that require hospitals to implement any safe staffing standards. The staffing regulations in New Jersey for coverage in ICUs and critical care units have not been updated since 1987, which is very outdated (New Jersey State Nurses Association).

ALEXA: Since 1987? That is almost 40 years! How do they even work in these conditions?

JUDY: Not only that, but the minimum nurse-to-patient ratios may vary depending on a nurse's position, but they can still be considered relatively unsafe. The nurse-to-patient ratio is one nurse per five patients in the medical and surgical unit, one nurse per five patients in regular hospital units, and one nurse per four patients in the emergency departments (NJ State Legislature).

ALEXA: One nurse to five patients? That doesn't seem as high as I expected it to be.

JUDY: I understand where you are coming from; however, although these numbers may not seem too high, these practices can often become tiring for nurses. In addition, hospitals being understaffed also risks patient safety when these ratios increase due to nursing shortages.

DANIEL: I see your point, I could never imagine taking care of five patients at once. Let alone in the emergency department: that is very unsafe. Kudos to the staff that has been dealing with this for so long, I'd quit after one day! Do you have an estimate of how many nurses are short as of now?

HANNAH: Well, according to the National Center for Health Workforce, analyses from 2017 predicted that New Jersey would be short of 11,400 nurses by 2030. As of now, New Jersey is short of over 13,000 nurses – the third highest in the nation (DiFilippo). Our numbers are next to quite large states, including California and Texas (Burger).

DANIEL: Wow, I would've guessed 1,000! Surely, this would affect the economy, but how exactly does it?

MELANIE: Many hospitals have been forced to increase medical expenses for patients.

ISHA: Not only does the shortage affect the economy with its strain on healthcare budgets and by creating additional expenses that may increase healthcare costs for patients in the future, but it also affects the safety of patients in hospitals.

DANIEL: How so?

ISHA: Having a nurse understaffing can cause issues with the number of patients each nurse has and can, therefore, be detrimental to the safety and care each patient receives. The amount of healthcare workers has also made it difficult for people to receive basic health care. Since the healthcare industry makes up 17.3% of the GDP, the shortage affects both the nurses' wages and healthcare costs for consumers (National Health Expenditure Fact Sheet).

ALEXA: I see. That must put many patients and nurses at risk. Also, we have recently gone through a pandemic. So my next question is, how might the Covid-19 pandemic contribute to this nursing shortage?

ESLAINY: Well, the pandemic affected the ability to maintain staffing, the nurses were constantly being exposed to COVID-19, causing them to quarantine for up to two weeks, and their work environment to not be as safe (Pandemic Oversight).

According to the National Center for Health Workforce, analyses from 2017 predicted that New Jersey would be short of 11,400 nurses by 2030.

ALEXA: Oh, got it. So, basically, their work environment was not as safe as it used to be.

ESLAINY: Indeed, the unsafe conditions of the workplace not only increased the nurses' fear of contracting COVID-19, but also contributed to the stress and burnout that nurses were already experiencing. The fear of contracting the virus, together with other causes, was the major component as to why six out of 10 nurses decided to quit their jobs, and the staff turnover increased from 18% to 30% (American Hospital Association).

ALEXA: Those are some high numbers, from 18 to 30 percent of turnover for nurses.

ESLAINY: The implications and amount of stress that came with the pandemic also caused a 4% drop-off in the amount of RNs younger than 35 years old (NCBI).

DANIEL: Wow, that's unfortunate. What action, if any, are nurses taking in an attempt to resolve this issue?

TIFFANY: Matter of fact, a Safe Staffing Bill is being introduced in the New Jersey state legislature that's up for debate.

DANIEL: A bill? What does it do?

TIFFANY: Well, a bill in New Jersey has been introduced in the state Senate that would mandate nurse-to-patient ratios across all specialties.

DANIEL: So, how can we get this bill passed?

TIFFANY: It would require the implementation of a patient acuity system, and that system must be approved by at least half of the unit staff nurses prior to taking effect. It would also forbid hospitals from including nurses functioning in a supervisory role (such as a nurse manager) in the projected unit staffing numbers. The legislation is currently awaiting a state Senate vote.

ALEXA: Obviously, this is a problem affecting everyone, so what do you think would be the next step to bring this issue to light?

MELANIE: We've come up with a few possible solutions or steps that would attract attention to this problem, but to bring these issues to light, we plan on attending various public town council meetings. We will be bringing to the public eye how the nurse shortage is affecting the community and what some practical solutions to this shortage are.

ALEXA: Are there any towns nearby with town council meetings?

TIFFANY: I know the city of Summit and Asbury Park hold monthly town council meetings, but Jersey City has council meetings every second and fourth Wednesday of the month at 6:00 PM, so I think we have a better chance of catching the meetings in Jersey City.

MELANIE: I totally agree! I was planning on attending to discuss a resolution for the nurses' care, I just couldn't find a place to share my opinions with the public. It's not fair that these nurses don't at least get to communicate their issues with the state and allow their problems to be heard.

DANIEL: How do you plan on presenting your resolution?

MELANIE: Well, I was thinking about talking about Tiffany's previously mentioned Safe Staffing Bill and see if I could get support from the town of Jersey City.

ALEXA: Do you think that could work effectively?

ISHA: I think it should be effective because this Safe Staffing Bill would resolve all of the issues that the nurses are currently facing, and with the help of Jersey City, this bill will be more familiarized with the legislature, showing only positive signs for the nurses.

TIFFANY: Yeah, if Jersey City backs us up on our resolution, other towns will start to support us as well with the continuous popularity.

DANIEL: Even if we do get the support of other towns, how will that give us the chance to actually implement our resolution to the cause?

TIFFANY: That's a good question because I was wondering the same thing. I did my research and found that once elected officials in the legislature see the numbers of towns backing the issue, providing reasons as to why it would be worth the fight, the legislature will take notice and take some sort of action.

DANIEL: How can you be sure that you can gain the support of other towns? What if they decide to go against the town's siding of the cause?

ESLAINY: Well, that is why we should propose our idea and explain why they should support us before we bring it to the legislature. We need to make sure that everyone is on the same page and will side with our cause before bringing it to the officials.

DANIEL: If I had the power to create my own town, I'd do it just to be able to support you guys!

ALEXA: Yeah, so would I!

DANIEL: Say the towns don't go along with the idea, how would this strike affect New Jersey as a whole?

TIFFANY: Well with the nurse strike and the original shortage of nurses, this can strain the healthcare system. For example, non-emergency treatments at hospitals may be postponed, allowing for longer waiting times for patients.

ALEXA: Is there a temporary solution for this?

TIFFANY: Hospitals can take charge by hiring temporary staff in replace of the original nurses and/or shutting down certain hospital services for the time being before they address the issue and find a resolution.

DANIEL: Wow, those can be harmful consequences that would impact many communities, not just hospitals, if the bill isn't supported. This is why we need to spread awareness and find a resolution. Fortunately, this episode has shed light on this topic regarding nurse strikes and how jobs in our communities affect the economy and New Jersey as a whole.

ALEXA: Surely, that brings us to the end of this episode of the healing podcast. Thank you for listening in on our economic dilemma of nursing shortage. Thank you to Tiffany, Melanie, Hannah, Eslainy, Isha, and Judy for coming in today and elaborating on this cause.

Hospitals can take charge by hiring temporary staff in replace of the original nurses and/or shutting down certain hospital services for the time being before they address the issue and find a resolution.

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Left to right: Hanna Chee, Amy Cao, Angie Yang, Aditya Rai

Ridge High School

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Four-Day Forecast

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CITATION STYLE
MLA 9th Edition

HOST 1: It is 1927, and Henry Ford reduces his company's 6-day work week into a 5-day work week. As one of the first companies to make the shift, Ford Motor Company's landmark decision led to a nationwide adoption of the Monday to Friday work week, establishing the model that is so familiar to us today.

HOST 2: Fast forward to nearly a century later, and now, talks of instituting a 4-day work week have emerged. Following the COVID-19 pandemic, workplace flexibility and prioritizing workers' well-being came to the forefront of discussion. Has our advanced economy reached a level of productivity to allow a reduction of labor hours, without sacrificing prosperity?

HOST 1: This week on "Shift Happens," we'll be diving into the possibilities of the 4-day work week and what it means for our economy.

HOST 2: Although the 4-day work week has been around since as early as 1965, it wasn't actually put into practice by an advanced economy until Iceland ran trials from 2015 to 2019. Throughout the four years of the trial, workers reported feeling less stress and burnout, stating their health and work-life balance had improved (BBC). And this makes sense because workers having more time for family, hobbies, and chores gives them an increased sense of purpose outside work, and thus less resentment toward their obligations at work.

HOST 1: Good thing Iceland took the risk, though, because it increased productivity across the country.

HOST 2: Yeah, it did. And a majority of companies in Iceland took the idea and ran with it. As the overwhelming success of the trials made the next big thing clear to business owners, unions across the country renegotiated working patterns. Eighty-six percent of all workers in the

The interview portrayed in this submission is a product of the authors' imagination. While the interview may reference actual people, the subject matter and language attributed to those people is entirely fictitious.

It has reached the point where a vast majority of workers — 87%, to be exact — would rather have a 4-day work week.

country moved — or will soon move — to shorter hours for the same pay (BBC). As Gudmundur Haraldsson, a researcher at the Association for Sustainable Democracy, puts it: "The Icelandic shorter working week journey tells us that not only is it possible to work less in modern times, but that progressive change is possible too."

HOST 1: It's safe to say Iceland was a pioneer for the program because, ever since, the 4-day work week has taken the world by storm, with more and more countries starting trials themselves to see what the hype is all about. Whether it's Japan's economic policy recommending the use of the 4-day work week in 2021, the United Kingdom's 6-month trial in 2022, or South Africa's 6-month trial in 2023 (Smith), it has become pretty clear that changes will be made sooner or later.

HOST 2: Yeah, even the United States is starting to draw a lot of interest into these programs. It has reached the point where a vast majority of workers — 87%, to be exact — would rather have a 4-day work week (Liu). Keep in mind, though, that the program workers are interested in doesn't actually involve fewer hours of work per week. Employees would still work 10 hours a day for four days instead of eight hours a day for five days.

HOST 1: One thing I want to point out is that while a lot of people in the United States are interested in the 4-day work week, the appeal is mainly contingent on remote work. Seventy-five percent of workers say they would be interested in a shorter week if remote work is allowed "all or nearly all of the time," but just 51% of workers support a shorter week if coupled with "no remote work at all," (Liu). In other words, people would rather work an extra day if it means they can work from home.

HOST 2: I'm glad you brought that up because different countries are using different kinds of models to implement these 4-day work weeks. If we look back at the South Africa example, they implemented the system using just 32 hours of work a week, contingent on workers still producing the same amount of output as they would during a typical 40-hour work week. This program is widely known as the "100:80:100 model" — 100% of the pay, working 80% of the original work week, maintaining at least 100% productivity. Moving over to Belgium, on the other hand, workers still had to work 40 hours a week, but the country shifted to 10 hours a day for four days instead of eight hours a day for five (Smith).

HOST 1: Both of these systems must have some tradeoffs, though. I mean, working eight fewer hours a week could reduce total output, and working 10 hours a day for one less day sounds like the same as the alternative to me.

HOST 2: Yeah, you would think so. But both countries have actually seen overwhelmingly positive results with these systems.

HOST 1: Now, one less work day seems a little too ideal right? I mean, what does that mean for company productivity?

HOST 2: You would think that productivity and the hours spent working are directly related. So an increase in hours working would increase overall productivity and vice versa... Wrong! Some of the countries with the highest annual working hours per worker, like South Korea or Taiwan, still have lower GDP per capita compared to countries that report fewer working hours per worker (Sng et al.). At large, it disproves the notion that fewer hours working means less productivity.

HOST 1: This is largely due to the decrease in job satisfaction, increase in fatigue, and being more prone to burnout. Having the extra day off has shown that it does help, such as with the Microsoft Japan trial that saw a 40% increase in productivity.

HOST 2: Right; but while evidence shows that the 4-day work week's impact on productivity is overwhelmingly positive (Laker), the 4-day model is less realistic in certain sectors than others. In areas such as healthcare, retail, or hospitality — just to name a few — many companies require 24/7 coverage and do not usually operate on a standard work week. Switching to a 4-day work week would be less viable for these companies than for businesses currently operating on the 5-day work week (Wallace).

HOST 1: And it seems like support for the 4-day week varies statistically across industries as well. In the telecom and IT sectors, for example, 80% of workers believe that the 4-day week is realistic, while only 37% of workers in travel think the same way. Workers in education seem fairly divided on this topic, with 55% seeing the 4-day work week as realistic (Wallace).

HOST 2: Adopting a 4-day week in education is interesting to think about. If administrators and teachers work four days a week, would students also go to school four days a week, instead of five?

HOST 1: I am sure students are jumping out of their seats in excitement at such a thought — but let us hear from Jerome Powell, the superintendent of the Middle Valley School District in Missouri. Mr. Powell, welcome to our podcast! I'm glad you found such a fulfilling job after working at the Federal Reserve. How are you today, and what changes are you pushing for in your school district?

JEROME POWELL: Hello, and thank you for having me today! Currently, schools from across the country are facing a national teacher shortage — my district included. Our board is looking to switch to a 4-day week in hopes of bringing more teachers to our district.

HOST 2: Wow, is this something other schools have been doing to fight the teacher shortage?

JEROME POWELL: Yes! In fact, hundreds of schools across the country have switched to the 4-day model to recruit and retain more teachers; many of these plans have been successful. For example, in our own state of Missouri, the Independence School District started seeing four times as many teaching applications after switching to the 4-day model (Czachor). We have also seen a Colorado school district receive 10 to 12 candidates for a position and finally become fully staffed for the first time in years, thanks to a 4-day week (Yu).

HOST 1: The 4-day week seems to bring great benefits in terms of teacher recruitment, but how does this affect students' academic performance?

JEROME POWELL: Great question. Many people are concerned about academic decline, but by increasing the length of each school day to make up for the lost time, schools have been shown not only to maintain academic performance but even increase graduation rates (Yu).

HOST 1: Before this interview comes to a close, are there any additional comments you have?

JEROME POWELL: One final aspect I would like to mention is the role schools play in the form of childcare, especially for low-income families that can't afford it. In my town, the private childcare programs are getting more and more expensive, which puts stress on many parents. They have tried to push for a childcare option within our district, but the costs are high. The 4-day work week can help parents spend much needed time with their younger children, cut back on a day of extra childcare cost, and still provide the same level of income. This is just one more example of all the hidden benefits of the 4-day work week.

HOST 2: I've never considered it from that aspect, thank you so much for sharing your insights on our podcast today! This was Jerome Powell, superintendent of the Middle Valley School District.

HOST 1: Mr. Powell made a really interesting point about using the 4-day work week to increase job applicants. I wonder if the 4-day model has the same effect in other sectors as well?

HOST 2: Well, other companies that switched to 4-day weeks have shown great increases in job applicants, too. For example, Buffer, a social media marketing company, reported an 88% increase in job applicants after their switch (Oladipo); Atom Bank, which first began its 4-day work week in the UK's six-month trial, reported a 500% increase (Laker). Again, switching to a 4-day model benefits some companies more than others, but many can certainly leverage the 4-day week to attract more job candidates than those still operating on a 5-day work week, gaining a competitive edge in the industry.

HOST 1: And that's especially important, now more than ever, given that a country like the United States is short 3 million workers as of February 2024 (Ferguson). As more workers look for more flexible options and prioritize their well-being, the 4-day work week incentivizes more people to work while still giving them the time to care for themselves, their partners, and their families. It's inevitable how our workplace stress can carry over to our personal lives and create tensions in relationships. Given the greater time to focus on non-work-related things, the 4-day work week can promote stronger relationships and families, by giving employees time to spend with those they love.

Switching to a 4-day model benefits some companies more than others, but many can certainly leverage the 4-day week to attract more job candidates than those still operating on a 5-day work week, gaining a competitive edge in the industry.

HOST 2: Without a doubt, strong families impact the economy in a positive way. In a report called *Strong Families, Prosperous States: Do Healthy Families Affect the Wealth of States?*, W. Bradford Wilcox, Robert I. Lerman, and Joseph Price found that families with married parents experience more economic growth, greater economic mobility, higher median family income, and less child poverty as compared to families with single or cohabiting parents. Overall, bolstering our economy on a whole.

HOST 1: So, with the rise of Gen Z in the workforce and our culture valuing a work-life balance more than ever, could a 4-day workweek become the norm soon?

HOST 2: I believe we may be looking at a future where the 4-day workweek becomes increasingly popular — possibly even more common than the 5-day workweek.

HOST 1: If we look back at 1927 and Henry Ford's 5-day workweek-trial that paved the way for the nation's new standard, perhaps it's not too bizarre to think the world is on its way to another new workplace norm. Even business models that do not seem compatible with a 4-day workweek will find that the ongoing discussion is part of a larger wave of workplace flexibility. If businesses want to keep or attract employees, they may feel increasingly compelled to match this shift. Thank you for joining us on today's episode of "Shift Happens" — we will see you again next week!

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Left to right: Priya Acharya, Mia Desai, Victoria Tan

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Deflating the Productivity-Compensation Puzzle

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CITATION STYLE
MLA 9th Edition

MIA: Hello everyone! Welcome to the Econ Echo podcast, where we talk about the most remarkable questions in economics! I'm your host Mia Desai. During today's episode, we will be discussing one of the biggest puzzles in economics: why isn't worker compensation growing as fast as productivity? Today I have invited two economists, Priya Acharya and Victoria Tan, who will help us investigate these issues. Priya and Victoria, would you like to introduce yourselves to our listeners?

PRIYA: Sure! Hi everyone, I'm Priya. I'm an economist and marketing consultant in the fashion industry. I use my background in economics to analyze market trends, consumer behavior, and pricing strategies for fashion houses.

VICTORIA: And I'm Victoria, and I'm a senior financial advisor in the manufacturing industry. My job is to help my clients make choices about financial purchases, such as investments, taxes, and insurance. We are both so excited to be here today!

MIA: And we are so pleased you could come! To start us off, would you mind explaining what the puzzle of the labor productivity-compensation gap is and why it's important?

PRIYA: Of course! But before we start, let's define some of the relevant terms like wages. Worker's wages are really important! They are an indicator of wealth and reflect how well-off workers really are. But it's more than just wages—wages are payments workers receive from their employers for working a certain amount of hours. Beyond wages, employees also receive benefits and other perks.

VICTORIA: Here's an example. Let's say... Kyle works at a shirt manufacturing company, Stitch Studio. In addition to his hourly wages, Kyle also receives benefits such as health insurance, a membership to health programs, and a 10% discount on products from the company.

MIA: Hold on, the only benefits I get for doing this podcast are... Wait, do I even get any benefits?

PRIYA: Yes, Mia, your benefits are just the glory of doing a wonderful economics podcast! So, Kyle gets wages *and* benefits, right? These components comprise his overall compensation.

VICTORIA: While Kyle might be earning only $20 per hour, his company compensates him in other ways as well, to the tune of $25 per hour. Does that sort of make sense?

MIA: Wait hold up, I really need to rethink this whole podcast gig... Anyhow, that does make sense, but I still don't understand what factors go into determining compensation.

PRIYA: For the most part, wages are determined by the forces of supply and demand. The intersection of labor supply and demand represents where the needs of firms and workers coincide, helping to foster an effective distribution of resources and the best possible operation within a market. The supply of labor depends on various factors, including population and worker preferences. A firm's demand for labor depends on its profitability and productivity. Here's the important part: workers ought to be paid according to their productivity or the value of the output they produce. This is a widely accepted theory of wage determination ("12.3 Labor").

MIA: So essentially, what you're saying is that the amount of compensation we receive for our labor should theoretically be a function of our productivity? What do you even mean by productivity? That could mean a *lot* of things, you know!

VICTORIA: Excellent question. Labor productivity is a measurement that compares output with the amount of time it takes to produce that output. It measures the "real" output per hour (Brill et al. 2). For instance, if Kyle produced five shirts per hour, that would be his productivity.

MIA: So what you're telling me is that an increase in productivity should cause an increase in compensation?

PRIYA: Exactly. Over time, as we experience a growth in labor productivity, labor compensation should be experiencing the same growth.

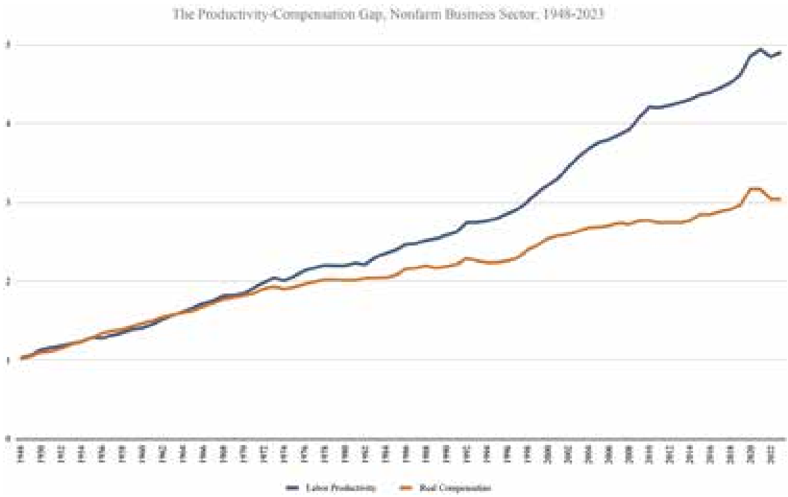
MIA: Wait back up, I'm not following. What do you mean by a growth in labor productivity?

VICTORIA: Say Kyle has been working at Stitch Studio for fifteen years. For the first five years at his job, Kyle could produce five shirts per hour. During his sixth year, the company got a new sewing machine. After that, he was able to produce ten shirts per hour. This is an example of how he became more productive over time.

MIA: Hmm... this feels kind of fair. If I become more productive, I should get paid more. I'm worried though that I don't know how to increase my productivity as a podcast host...But anyway, this isn't about me! So what's the problem with wage determination?

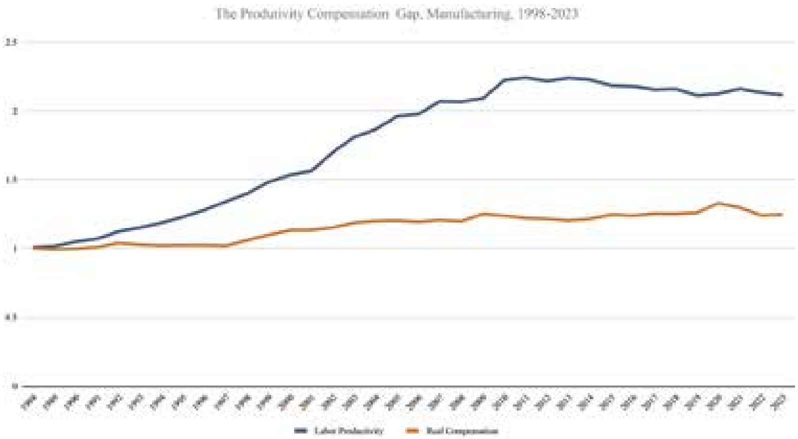
PRIYA: Well, the gap between labor productivity and compensation has increased, essentially meaning that productivity is growing at a faster rate than compensation is. We thought we were doing a TV show so I brought some exhibits!

MIA: You've got some exhibits that were made for TV and I've got a voice made for radio! Well, let's describe it for the listeners.



Source: Productivity and real compensation data for nonfarm business and manufacturing sector accessed here: https://www.bls.gov/productivity/tables/home.htm.

VICTORIA: We took data from the BLS website to show how productivity and compensation have grown from 1948 to 2023. Importantly, the compensation numbers require us to adjust for inflation. We do that with the traditional measure of inflation — the consumer price index. As you can see, up until the 1970s, labor productivity and compensation grew at the same rate. However, after that, labor productivity started to grow at a faster rate with compensation lagging. In more recent years, we can see that the gap between compensation and productivity is larger than ever and continues to grow.



Source: Productivity and real compensation data for nonfarm business and manufacturing sector accessed here: https://www.bls.gov/productivity/tables/home.htm.

PRIYA: We also prepared a graph of the manufacturing industry specifically, which would incorporate Kyle's company. The trend in this industry specifically is similar to that of the nonfarm business sector we were just looking at. Between 1988 and 2023, we can see that while productivity and compensation started around the same levels, they quickly grew apart in 1989.

MIA: Are you saying that a *"blank space"* opened up in 1989, and we can't *"shake it off"* and get *"out of the woods"*?

VICTORIA: Wait, are you a Swiftie?

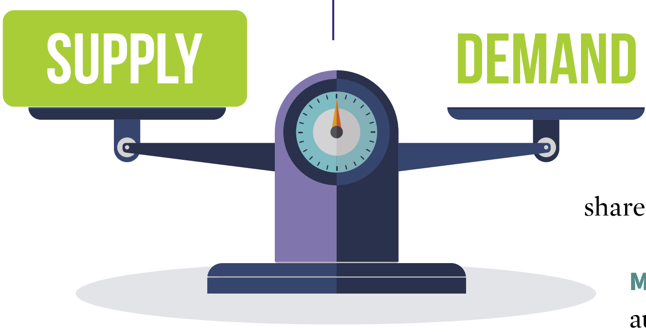
MIA: Absolutely! But, seriously, I get that a gap exists between productivity and compensation after seeing the two graphs, but what are the components of the gap? Why is it occurring? Does the fact that there is a gap mean that people aren't getting paid enough to match their productivity?

VICTORIA: Right on — that's exactly what you should be asking! Essentially, the gap consists of two components, and the amount each component contributes to the gap is determined by the specific sector and industry. The first component is a decline in labor share of income. The labor share of income measures how much of a company's revenue goes to their workers' incomes (Brill et al. 5). Decline in labor share of income happens when companies choose to allot less of their revenue

The labor share of income measures how much of a company's revenue goes to their workers' incomes.

to their workers in order to dedicate more of their revenue to other factors of production, like intermediate purchases and capital (Brill et al. 9).

MIA: So changes to these other factors of production might be causing companies to decrease the amount of money they dedicate to workers?



PRIYA: Exactly! For instance, if capital is depreciating at a faster rate it would need to be restored more frequently. That would require a company to increase the capital share, possibly decreasing the labor share in the process.

MIA: Oh, wait! If certain companies increase automation or use more machines, would that lead to a drop in the need for labor input?

VICTORIA: Yes, increased automation might mean that the company is getting more value from their machines than the labor and therefore might increase the capital share and decrease the labor share.

MIA: Ohhh. Okay, so a decline in labor share leading to growth in productivity rising faster than growth in compensation makes sense. But what's the other factor?

PRIYA: This is where it gets a little more complicated: the other factor involves deflators.

MIA: Like a tire deflator?

VICTORIA: Not quite. Deflators are price indices used to adjust dollar amounts for changes in prices. As mentioned earlier, we use CPI, or consumer price index as a deflator to adjust compensation through measuring how the prices of a basket of goods change over time.

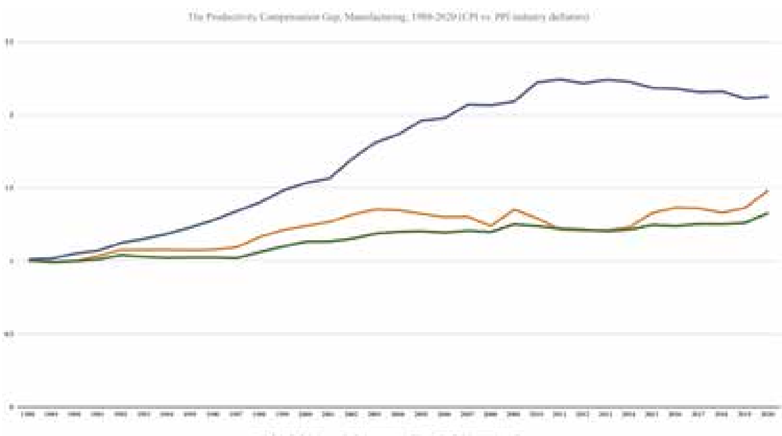
MIA: How does CPI contribute to the productivity and compensation gap?

PRIYA: The Bureau of Labor Statistics uses CPI to show how changes in a worker's purchasing power — or the value of a sum of money — compare to changes in productivity in their respective industries. However, CPI may not be the best deflator when it comes to the comparison of compensation to productivity because workers are compensated based on the value of goods/services produced rather than what they consume (Brill et al. 4).

MIA: Are there any better deflators that we could use?

VICTORIA: Yes! An output price deflator is a measure of changes in prices for producers, rather than consumers. While CPI is good for measuring the purchasing power of employees, an output deflator is more suitable when comparing the compensation that employees get for how much they produce in their unique industry (Brill et al. 4). Using the output deflator to adjust compensation changes everything, and shrinks the gap between productivity and compensation.

PRIYA: To understand this on a case-by-case level, we would need to look at the specific industry. Let's return to Kyle and his shirt factory in the manufacturing sector.



Source: Productivity and real compensation data for nonfarm business and manufacturing sector accessed here: https://www.bls.gov/productivity/tables/home.htm. PPI data for the manufacturing industry was accessed here: https://data.bls.gov/cgi-bin/surveymost?pc.

The Bureau of Labor Statistics uses CPI [data] to show how changes in a worker's purchasing power — or the value of a sum of money — compare to changes in productivity in their respective industries.

VICTORIA: So listeners, the graph we are showing now shows the same productivity curve as well, however, it has both compensation curves on it, one calculated using PPI or the output price index, and the other using CPI like before. We were able to create this graph by integrating the Bureau of Labor Statistics data on compensation calculated by PPI with the labor productivity and compensation graph from earlier in the manufacturing industry. In the image we can see that the compensation curve calculated with PPI reduces the gap by around 20%, meaning that the rest of the gap in this particular industry is due to a change in labor's share of income.

PRIYA: A change in labor's share of income likely contributes more in the manufacturing industry as there has been a shift of focus towards capital, more specifically machinery and automation. So in the case of Kyle, it is likely that while he is now producing ten shirts an hour compared to his previous five, his compensation is not rising, as the company is allocating more of the revenue to investing in new machines or maintaining their capital. However, the exact amount that labor's share of income and the difference in deflators contribute to the gap is different for other industries.

Industries with more productivity growth are more affected by differences in deflators because their output is more sensitive to changes in price.

MIA: Wait, so are you suggesting that in other industries a change in deflator from CPI to PPI might have more of an impact?

VICTORIA: Exactly! In fact, as an example, in the power generation and supply industry between 1987 and 2015, a shift from CPI to PPI significantly reduced the gap by around 50% (Brill et al. 6). Another interesting trend is that the industries with the highest productivity often had the largest compensation-productivity gaps. Moreover, in most of these industries, the difference between deflators accounted for the majority of the gap with a much weaker correlation between productivity and a change in labor's share of income (Brill et al. 8).

MIA: Does that imply that industries with more productivity growth tend to be more affected by a change in deflators while industries with less productivity growth are more affected by a change in labor's share of income? Why is that true? And what does it imply?

PRIYA: That is a very good question that I do not know the answer to. Just kidding!

Industries with more productivity growth are more affected by differences in deflators because their output is more sensitive to changes in price. As productivity increases, industries produce more output with a similar amount of input. On the other hand, industries with less productivity growth may be more affected by changes in labor share of income because they rely heavily on labor input for their output. Therefore, changes in the distribution of income between labor and capital impact cost and profitability (Brill et al. 12).

VICTORIA: And I think there is a broader issue as well. We are living through a moment of populist unease where people are really upset about income inequality. Resolving this puzzle and showing that there may be serious measurement issues might change our understanding of the fairness of modern capitalism.

MIA: Wow. I think this discussion has been extremely useful and is a manifestation of this underlying phenomenon because it's been extremely productive and none of us get paid at all!

PRIYA: Wait, we aren't getting paid for this? That was not mentioned when we agreed to this.

VICTORIA: Priya, that's because we got very little information...we thought it was a TV show for heaven's sake! You just agreed as soon as you heard the words *economics* and *clothes*.

PRIYA: That's fair, but I feel like we still should have been informed by the host.

MIA: Haha, oops — I *totally* thought I mentioned that...Anyways, Victoria and Priya thank you for joining us today! We hope you all enjoyed listening to this episode of the Econ Echo podcast and don't forget to tune in next week.

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Left to right: Jacob Abroon, Rhone Galchen, Lishi Shi, Benjamin Oakland-Stubbs, Sean Chew, Gerard Trimarco (advisor)

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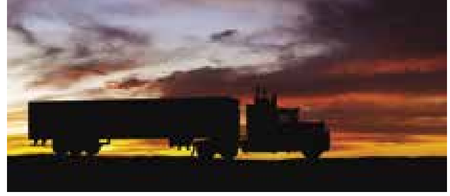

America's Trucking Industry: The Hard Road Ahead

JA: I'm Jacob Abroon, your host for today's Penny Podcast, where we invite guests from around the nation to discuss our most burgeoning issues. We've encountered some extreme issues facing our country recently, and the one we have today is at the heart of the United States' economy.

RG: I'm Rhone Galchen. Today we are going to talk about what many call the 'backbone of America': truck drivers. While there is some stigma around truckers and their role in American society, one thing that cannot be overstated is their vital role in the American economy.

JA: As we all know, consumption is the main contributor to American economic growth and prosperity. And the one industry that is literally the *driving* force that gets goods to consumers is trucking.

RG: Currently, this podcast is being recorded in an office building. The metal to construct the frame of the building was transported by a truck. The computer that we're sitting in front of was transported by a truck. The apple sitting on my desk was brought to a supermarket by a truck.

JA: Truckers transport a majority of our nation's goods across the country, literally carrying the U.S. economy on their backs — or trailers for that matter. The U.S. trucking industry is valued in the range of $581 billion to $681 billion ("Freight Trucking"). It is estimated to contribute more than $700 billion to the economy, a figure higher than the GDP of over 150 nations (John)! This is due to the trucking industry transporting over 73.7% of our nation's freight ("Moving Goods").

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CITATION STYLE

MLA 8th Edition

The interview portrayed in this submission is a product of the authors' imagination. While the interview may reference actual people, the subject matter and language attributed to those people is entirely fictitious.

Unfortunately, there is a problem. The main issue is that the trucking economy has been declining recently at a pace that could lead to major implications in all sectors of the American economy. To examine this issue further, please welcome Thorgen Stevens, the President of Baskerville Trucking Inc, one of the foremost trucking companies in the United States.

TS: Thanks for having me on, Rhone and Jacob.

RG: Let's cut to the chase, Thorgen. You've spoken in the past about your company's recent issues and the problems facing the trucking industry.

TS: Trust me Rhone, there are many problems. The most glaring issue my company faces is that we simply don't have enough workers. The trucking industry needs to fill 78,000 positions. That's 78,000 people that we need to join the industry to keep us at a sufficient level, and this number is expected to double by 2030 (Gofus). Trucking companies across the nation have been suffering very similar experiences.

JA: What do you think are the causes of this decline in the number of truckers?

TS: People don't want to enter the trucking industry. There is a large stigma around joining the trucking industry and being a trucker (Fleming). Fewer young people want to join the force. In fact, only 6% of all truckers are under 25 years old ("Distribution of Truck"). Compare this to the rest of the labor industry, in which 12% of all employees are under 25 years old ("Employment and Unemployment"). To make matters worse, the current truckers in the industry are getting older and are consequently retiring. In fact, the average trucker age is 46 years old, five years older than the average age in the rest of the labor industry (Gofus). One starts to get the picture of how our workers are simply aging out of the job and not getting replaced. With our truckers becoming older and retiring, there is an increasing number of vacant positions that are not being filled ("Employment Projections").

The U.S. trucking industry is valued in the range of $581 billion to $681 billion.

RG: We touched on this earlier, Thorgen, but we'd like your take. How important do you think the trucking industry is to the American economy?

TS: Rhone, I cannot overstate the importance of truckers. We transport the majority of American goods and supplies across the country. If the trucking industry falters, the American economy will surely decline. Time and time again, you can see that the trucking economy is a central contributor to the American GDP and their success or failure are deeply connected (Wrenn).

RG: Thanks for hoppin' on the show, Thorgen!

TS: I enjoyed putting in my two cents!

RG: That was Thorgen Stevens, the President of Baskerville Trucking Inc. Our next guest is a veteran trucker named Brandon Matthews. Welcome to the show, Brandon.

BM: Pleasure to be here!

RG: So, let's just get straight into it. We just heard from Thorgen Stevens and he said that there is a large shortage of truckers. Why do you think that is?

BM: The problem, while partly being lack of interest in the field, is in large part due to the fact that no one wants to continue this job once they get a taste of it.

RG: Yes, I've heard of that being the case. I believe the turnover rate in the trucking industry is around 90% percent, nearly double the 48% average for all industries around the country (Wrenn).

BM: I'm not surprised. Simply put, the trucker life isn't for everyone. I'm barely able to see my family, often going three weeks without seeing them (Barrington). I don't choose my schedule either. I've missed Christmases, birthdays, anniversaries, pretty much any big holiday under the sun that you can think of. And this isn't only me, this is almost all the long-haul truckers I know (Garcia-Hodges). Not only that, we're paid by the mile, not by the hour. My income is wildly unstable and I have to pay the price for being stuck in traffic. Being paid by the mile almost forces me to speed just to feed my family and then, on top of that, I am responsible for paying for the speeding ticket. Furthermore, I don't get money for the time I spend looking for parking spots. I did the math, that's almost $5,000 lost in wages each year (Miskam).

RG: But what makes these problems especially bad now?

BM: True, these problems have been around for a while, but they've only gotten worse as my expenses have risen faster than my wages. Diesel prices have gone up, meaning I have to pay more to fill my tank, and lumper fees have gone up substantially over the past decade (Straight). I don't really understand why I even pay lumper fees. I pretty much have to pay out of my own pocket for materials to be unloaded at a company that requested me to bring those materials to them (Huff). Why is that my responsibility?

RG: That's a good question. Well, thanks for coming on the show Brandon, we appreciate your perspective.

BM: Thanks for having me on, guys. Just make sure issues such as low pay and especially hourly wages are addressed.

RG: Our final guest today is Liam Abbott, the Assistant Secretary of the U.S. Department of Labor, to give us a sense of the greater economic impacts of the issue at hand. Welcome, Mr. Abbott.

LA: Hello, Rhone and Jacob, it's a pleasure to be here. Please, call me Liam.

JA: Ok, Liam. We've spent this episode analyzing the recent decline in the trucking economy and I think we can say that it's clear this industry is in danger and in need of improvements. What do you know about the economic implications of this decline?

LA: As you have explained previously, the trucking industry is directly tied to the overall health of the American economy, so we need to ensure that the trucking industry is strong if we want to support our nation.

RG: What do you find as the main cause for this decline in the trucking industry?

LA: I see one key issue that is bringing harm to the trucking industry: the life of a trucker offers very little economic benefits. Put simply, truckers do not receive much pay, and there is very little economic appeal to becoming a trucker.

JA: What exactly do you mean?

LA: To understand this issue, we have to go back a couple of years, to the beginning of the COVID-19 pandemic. During that time as shutdowns grew and more people stayed at home, the demand for shipped goods skyrocketed. With fewer people going out to purchase things themselves, there was an increased need for truckers to transport goods across the country. Thousands of people joined the trucking industry as the salaries grew and the economic potential increased. Many of these new truckers started their own companies, which could be one driver with one truck. In fact, the number of new trucking companies saw a 50% increase during the pandemic (Pettypiece).

RG: What spurred this massive growth in the trucking industry?

LA: There was a huge amount of content on social media advertising the lucrative potential of trucking. Aside from social media, even President Joe Biden, in December 2021, encouraged Americans to pursue careers in trucking. From there, the floodgates opened for trucking numbers to rise (Pettypiece).

JA: So how was the trucking industry impacted as the pandemic began to abate?

LA: As the lockdowns lifted, consumer spending started to decrease. There was less of a need for so many truckers to transport supplies, and this trucking bubble, if you will, burst. The demand for truckers plummeted and thousands of small trucking businesses had to close.

The average trucker age is 46 years old, five years older than the average age in the rest of the labor industry.

RG: I see. What about those truckers who managed to stay in business?

LA: Their situation isn't much better. Even for those that found ways to stay in the trucking industry, the system was simply not as profitable as it had been just a few months prior. I remember hearing the story of one woman who made $20,000 in March 2022 to just over $3,300 a few months later in July 2022 (Pettypiece).

JA: Can you describe some of the major implications of this rapid decline?

LA: We're seeing them now. After witnessing the difficulties that occurred during the post-pandemic fall, for many the trucking economy is not seen as very appealing anymore. This lack of interest is why we're seeing such low numbers of new truckers.

RG: Mr. Abbott, most of our listeners aren't truck drivers, so why should they care? Could you explain why it's so important for all of us to support the trucking industry?

LA: I'd like to reiterate for your listeners how important the trucking economy is to the broader American economy. We know about its $700 billion contribution to the economy, as the two of you stated earlier. With that in mind, I'd like to paint a picture for you. Imagine that the trucking economy completely collapsed today. Within days, there would be a substantial shortage of perishable goods across the country, including meat, fish, and dairy, and ATMs would run out of cash. Soon thereafter drinking water would be difficult to keep in stock. Not to mention that millions of jobs would be lost. The trucking industry is more than the trucking industry. It has direct ties to every facet of the American economy (Rashidi).

JA: Is there any historical proof of the importance of the trucking industry?

LA: You can never predict economic crises, right? Take, for instance, the 2008 financial crisis. Few people saw that coming. Well, in hindsight, anyone analyzing the trucking industry would have seen the warning signs. That's because the trucking industry began to decline two whole years before the 2008 crisis (Rashidi). As the housing

bubble was growing in the mid-2000s, the trucking industry was a tell that our country was headed towards a recession. In today's terms, a drop in the current trucking industry isn't a good sign. Now, I'm not saying that the trucking industry is always a direct indicator of where the U.S. economy is headed. But this current trucking decline should be very concerning to anyone that understands the interconnectedness between trucking and the U.S. economy (Kasper-Latin).

JA: Considering the urgency of the issue, are there any solutions to the given problem?

LA: Right now, we need the government to pass an act that will make the trucking industry a job that is worth its work. This legislation should make the job more profitable and also increase job security by setting a minimum per hour wage for truckers, and decreasing certain costs for truckers such as tolls and lumper fees (Ahituv). These changes will make trucking a profitable business and draw in more truckers to combat the 90% turnover rate that is plaguing the industry ("Truth About Trucking"). Then looking longer term, the most plausible solutions are trucks that utilize different types of fuel. Specifically, there is potential for both electric and hydrogen powered vehicles. Personally, I think there is a lot of potential for these kinds of trucks because they're more efficient in terms of energy consumption. They can also carry more freight which will help to lessen the effects of the shortage, while also increasing the truckers' pay (Berger). Currently, these technologies are not up to par with diesel trucks, especially in terms of range and long-haul capability, but given the current focus on developing both electric and hydrogen powered trucks, there should be trucks worth the cost within the next decade (Agrawal). For now, there needs to be more work done by businesses and by the government in order to make working conditions better for truckers and subsequently entice more people to take those jobs. This will prevent one of our most important industries from crashing due to a lack of employees.

JA: Liam Abbott, Assistant Secretary of the U.S. Department of Labor, thank you for joining us today.

LA: Thank you! A pleasure.

RG: So there you have it, America's trucking industry is in a bit of a crisis. The industry is facing increased prices all around, lack of interest in entering trucking, and a high turnover rate. It seems everyone is facing adversity, from the individual trucker to the largest distributor.

JA: Hopefully, industry reforms and new technologies in the months and years ahead can shore up such a vital cornerstone of our economy. That's our show for today. Thank you for listening to the Penny Podcast.

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