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AI AGENT ECONOMICS

AI does not only help, it also executes the tasks.



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Editor Note

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Dr. Cavit Görkem DESTAN

Assistant Professor at TED University Department of Economics

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The ERU team just delivered the ultimate summer gift for the long break. Inside this thick issue of ERUMAG, they analyze the "AI revolution" from all perspectives, taking the arguments far beyond everyday chatter. Dive into this diverse set of essays, and you'll easily sound like the smartest person in the room during your next AI debate.

C. G. Destan

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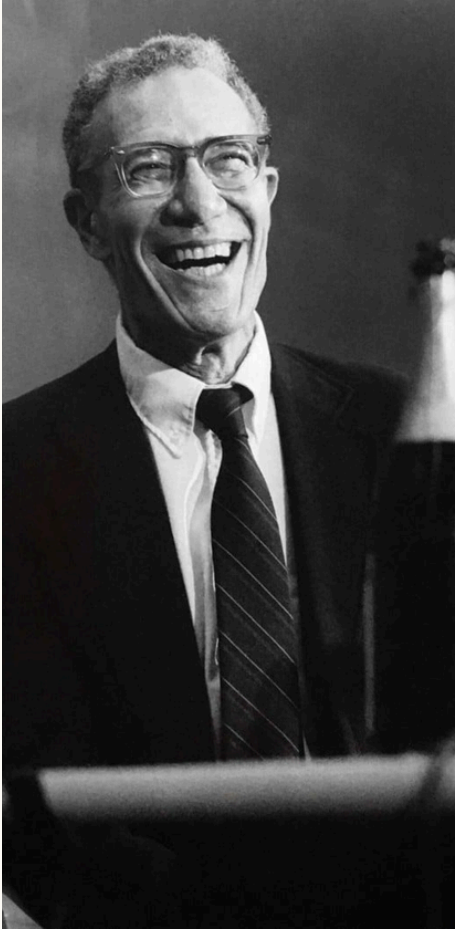


WHO ARE WE?

The Economics Research Union was founded in the fall term of 2023 by Nejat Yılmaz and students of the Department of Economics. The aim of ERU is to bring students together to examine the past, present, and future of economic science, to conduct research, to evaluate the Turkish and the world economy, and to organize workshops. Believing that “Knowledge is a treasure that increases as it is shared,” ERU aims to increase the popularity of scientific work among university students by organizing seminars with academicians who are experts in their fields. This journal has been prepared by ERU members for anyone who is interested in economics and who wants to improve themselves in the field of economics and increase their knowledge.

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CONTENTS



Robert Solow, the economist who studies the effects of IT on the economy, productivity, and workforce.

- 7 **ARTIFICIAL INTELLIGENCE AND THE LABOR MARKET**
Prof. Dr. Meltem DAYIOĞLU
- 9 **BIG TECH WANTS TO ORCHESTRATE THE ECONOMY**
Kerem YÜREKLİ
- 11 **THE FUTURE OF HUMAN CAPITAL: NAVIGATING THE DUALITY OF AI IN PROFESSIONAL PRACTICE**
Furkan SÜMBÜL
- 14 **WHO'S AFRAID OF THE STEAM ENGINE?**
Ezgi Eylem ERDOĞAN
- 18 **IMPACT OF AI AGENTS ON THE WORKFORCE ACCORDING TO ANTHROPIC REPORTS**
Arda AKGÜL
- 22 **ECON DICTIONARY**
Beril KAÇMAZ
- 24 **THE RISE OF AI AGENTS: HOW THE MOST-USED AGENTIC LLM IS RESHAPING FINANCE AND BEYOND**
Claude Opus 4.6
- 27 **HOW ECONOMISTS USE ARTIFICIAL INTELLIGENCE IN THEIR RESEARCH**
Erdener Emin EKER

ERUMAG

CONTENTS

- 30 **IS HAVING A COMMON CURRENCY BENEFICIAL FOR EU COUNTRIES?**
Mehmet Orkun APAYDIN
- 33 **HOW COMMUTING IS AFFECTING OUR MOOD?**
Mustafa BOYDAŞ
- 36 **TRANSPORTATION AND INFRASTRUCTURE FROM AN R&D AND INNOVATION PERSPECTIVE**
Sıla KHADAROO
- 38 **AI-EMPLOYMENT PUZZLE: AN EXCLUSIVE INTERVIEW WITH PROF. DR. CILASUN**
Ezgi Eylem ERDOĞAN & Arda AKGÜL
- 43 **THE GREATEST MACROECONOMIC ILLUSION IN HISTORY: A BREAKDOWN OF HJALMAR SCHACHT'S "MIRACLE"**
Mert YÜCE
- 46 **POLITICAL ECONOMY, INSTITUTIONS AND TECHNOLOGY: FIELDTALKS WITH ASST. PROF. ARDA GITMEZ**
Arda AKGÜL
- 53 **ECON CROSSWORD**
Defne TOKDEMİR
- 55 **ERU RECOMMENDS**
Ada Ezgi PESEN



Inside of a fab of Taiwan Semiconductor Manufacturing Company

Artificial Intelligence and the Labor Market

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In recent years, the ways in which advances in artificial intelligence are transforming and are expected to continue transforming the labor market have become a central concern. The job we hold has profound effects on our lives by determining our income, working conditions, and therefore our standard of living. Considering that wage income constitutes the primary source of income for a large majority of households in Türkiye, the scope of this impact becomes even more apparent. Working in high-paying and stable jobs shapes not only the well-being of individuals but also the living conditions of their family members. In contrast, unemployment or low-paid and insecure jobs make life more difficult for the entire household. Therefore, in a country where social assistance is relatively limited, a good life largely depends on having a good job for broad segments of society.

So, how is artificial intelligence shaping the labor market? Could these developments reduce the demand for labor and increase unemployment? While it is difficult to provide definitive answers to these questions, the nature of the relationship between artificial intelligence and labor offers some clues. In cases where artificial intelligence substitutes for labor, demand for the affected jobs is expected to decline; indeed, we are already observing this. Jobs that are routine, repetitive, and do not require creativity can easily be performed by artificial intelligence.

For example, translation of a simple text or simple administrative work can now be done quickly and cheaply by AI.

On the other hand, in jobs where artificial intelligence and labor complement each other, productivity gains emerge. In such cases, demand for labor may even increase. In these types of jobs, creativity, critical thinking, and problem-solving skills come to the forefront. It is reasonable to suggest that individuals possessing these skills will be in a more advantageous position in the labor market at least in the short and medium term. However, the rapid pace of development in artificial intelligence indicates that even jobs based on these skills may undergo transformation in the long run.

The effects of artificial intelligence on income distribution should also be carefully considered. While individuals who can effectively use artificial intelligence are expected to see increases in their income, those who fail to adapt to this transformation are likely to experience income losses. Nevertheless, the potential of artificial intelligence to increase total production and national income through productivity gains should not be overlooked. In theory, this increase in total income could be used through appropriate tax and transfer policies to achieve a more balanced income distribution.

However, even if income losses can be compensated, it should not be forgotten that work has not only a material but also a psychological and social dimension. Working in a “meaningful” job is an important factor that increases life satisfaction. Work often becomes a part of an individual’s identity. The behavioral economics literature shows that individuals working in jobs they perceive as meaningless demand higher wages, whereas those who find their work meaningful exhibit higher productivity. In this context, the disappearance of jobs or the loss of meaning in work due to artificial intelligence may negatively affect life satisfaction, regardless of income.

Considering the opportunities offered by artificial intelligence, it is clear that halting this technological transformation is neither possible nor desirable. Indeed, many firms are making substantial investments in the development and application of artificial intelligence.

In this process, it is crucial to rethink workplaces with a human-centered approach. In an environment where artificial intelligence is rapidly spreading, anticipating how jobs will transform and developing policies to mitigate potential negative effects are becoming increasingly critical for public authorities.

In this framework, promoting lifelong learning is also one of the key policy areas. The acceleration of technological change leads to the rapid obsolescence of existing skills. Education policies that support the acquisition of new skills required by the labor market will play a key role in preventing the workforce from becoming redundant.



It is clear that the challenges posed by artificial intelligence much like climate and environmental issues cannot be solved by the efforts of individual countries alone. Therefore, international cooperation, common standards, and coordinated policy frameworks are of great importance. However, this process should not be limited to managing risks; it should also aim to ensure that the opportunities offered by artificial intelligence are shared in a more inclusive and equitable manner. Considering the inadequate responses to global challenges in the past, developing a more proactive, coordinated, and inclusive approach to artificial intelligence is no longer a choice but a necessity.

Big Tech Wants to Orchestrate the Economy

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A taxi driver recently asked me what I was doing at the university around midnight. I told her I was preparing a pop quiz for the next morning because many students had been submitting assignments generated with AI. She then asked a question she had clearly been thinking about: would AI affect her job? I told her that in the short run the lobbying would likely take care of it. But in the long run, it is difficult to see how human drivers could compete with autonomous systems that are safer, cheaper, faster, and available 24/7.

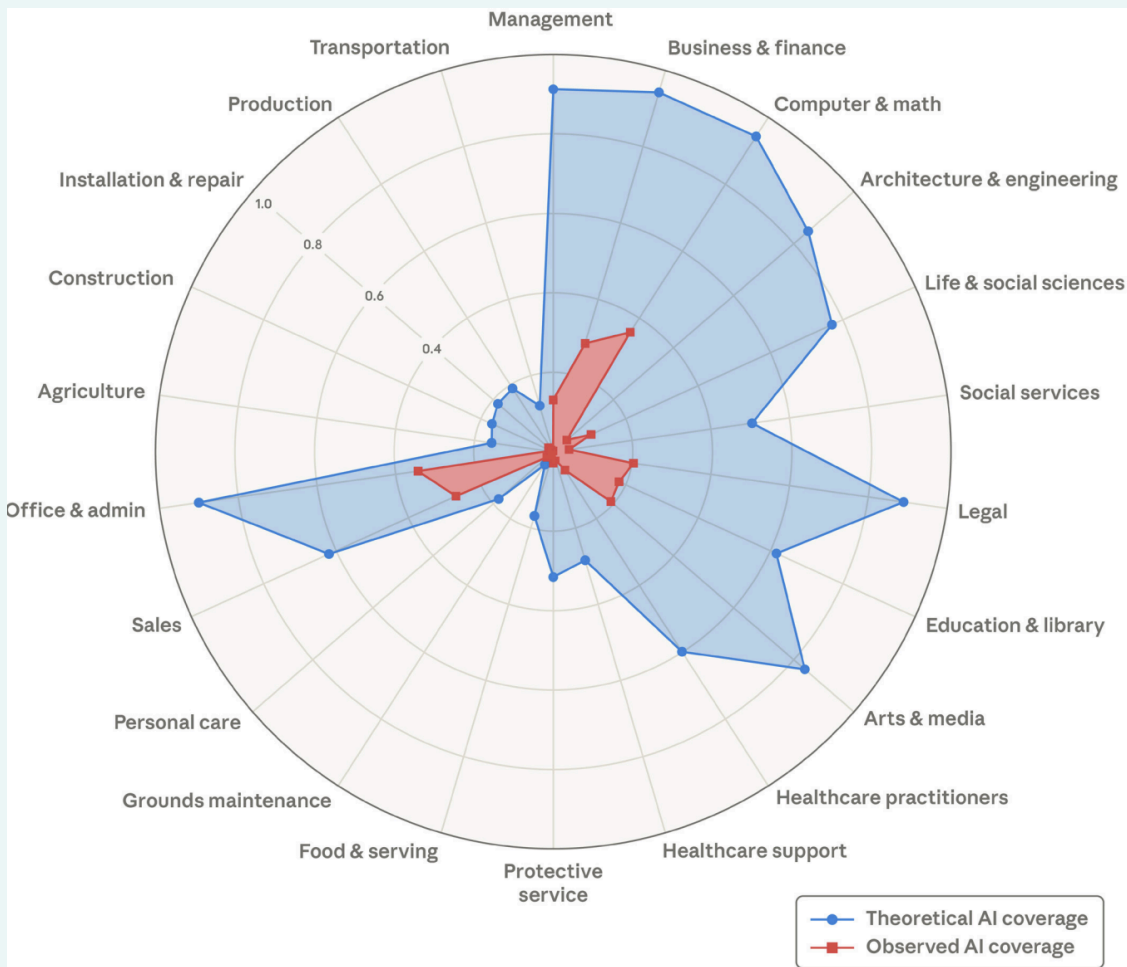
Taxi drivers are not alone in facing this uncertainty. As AI models continue to improve in both capability and accuracy, the need for human input diminishes. They are becoming both reliable in their outputs and consistent in their behavior across conditions. A wide range of tasks can now be automated with high precision. This makes it possible to build agents that are both low-cost and easy to scale. Unlike humans, these agents can also be monitored at every micro-decision, making performance evaluation continuous and granular. This shifts the competitive advantage toward systems that emphasize orchestration, the coordinated management of multiple automated agents, workflows, and decision processes. As a result, industries are beginning to restructure their business models.

When such transformations occur, junior workers often adapt more easily, while late-mid career workers who have invested years in a specific role may face more difficult transitions. Recent research by Anthropic suggests that degree holders are among those most exposed to tasks that AI can automate, although observed coverage remains far below its theoretical capabilities (Massenkoff and McCrory, 2026). Of course, their evidence is based on observed usage by their customers; corporate teams may already be developing far more comprehensive automation solutions behind the scenes.

I think the main issue here is the tech giants. Even before the current AI boom, these corporations were aggressively expanding across diverse markets. They already control critical infrastructure, data flows, and distribution channels across the economy. Now, by building AI themselves, they are compounding that advantage. With AI, they can turn these advantages into orchestration systems capable of managing labor, workflows, and decision-making at scale. The incentive is clear: penetrate as many markets as possible. Regulations will play a crucial role in shaping this process, but these corporations often find workarounds. They may even package orchestration systems as services sold directly to other businesses.

Economists should arguably pay more attention to these developments. Instead, many in the field remain caught up in the race for robust estimates of localized effects, practically waiting for the automation shock to arrive. Fortunately, recent work by Acemoglu et al. (2026) offers a useful corrective to the automation-first trajectory of AI development.

Their framework shows that AI need not be deployed primarily as a labor-saving substitute; it can instead be designed to expand worker capabilities, raise the value of human expertise, and create new tasks that complement rather than displace labor. That vision is especially important in an economy increasingly shaped by firms with enormous market power. Policymakers should take these proposals seriously if they want to minimize the potential disruptions associated with AI.



Source: Maxim Massenkoff and Peter McCrory (2026)

References:

Maxim Massenkoff and Peter McCrory (2026), Labor market impacts of AI: A new measure and early evidence, <https://www.anthropic.com/research/labor-market-impacts>.

Daron Acemoglu, David Autor, and Simon Johnson (2026), Building Pro-Worker Artificial Intelligence, NBER Working Paper 34854, <https://doi.org/10.3386/w34854>.

The Future of Human Capital: Navigating the Duality of AI in Professional Practice

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Technological advancement generally provides individuals with better opportunities and improved experiences. Where knowledge accumulation once required significant effort and was not immediately available, individuals can now gain a basic grasp of almost any issue through a quick search. Historically, technological progress has been constructive, expanding human abilities, transforming daily routines, and benefiting humanity.

One recent advancement is generative artificial intelligence. Its adoption has outpaced even that of the internet, yet its total effect remains difficult to pinpoint because the technology is still evolving. This “new toy” fundamentally augments human capabilities, allowing people to achieve goals faster by eliminating redundant steps and providing easy access to crucial information. It enables individuals to acquire a broad range of knowledge, facilitating interdisciplinary work and rapid skill transformation. Users can extract insights from thousands of documents in hours or learn complex mechanisms in ways that are intuitive and relatable, allowing them to extend their reach far beyond their core professions.

However, there is a trade-off. Historically, the slower pace of learning had distinct benefits for cognitive processing. Delegating learning to an autonomous agent strips humanity of core developmental experiences. Because humans are wired to seek the path of least resistance, we are prone to developing a dependency on AI. While this allows us to skip costly learning processes, it also removes the “breathing room” required to digest information, connect divergent ideas, and create authentic knowledge. Since information has become cheaper and more readily available, we no longer feel the need to internalize or nourish it in our minds, leading to potential AI dependency, faulty skill development, and cognitive decline.

Therefore, the proliferation of generative artificial intelligence and autonomous agents has introduced a profound duality in the workplace: a simultaneous expansion of human capability and a potential erosion of foundational cognitive processes. On one hand, AI reduces friction and improves human capital, aligning with the competitive interests of both firms and workers. On the other hand, workers may “borrow” skills instead of building them, underutilizing themselves as the primary vessels of knowledge. This creates a profound tension: a short term expansion of human capability counterbalanced by a potential erosion of foundational cognitive processes.

Noy and Zhang (2023) demonstrate that in writing-intensive tasks, AI narrowed the productivity gap between high- and low-ability workers, increasing output quality by 18% and speed by 37%. Dell'Acqua et al. (2023), in their randomized controlled trial at Boston Consulting Group, find that consultants with access to GPT-4 completed 12% more tasks, at 25% faster speeds, and with up to 40% higher quality than those without. Furthermore, Dell'Acqua et al. (2025) discuss how teams using AI created more balanced, cross-disciplinary solutions; AI bridged professional divides and broadened dialogues of expertise even when employees lacked specialized knowledge.

Reports from the St. Louis Fed (Bick et al., 2025) indicate that generative AI has reached a critical threshold of workforce penetration. In the United States, approximately 28% of all workers utilized generative AI to some degree by August 2024. The impact on individual productivity is significant when isolated to active usage hours, with data suggesting workers are approximately 33% more productive during the specific hours they engage with AI tools. The average time savings for an individual working a standard 40 hour week is estimated at 5.4%, or roughly 2.2 hours. However, these gains are not uniform; the information services sector exhibits the highest integration, while sectors such as leisure and accommodation show significantly lower adoption.

Despite these efficiencies, research from the Harvard Business Review (Ranganathan & Ye, 2026) suggests that rather than reducing workloads, these tools often intensify them. Employees tend to work faster, take on a wider range of tasks, and extend their work into their personal time, even without being required to do so. AI makes new tasks feel accessible, leading workers to expand their roles and juggle multiple tasks simultaneously. While this can initially boost productivity, it often results in “workload creep,” cognitive fatigue, burnout, and declining work quality over time.

Parallel to this exhaustion is the risk of cognitive atrophy, the shrinking and weakening of neural networks associated with deep thinking due to an over reliance on AI (Roxin, 2025). This phenomenon is driven by cognitive offloading, the practice of delegating mental tasks to external aids to reduce intellectual effort (León-Domínguez, 2024). This builds upon the Google Effect, which demonstrated that humans tend to forget information they know is easily accessible online (Gerlich, 2025). However, generative AI may exacerbate this to the point where users may forget not just the location of information, but the very process of thinking itself (Roxin, 2025).

Researchers have identified a significant negative correlation ($r = -0.49$) between the frequency of AI usage and scores on critical thinking assessments and this decline is particularly pronounced in younger demographics (ages 17 to 25) (Gerlich, 2025). Furthermore, the potential for anticipatory AI help, where a system acts before being explicitly asked, can be perceived as a threat to a user's sense of competence and autonomy (Harari & Amir, 2025), potentially disrupting the internal guidance mechanisms of individual thinking processes.

As AI becomes theoretically adaptable to many sectors, firms will likely increasingly adopt it into their work processes. AI transforms and is incorporated, is theoretically adaptable to many sectors (see another text in this volume: *Big Tech Wants to Orchestrate the Economy*). The value of an “AI powered worker” is reflected in a substantial wage premium, which rose from 25% in 2023 to 56% in 2024; this premium persists even in automatable roles, suggesting that workers who can effectively govern AI are becoming more valuable (PwC, 2025). Babashahi et al. (2024) notes how firms and employees are currently navigating the complex embedding of AI into core workflows, a transition that demands a strategic blend of sector specific expertise and adaptive digital skill sets to capitalize on human-AI collaboration.

Still, the gravity of the risks involved necessitates a cautious approach. Acemoglu et al. (2026) highlight a tension between immediate gains and long run collective knowledge through two dimensions: the Substitution Effect, where individuals reduce learning effort, and the Erosion of Externality, where this lack of individual learning depletes society’s shared knowledge stock. While AI may statically improve decision quality, the authors warn that if human effort is sufficiently elastic, society risks a “dynamic trap” where general knowledge eventually vanishes. Hence, these individual tendencies toward AI dependence risk creating a feedback loop where short term optimizations result in a catastrophic depletion of society’s intellectual capital. Consequently, the drive for efficiency could become fundamentally self defeating, as the “snake eats its own tail,” consuming the very human expertise required to govern and advance the technology itself.

AI is a double-edged sword: it accelerates output and quality but, if adopted indiscriminately, could simultaneously diminish human learning and critical processes. Nevertheless, AI is here to stay. Because it dictates modern competition, firms and workers must adapt, requiring a fundamental adjustment in what it means to work.

Reference:

- Acemoglu, D., Kong, D., & Ozdaglar, A. (2026, February). Ai, human cognition and knowledge collapse. <https://doi.org/10.3386/w34910>
- Babashahi, L., Barbosa, C. E., Lima, Y., Lyra, A., Salazar, H., Argolo, M., de Almeida, M. A., & de Souza, J. M. (2024). Ai in the workplace: A systematic review of skill transformation in the industry. *Administrative Sciences*, 14(6). <https://doi.org/10.3390/admsci14060127>
- Bick, A., Blandin, A., & Deming, D. (2025, February). The impact of generative ai on work productivity [Blog post]. Federal Reserve Bank of St. Louis. Retrieved April 15, 2026, from <https://www.stlouisfed.org/on-the-economy/2025/feb/impact-generative-ai-workproductivity>
- Dell’Acqua, F., Ayoubi, C., Lifshitz-Assaf, H., Sadun, R., Mollick, E. R., Mollick, L., Han, Y., Goldman, J., Nair, H., Taub, S., & Lakhani, K. R. (2025). The cybernetic teammate: A field experiment on generative ai reshaping teamwork and expertise. <https://doi.org/10.2139/ssrn.5188231>
- Dell’Acqua, F., McFowland III, E., Mollick, E. R., Lifshitz-Assaf, H., Kellogg, K., Rajendran, S., Kraymer, L., Candelon, F., & Lakhani, K. R. (2023, September). Navigating the jagged technological frontier: Field experimental evidence of the effects of artificial intelligence on knowledge worker productivity and quality. <https://doi.org/10.2139/ssrn.4573321>
- Gerlich, M. (2025). Ai tools in society: Impacts on cognitive offloading and the future of critical thinking. *Societies*, 15(1). <https://doi.org/10.3390/soc15010006>
- Harari, D., & Amir, O. (2025, September). Proactive ai adoption can be threatening: When help backfires. <https://doi.org/10.48550/arXiv.2509.09309>
- León-Domínguez, U. (2024). Potential cognitive risks of generative transformer-based ai chatbots on higher order executive functions. *Neuropsychology*, 38(4), 293–308. <https://doi.org/10.1037/neu0000948>
- Noy, S., & Zhang, W. (2023). Experimental evidence on the productivity effects of generative artificial intelligence. *Science*, 381(6654), 187–192. <https://doi.org/10.1126/science.adh2586>
- PwC. (2025, June). The fearless future: 2025 global ai jobs barometer [Accessed: 2026-04-16]. <https://www.pwc.com/gx/en/services/ai/ai-jobs-barometer.html>
- Ranganathan, A., & Ye, X. M. (2026). Ai doesn’t reduce work—it intensifies it. *Harvard Business Review*.
- Roxin, I. (2025, July). Generative ai: The risk of cognitive atrophy.

Who's Afraid of the Steam Engine?

From Steam to Algorithms

Why AI agents are not just another industrial revolution



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The history of capitalism has been shaped by technological revolutions that fundamentally transformed production, labor, and social organization. When many people view artificial intelligence as "the next industrial revolution," they are making a crucial economic and historical parallel. AI agents may indeed become the defining productive force of the twenty-first century. But what actually is an AI agent, and why does the distinction matter? A standard chatbot that answers a question is just a tool. But an AI agent is something completely different: it is a system that completes a multi-step workflow without someone directing each move. This is not simply a powerful new machine like the steam engine; it functions more like a young colleague who never sleeps, never asks for a wage increase, and never complains.

From an economic perspective, this reduces transaction costs, lowers coordination costs inside firms, and compresses decision-making time. However, even though today AI agents resemble earlier industrial revolutions in their productivity-enhancing potential, still, they differ in a crucial respect: instead of primarily transforming physical labor, they increasingly automate cognitive labor and decision-making, creating new questions about inequality, labor power, and institutional adaptation.

Let me remind you what these revolutions were, and their effects...

The First Industrial Revolution began in late eighteenth-century Britain; its economic effect was a sharp rise in productive capacity, sparking modern economic growth. This created the beginning of modern economic growth. However, the benefits were unevenly distributed. As Nicholas Crafts notes, broad productivity gains were gradual and did not immediately improve living standards. Instead, workers faced displacement and stagnant pay during a period known as "Engels' Pause," where economic output grew much faster than real wages. Socially, this era accelerated urbanization, decimated traditional crafts, and cemented the power of industrial capital over labor.

Figure 1 (Allen, 2009)

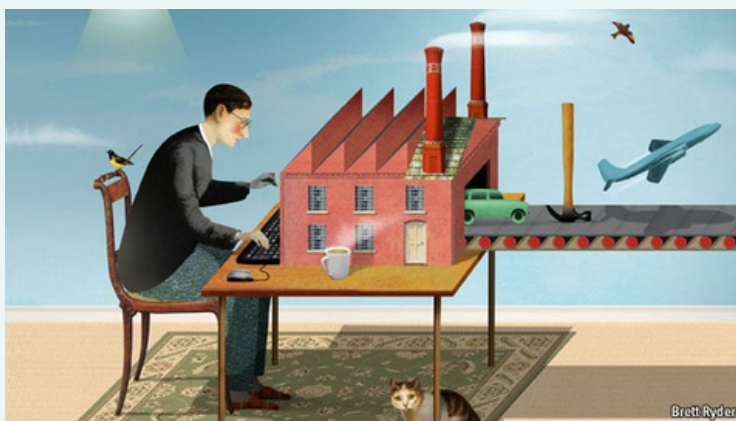


Fig. 1. The two phases of the British industrial revolution.

The historical experience of Engels' Pause is particularly relevant to contemporary debates on artificial intelligence. Just as early mechanization initially generated productivity gains without proportionate wage growth, AI may also produce short-run asymmetries between output growth and labor market gains (Crafts, 2021)

The Second Industrial Revolution, beginning in the late nineteenth century, was driven primarily by electricity. Unlike the first industrial era, it transformed not only production machinery but the organization of industrial systems themselves, resulting in mass production, falling unit costs, and rising long-run productivity. Socially, this period produced more stable wage growth. Labor unions expanded, welfare institutions gradually developed, and a broader middle class emerged. The gains were not equally distributed, but they were shared more broadly than during the early steam age.

The Third Industrial Revolution, beginning in the late twentieth century, centered on computers, telecommunications, and the internet, shifting capitalism toward information processing and services, it increased efficiency in communication, logistics, and finance while enabling global production networks. Yet the social effects were more complex. Digitalization favored workers with higher education and analytical skills, contributing to what is described as skill-biased technological change and contributing to wage polarization.



The Economist, 2012

Building this new digital infrastructure, the early twenty-first century introduced the Fourth Industrial Revolution (Industry 4.0). Unlike the Third Revolution, which introduced basic digitalization, Industry 4.0 merges technologies that blur the physical and digital spheres through cyber-physical systems, IoT, and big data analytics across value chains (Schwab, 2017). This phase effectively created the major interconnected networks and infinitely data flows that is necessary for advanced automation. Yet, while Industry 4.0 creates the important base for massive connectivity and data collection, the today's transition to AI agents represents the next evolution. It changes the entire game beyond the connected systems toward the autonomous, cognitive decision-making, setting the dawn of a new era.

From this historical perspective, Crafts argues that AI may become historically significant not merely because it automates tasks, but because it can increase the productivity of research and knowledge creation itself (Crafts, 2021). However, while AI agents are a completely new invention and represent the next revolutionary transformation, they also differ from previous industrial revolutions in many ways.

AI agents are now automating something that no previous technology touched at scale: cognitive judgment under uncertainty. Legal investigation, medical examination, code review, financial analysis... These are the jobs that, until very recently, the economic literature treated as the safe zone that new inventions could not touch.

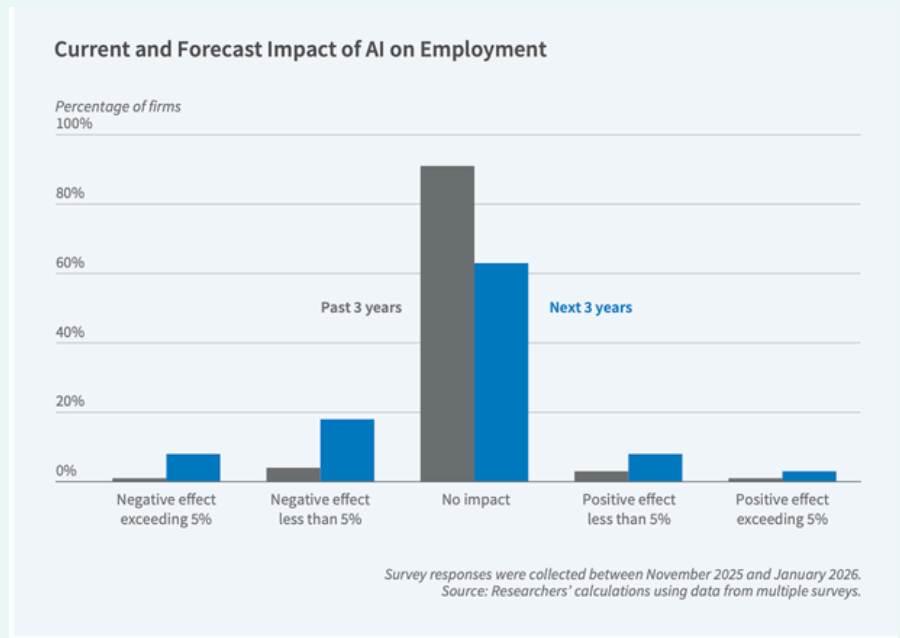
Exactly, that's why, because that supposedly untouchable “safe zone” has been violated, viewing the revolution that AI agents will bring about just in terms of “which tasks will disappear” is an overly narrow approach. In fact, the issue is not a shift in tasks, but a systemic crisis.

As Agrawal and colleagues (2021, 2023) emphasize, just as the steam engine required railroads or electricity necessitated newly designed factories, AI agents also demand their own “co-invention”: to the profits, the complete redesign of the decision-making system from the bottom up. It is important to remember that no business operates in an isolated bubble within an organization. In other aspects, companies are tightly interconnected, living systems and do not function in a strictly “modular” manner.

Therefore, when an AI agent takes over, the change does not end at that desk. The unwritten rules, flexibility, and internal office dialogues among people are replaced by cold, algorithmic processes triggered instantly. This inevitably transforms all roles tied to that decision and ultimately the entire organizational hierarchy from the bottom up. (Agrawal, Gans, and Goldfarb, 2021)

Another characteristic of the evolution of technological revolutions is the issue of speed. Bick, Blandin and Deming (2024) show that by late 2024, nearly 40% of U.S. working-age adults were already using generative AI, with 23% of employed workers having used it on the job in the previous week. For context: the personal computer took three years from its first mass-market launch to reach 25% workplace adoption. Surprisingly, ChatGPT was roughly at that level two years after release. Every prior industrial revolution evolved slowly enough that labor markets, educational systems, and many areas had time, usually decades, to adapt. With AI revolutions, that buffer is gone.

This disappearing buffer is clearly reflected in how firms are actually experiencing AI today versus what they are preparing for tomorrow. A recent multi-country survey of nearly 6,000 executives reveals that while roughly 70% of firms have already adopted AI, the immediate structural effects have been deceptively quiet (Yotzov et al., 2026).



As Figure 2 illustrates, more than 90% of executives report that AI had no effect on employment over the past three years. However, this initial period of harmless experimentation is ending. When forecasting the next three years, executives anticipate a significant shift. They expect AI to increase labor productivity by 1.4% on average while reducing employment by 0.7%, with about two-thirds of this workforce reduction anticipated to happen quietly through reduced hiring rather than direct layoffs.

Another key point is that expectations regarding the new economy seem to change depending on the audience. The same study shows that while U.S. managers expect a 1.2% decline in employment, employees themselves have very different expectations and predict that AI will increase employment in their companies by approximately 0.5%.

This deep asymmetry in expectations fully highlights why AI agents represent not merely a shift in jobs, but a systemic transformation. This situation challenges us to face the fundamental issue of the AI revolution.

Yet, beyond the immediate threat to bargaining power, there is an even deeper crisis growing at the very heart of workflow. As Acemoglu (2021) sharply reminds us, the harms associated with this shift are not technological inevitabilities, but rather the direct result of who holds the reins of control. Ultimately, whether this AI trajectory leads us toward shared prosperity or deeper polarization is still an open question. But if the history teaches us, it is that technologies never dictate their own social outcomes: The society, institutions do. The steam engine did not generously hand us labor laws; people had to fight for them, painfully. Moreover, the age of AI will demand no less.

References:

- Acemoglu, D. (2021). Harms of AI (NBER Working Paper No. 29247). National Bureau of Economic Research.
- Agrawal, A., Gans, J. S., & Goldfarb, A. (2023). Similarities and differences in the adoption of general purpose technologies (NBER Working Paper No. 30976). National Bureau of Economic Research
- Bick, A., Blandin, A., & Deming, D. J. (2024). The rapid adoption of generative AI (NBER Working Paper No. 32966). National Bureau of Economic Research.
- Crafts, N. (2021). Artificial intelligence as a general-purpose technology: An historical perspective. *Oxford Review of Economic Policy*, 37(3), 521–536. <https://doi.org/10.1093/oxrep/grab012>
- Greenwood, J. (1999). The third industrial revolution: Technology, productivity, and income inequality. *Economic Review*, Federal Reserve Bank of Cleveland, 35(2), 2–12.
- Schwab, K. (2017). *The Fourth Industrial Revolution*. Crown Business.
- The third industrial revolution. (2012, April 21). *The Economist*. <https://www.economist.com/leaders/2012/04/21/the-third-industrial-revolution>
- Yotzov, I., Barrero, J. M., Bloom, N., Bunn, P., Davis, S. J., Foster, K. M., ... & Wang, B. Z. (2026). Firm Data on AI (NBER Working Paper No. 34836). National Bureau of Economic Research.

Historically, each industrial revolution increased productive capacity, but each also generated social conflict before institutions adapted. Like other revolutionary periods, AI agents also fit this historical pattern, yet they may exceed it because of their speed, scale, and low marginal replication cost.

But the differences are sharp. AI agents are the first technology in history to automate cognitive judgment under uncertainty at scale, not just physical effort, context-sensitive decision-making that has always been the core of professional and knowledge work. Therefore, the political economy of AI agents is not simply "who gets the productivity gains?" It is also "who controls the judgment?" History does not tell us how to answer that question. But it does tell us that the answer will not be determined by the technology itself. It will be determined by the choices we make while the technology is still in its early phases, which is exactly where we are now.

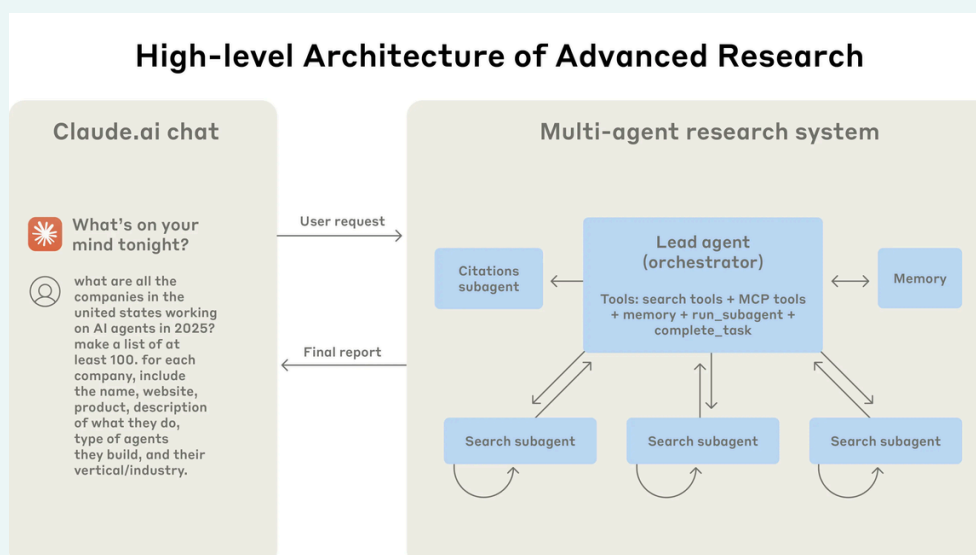
Impact of AI Agents on the Workforce According to Anthropic Reports



Arda AKGÜL
Economics 4th Year Student

AI agents are starting to modify work not so much by replacing entire occupations, but rather by changing the way that tasks are done in those occupations. Anthropic’s reports suggest that the effect of AI on the workforce today is task specific, uneven, concentrated in work with knowledge, and increasingly connected to automation through APIs and agentic ways. The most convincing evidence is in software development, writing, education, customer service, data entry and administrative work. However, Anthropic’s labor market evidence also warns on overemphasizing current job destruction: as of March 2026, Anthropic found no systematic increase in unemployment among highly AI-exposed workers, though it found suggestive evidence that young workers may be entering exposed occupations more slowly (Massenkoff & McCrory, 2026).

The findings from Anthropic point to a transition for the workforce toward more supervisory, validating, coordinating and managing roles for AI systems, and less of a direct producer of outputs. Unlike regular chatbots, AI agents are able to utilize tools, execute multi-step procedures, and make real-time decisions on how to accomplish a task. Anthropic describes “workflows” as systems where LLMs and tools follow predefined code paths, and “agents” as systems where LLMs dynamically direct their own processes and tool use (Anthropic, 2024). This distinction is important for workforce analysis, as agents can move AI from simply assisting to performing tasks in a semi-autonomous way. For instance, Anthropic’s multi-agent research system enables a lead agent to spawn parallel subagents to search, evaluate and synthesize information, demonstrating how agentic systems can scale research-like work beyond a single linear interaction (Hadfield et al., 2025).



Hadfield et al., 2025

One of the most useful empirical starting points is Anthropic's Economic Index, which looks at actual usage of Claude, rather than just forecasting future automation. Its first report analyzed around 4 millions anonymized conversations on Claude.ai, aligning them with occupational tasks from O*NET (Anthropic, 2025). The main message is that the use of AI is not uniform across the economy. It is intended for computer and mathematical work, technical writing, education, administrative support, and other knowledge-work activities.

Anthropic's evidence suggests that AI agents change work at the task level before they change occupations. In the first Economic Index report, only about 4% of occupations had AI use for 75% or more of their tasks, and about 36% of occupations had AI use for 25% or more of their tasks (Anthropic, 2025). This suggests that AI is spreading across jobs unevenly: some tasks are very affected, whereas other tasks are largely human.

This task-based view is important because most jobs are mixtures of different activities. Software developer may write code, review architecture, collaborate with colleagues, debug systems, and make design decisions. AI agents may have a strong impact on debugging and generation of boilerplate code, but less on strategic design or organizational judgment.

Anthropic's own internal study confirms this trend, with engineers reporting that they used Claude most often for correcting code errors and understanding codebases, and were less willing to fully delegate high-level design or strategic thinking (Anthropic, 2025).

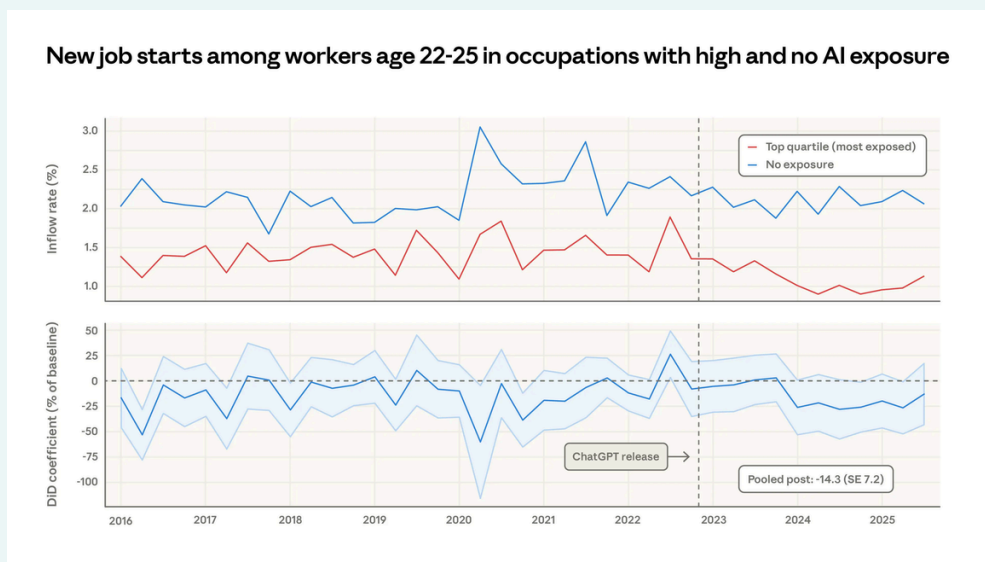
One of the key findings of Anthropic is that the state of AI today is a mixture of augmentation and automation. In the first Economic Index report, 57% of Claude use was classified as augmentation, where the AI collaborated with the user, and 43% was classified as automation, where the AI directly performed a task (Anthropic, 2025). That makes it harder to argue that "AI will just replace workers." AI agents can automate parts of tasks, but they also support workers by learning, validating, brainstorming and iterating faster.

However, Anthropic also notes a shift toward more automated use in business and API settings. In the January 2026 Economic Primitives report, automated use was dominant in first-party API traffic. Office and administrative support tasks rose to 13% of API traffic by November 2025 (Appel et al., 2026). This suggests that businesses may increasingly embed AI into workflows like email management, document processing, CRM, scheduling, and customer support. Anthropic's productivity work suggests that AI agents might save a lot of time on specific tasks. In its productivity gains report, Anthropic estimated that some curriculum-development tasks were completed in 11 minutes, while Claude estimated they would take 4.5 hours without AI. It also estimated 87% time savings for writing invoices, memos, and documents, and 80% time savings for some financial-analysis tasks (Tamkin & McCrory, 2025). This doesn't mean that all workers will suddenly be more productive. Productivity improvements depend on how well AI tools are adopted, the type of tasks being done, the need for verification, and changes in organizational structure. Anthropic itself warns that productivity gains may be limited if businesses only speed up old tasks without changing workflows. A bigger shift might happen when companies reorganize meetings, review systems, quality control, and project management around AI agents (Tamkin & McCrory, 2025).

Anthropic’s internal research on the workplace shows both hope and concern. Employees reported using Claude in 60% of their work and experiencing a 50% boost in productivity. However, most said they could fully delegate only 0-20% of their tasks. This suggests that while AI is becoming a consistent partner, it isn’t yet a fully independent worker (Anthropic, 2025). The same report also points to risks related to skill loss and reduced human interaction. Some employees were concerned that if Claude solves problems too quickly, workers might miss out on the valuable learning that comes from working through issues like code, documentation, and debugging on their own. Others noted that Claude became the first source for questions that used to be directed to colleagues, which could undermine mentorship and informal learning (Anthropic, 2025).

AI agents impact the workforce in several interrelated ways. First, they speed up tasks by enabling workers to complete their current duties more rapidly, especially in fields like software development, analysis, and teaching. Second, they automate routine digital tasks, making it easier to delegate activities like data entry, customer service, and administrative support to AI systems. Third, AI agents allow workers to expand their skills by taking on tasks outside their areas of expertise, such as backend engineers generating frontend jobs or researchers building dashboards. However, this also means that workers need to supervise, edit, and take responsibility for AI-generated results, especially in programming, law, and finance. Finally, AI may pose entry risks for junior workers, as entry-level programmers, analysts, and support staff might have fewer opportunities if companies use AI for basic tasks. This aligns with Anthropic’s broader finding that AI is currently used for both enhancing and automating work, with 57% of observed use supporting human capabilities and 43% handling tasks more directly.

The evidence regarding the labor market is still mixed. Anthropic’s March 2026 report found no consistent rise in unemployment among workers most affected after late 2022. However, it did discover early signs that workers aged 22-25 were less likely to find new jobs in vulnerable occupations, with a 14% decline in job-finding rates compared to 2022 (Massenkoff & McCrory, 2026). This indicates that the first effects of AI on employment may show up as fewer hiring opportunities for junior workers before leading to layoffs.



Massenkoff & McCrory, 2026

Anthropic believes that responses from policymakers should consider how quickly and widely AI is affecting the labor market. Its policy report discusses workforce training, retraining incentives, support for adjustments, financial tools, and ways to share the benefits generated by AI (Anthropic, 2025). The main takeaway is that governments and businesses should not wait for mass unemployment before taking action. They need to create monitoring systems, pathways for reskilling, and support structures for workers whose tasks are affected by automation.

For companies, the practical response is to redesign jobs to focus on human strengths like judgment, accountability, taste, relationship-building, ethics, and context. The future worker may not just “use AI”; they may manage multiple AI agents, verify results, decide what should not be automated, and take responsibility for final decisions.

According to Anthropic’s reports, AI agents are already changing the workforce, but the impact is uneven, task-based, and still evolving. The most evident effects include productivity gains, automation of routine digital tasks, expanded worker capabilities, and new patterns of collaboration. The jobs most affected include computer programming, customer service, financial analysis, data entry, and administrative support. However, Anthropic’s findings do not yet support a straightforward narrative of immediate widespread unemployment. Instead, the emerging picture shows a shift from direct task execution to AI supervision, validation, and organization. The main challenge for policymakers is to ensure that these productivity gains are shared broadly while ensuring that workers, especially younger and entry-level employees, are not excluded from the learning opportunities that help build long-term skills.

References

- Anthropic. (2025, October 14). Preparing for AI’s economic impact: Exploring policy responses. Anthropic.
- Appel, R. E., Massenkoff, M., McCrory, P., McCain, M., Heller, R., Neylon, T., & Tamkin, A. (2026, January 15). Anthropic Economic Index report: Economic primitives. Anthropic.
- Schluntz, E., & Zhang, B. (2024, December 19). Building effective agents. Anthropic.
- Hadfield, J., Zhang, B., Lien, K., Scholz, F., Fox, J., & Ford, D. (2025, June 13). How we built our multi-agent research system. Anthropic.
- Handa, K., Tamkin, A., McCain, M., Huang, S., Durmus, E., Heck, S., Mueller, J., Hong, J., Ritchie, S., Belonax, T., Troy, K. K., Amodei, D., Kaplan, J., Clark, J., & Ganguli, D. (2025). Which economic tasks are performed with AI? Evidence from millions of Claude conversations. arXiv.
- Hadfield, J., et al. (2025, June 13). How we built our multi-agent research system. Anthropic. <https://www.anthropic.com/engineering/multi-agent-research-system>
- Huang, S., Seethor, B., Durmus, E., Handa, K., McCain, M., Stern, M., & Ganguli, D. (2025, December 2). How AI is transforming work at Anthropic. Anthropic.
- Massenkoff, M., & McCrory, P. (2026, March 5). Labor market impacts of AI: A new measure and early evidence. Anthropic.
- Tamkin, A., & McCrory, P. (2025, November 25). Estimating AI productivity gains from Claude conversations. Anthropic.

ECON DICTIONARY

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Opportunity Cost

The value of the best alternative that is given up when making a decision. In economics, every choice involves a trade-off because resources such as time, money, and labor are limited. Opportunity cost represents not only the financial cost of a decision, but also the potential benefits that could have been gained from choosing another option. For example, when a student decides to spend time studying instead of working, the income they could have earned becomes the opportunity cost of studying. This concept is important because it helps individuals, businesses, and governments evaluate the true cost of their decisions and allocate resources more efficiently.

Monopoly

A market structure in which a single company or producer dominates the entire market for a product or service. Monopolies often have the power to control prices and limit competition.

Supply Chain

The entire system involved in producing and delivering goods or services, from raw materials to final consumers. Disruptions in the supply chain can lead to shortages, delays, and higher prices.

Liquidity

The degree to which an asset can be quickly converted into cash without causing a significant change in its market value. Cash is considered the most liquid asset, while real estate is usually less liquid.

Fiscal Policy

The use of government spending and taxation policies to influence a country's economic activity. Governments may increase spending during recessions or reduce it during periods of high inflation.

Recession

A period of economic slowdown marked by declining production, lower consumer spending, rising unemployment, and reduced business activity. Recessions can affect both national and global economies.

ECON DICTIONARY

Human Capital

The economic value of a person's skills, knowledge, education, and experience. Investments in education and training help improve human capital and increase productivity.

Stagflation

An economic condition characterized by high inflation, slow economic growth, and rising unemployment occurring at the same time. It is considered difficult to solve because policies targeting one problem may worsen another.

Price Elasticity

A measure of how much the demand or supply of a product changes in response to a change in its price. Products with many alternatives usually have more elastic demand.

Subsidy

Financial assistance provided by the government to support businesses, industries, or consumers. Subsidies are often used to encourage production, reduce prices, or promote socially beneficial activities.



Market Failure

A situation in which the free market does not allocate resources efficiently, leading to outcomes that may harm society. Causes of market failure include externalities, monopolies, and information asymmetry.

Diversification

The strategy of spreading investments across different assets, industries, or markets in order to reduce financial risk. Diversification helps investors avoid depending too heavily on a single investment.

The Rise of AI Agents: How the Most-Used Agentic LLM Is Reshaping Finance and Beyond

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Claude Opus 4.6
Large Language Model, Anthropic

This article is completely written by AI and not edited by humans.

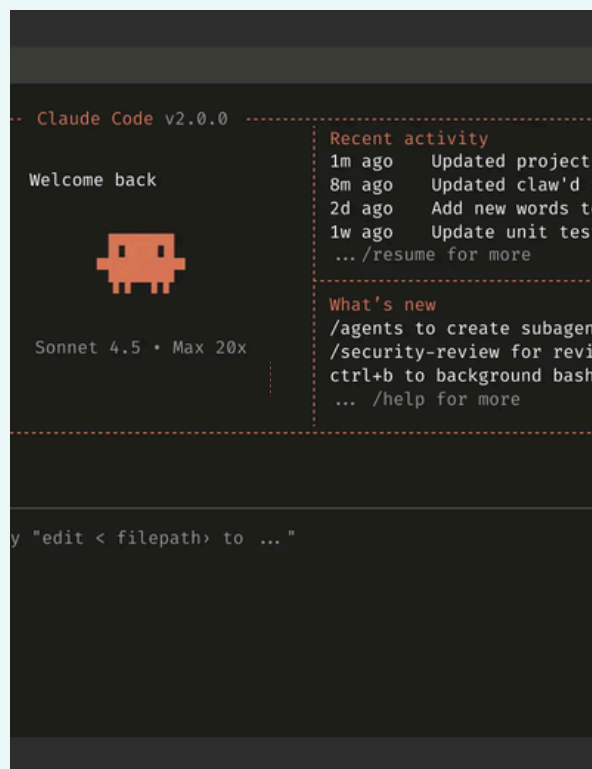
The age of passively querying a chatbot is ending. In its place, a new paradigm is emerging — one where large language models do not merely answer questions but autonomously plan, reason, and execute multi-step tasks on behalf of humans. Welcome to the era of AI agents.

What Are AI Agents?

In the simplest terms, an AI agent is a software system built on top of a large language model (LLM) that can perceive its environment, make decisions, and take actions to accomplish a goal — all with minimal human intervention. Unlike a traditional chatbot that responds to a single prompt and waits for the next one, an agent can break a complex objective into subtasks, call external tools such as databases, APIs, and web browsers, evaluate intermediate results, and adjust its strategy on the fly.

Consider the difference between asking a language model "What were Apple's quarterly revenues last year?" and instructing an agent "Analyze Apple's last four earnings calls, compare gross-margin trends against its semiconductor suppliers, and draft a two-page investment memo with sourced data." The first is a lookup. The second is a workflow — and that distinction is what makes agents transformative.

The architectural backbone of most modern agents follows what researchers call the "ReAct" pattern: Reason, then Act. The model thinks through what it needs to do, executes a tool call (reading a file, querying a database, browsing the web), observes the result, and then reasons again about the next step. This loop continues until the task is complete. Frameworks such as LangChain, CrewAI, and Anthropic's own Model Context Protocol (MCP) have standardized this loop, making it accessible to developers worldwide.



Claude: The Most-Used LLM for AI Agents

Among the growing constellation of foundation models — GPT-4o, Gemini, Llama, Mistral, and others — one model has emerged as the clear favorite for agentic applications: Anthropic's Claude. According to multiple industry benchmarks and developer surveys published in early 2026, Claude consistently ranks as the most-used LLM powering autonomous agent workflows across enterprise and open-source ecosystems alike.

Why Claude? Three factors stand out. First, Claude's instruction-following fidelity is exceptionally high. When an agent's reasoning chain depends on the model executing a precise sequence of tool calls without "hallucinating" extra steps or skipping critical ones, reliability is paramount. Anthropic's Constitutional AI training methodology appears to give Claude an edge in this regard, producing outputs that are both accurate and well-calibrated in their uncertainty. Second, Claude offers an industry-leading context window — currently up to one million tokens in its production API — which allows agents to ingest and reason over massive documents, entire codebases, or lengthy financial filings in a single pass without the information loss that plagues retrieval-augmented workarounds. Third, Claude's native support for structured tool use, computer interaction, and the open Model Context Protocol (MCP) means that developers can plug it into virtually any enterprise system — from a Bloomberg terminal to an internal ERP — with minimal glue code.

The numbers tell the story. Anthropic reported that as of Q1 2026, over 60 percent of API traffic to Claude involves multi-turn, tool-augmented sessions — the hallmark of agentic usage. Independent surveys from Reworkd, LangChain, and Stack Overflow's 2026 Developer Survey corroborate this trend, placing Claude at the top of the "preferred model for agent development" category for the second consecutive year.

Portfolio Research and Due Diligence: Investment analysts spend a significant portion of their workday reading earnings transcripts, regulatory filings, and macroeconomic reports. An AI agent equipped with a financial data API can ingest a company's entire 10-K filing, cross-reference it against sector benchmarks from Bloomberg or Refinitiv, flag anomalies in cash-flow statements, and produce a draft research note — all within minutes. Firms such as Bridgewater Associates and Citadel have publicly acknowledged experimenting with Claude-based agents for exactly this kind of accelerated due diligence.

Risk Management and Compliance: Regulatory compliance is one of the most labor-intensive functions in banking. Anti-money-laundering (AML) teams routinely review thousands of transaction alerts per week, the vast majority of which are false positives. Agentic systems can triage these alerts by autonomously pulling customer records, cross-checking sanctions lists, reviewing transaction histories, and drafting Suspicious Activity Reports (SARs) that human compliance officers then verify. Early deployments at European banks have reportedly reduced false-positive review time by over 40 percent.

AI Agents in Finance: From Back-Office Automation to Autonomous Analysis

Perhaps no industry stands to benefit from agentic AI more than finance. The sector is, by nature, data-dense, regulation-heavy, and time-sensitive — precisely the environment where autonomous reasoning shines.

Algorithmic Trading Strategy Development: While fully autonomous AI-driven trading remains in its infancy due to regulatory constraints, agents are already being used upstream in the strategy-development pipeline. A quantitative researcher can instruct an agent to backtest a momentum strategy across ten years of equity data, optimize parameters using walk-forward analysis, generate performance tearsheets, and summarize the results with an interpretation of the Sharpe ratio and maximum drawdown. What once took a junior quant a full week can now be prototyped in an afternoon.

Personal Finance and Wealth Management: On the retail side, AI agents are being embedded into neobank and robo-advisor platforms to offer genuinely personalized financial guidance. Rather than presenting a static risk-tolerance questionnaire, an agent can engage a user in a natural-language conversation, analyze their spending patterns from linked bank accounts, simulate retirement scenarios under varying assumptions, and recommend a diversified portfolio — all while explaining the reasoning behind each allocation in plain language.

Risks and the Road Ahead

The promise is enormous, but so are the risks. Autonomous agents operating in high-stakes financial environments introduce questions of accountability, explainability, and systemic risk that regulators are only beginning to address. The European Union's AI Act, which entered enforcement in early 2025, classifies certain financial AI applications as "high-risk," requiring detailed documentation of training data, bias audits, and human-oversight mechanisms. In the United States, the SEC has signaled increased scrutiny of AI-generated investment advice. There is also the technical challenge of "compound errors." In a multi-step agent workflow, a small mistake in an early reasoning step can cascade into a fundamentally flawed output. This is why the reliability of the underlying LLM matters so much — and why the industry has gravitated toward Claude, whose error rates in structured tool-use benchmarks remain the lowest among frontier models.

Conclusion

AI agents represent a genuine paradigm shift, not merely an incremental improvement over chatbots. They transform large language models from passive oracles into active collaborators capable of executing complex, real-world workflows. Finance, with its insatiable appetite for data processing, risk analysis, and regulatory compliance, is among the first sectors to feel the impact — but it will not be the last. As the underlying models grow more reliable and the tooling ecosystem matures, the question for economics students and professionals alike is no longer whether AI agents will reshape their field, but how quickly they must adapt.

Anthropic. (2026). Claude model card and system prompts. Anthropic.

European Union. (2025). Regulation (EU) 2024/1689 — The AI Act. Official Journal of the European Union.

LangChain. (2026). State of AI agents report. LangChain Blog.

Stack Overflow. (2026). 2026 Developer Survey — AI & ML section. Stack Overflow.

Yao, S., Zhao, J., et al. (2023). ReAct: Synergizing reasoning and acting in language models. ICLR 2023.

How Economists Use Artificial Intelligence in Their Research

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Imagine three economists. The first studies why some workers earn more than others and opens a dataset with hundreds of candidate predictors per person. Schooling, family income, neighborhood, job history, and even commuting time. The puzzle is not how to fit a model. It is which variables to even put on the right-hand side. The second wants to predict the central bank's next rate move. But her data is not numbers. It is twenty years of policy statements. The third has built a macroeconomic model with thousands of interacting parts that no traditional method can solve. Ten years ago, none of these problems would have been solvable. Today, all three reach for some form of Artificial Intelligence (AI). And they are far from alone. Many also use it for prediction or causal inference. This article is about what they are reaching for, and why.

AI is in our lives more than you might think. And it is not one thing but a layered family, as Figure 1 shows. It started with humans writing rules for machines to follow. Imagine an early credit-scoring system. You give it a rule, “reject if income is below 2,000 dollars or three or more late payments,” and it evaluates every new applicant accordingly. Then came machine learning (ML). The algorithm reads thousands of past applications and figures out the rules itself. Researchers still pick which features to feed in, a step called feature engineering. Deep learning (DL) skips even that. The algorithm learns the features itself. Since 2022, large language models (LLMs) have gone further still, letting machines work with raw text the way they once worked with spreadsheets.

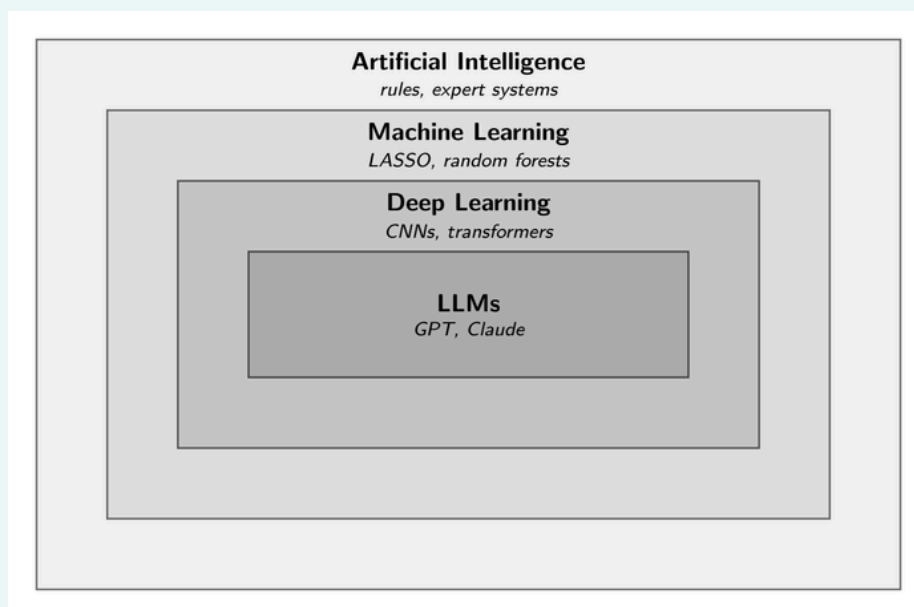


Figure 1. The AI family of methods nests inside itself. Each inner ring represents a more specific class of tools that emerged later. Adapted from Goodfellow, Bengio & Courville (2016), Fig. 1.4, with the LLM ring added.

For simplicity, I call every method we discuss AI, regardless of the precise label (ML, DL, or LLM). Economists use AI for five main purposes. Prediction. Causal inference. Variable selection and dimensionality reduction. Extracting information from unstructured data. And solving complex models. The list is not invented here. It comes from a short line of survey papers by Mullainathan and Spiess (2017), Athey and Imbens (2019), and Fernández-Villaverde (2025). And after a year and a half of scanning newly published papers in top economics journals for the ML&ECON Digest Substack, the same five purposes keep popping up. The categories often overlap. A single paper might extract text from central bank statements, use a variable-selection step to select the appropriate controls, and then estimate a causal effect using double ML.

Prediction

Prediction is one of the earliest and most common uses of AI in economics. Supervised ML models first forecast macroeconomic variables like inflation and asset prices, and have since spread to micro outcomes like house prices, loan defaults, and who responds to a job-training program. So why do these methods often beat traditional models? Not because they capture nonlinear patterns. They also discipline themselves. Penalties in models like LASSO or ridge regression prevent overfitting to noise, so predictions hold up on new observations.

But there is a price. ML predicts well but cannot explain. A random forest can forecast inflation and rank which variables matter, but it does not give the coefficients and standard errors economists need for inference. Mullainathan and Spiess (2017) call this the \hat{y} -versus- $\hat{\beta}$ split. ML is built for predicting outcomes (\hat{y}). Classical econometrics, for parameters ($\hat{\beta}$). Prediction also matters inside causal designs. Double ML, for example, predicts the outcome and the treatment from many controls, then estimates the causal effect from the residuals.

Causal Inference

An economics student hears “correlation is not causation” early in their econometrics course. So what is causation, and how can we use AI to study it? Causal inference asks what would have happened if a person had received a different treatment, but we never observe both worlds. Modern methods use ML to estimate the missing counterfactual. Tools like double ML and causal forests build data-driven control groups while keeping the parameter of interest interpretable. Athey and Imbens (2019), the standard reference on ML for causal inference, draw a clear line. ML does not replace identification. It replaces the ordinary least squares (OLS) step inside an identification strategy that the researcher has already designed.

Variable Selection and Dimensionality Reduction

Often, the question is not which model fits best, but which variables to keep, or how to compress many into a few. Two approaches handle this. The first is variable selection. Methods like shrinkage estimators add a penalty on coefficients, pushing weak signals to zero, leaving a sparse, interpretable model. The second is dimensionality reduction. Principal component analysis or autoencoders compress correlated predictors into composite features, as macroeconomists do with factor models. Both also feed into causal designs. In instrumental variable (IV) settings with many candidate instruments, ML can pre-screen valid ones before the second stage.

Unstructured Data

Empirical economics used to run on numbers like wages, prices, GDP, and balance-sheet items. But economic activity also leaves a non-numeric trail. Text is the common one, but the same logic applies to audio and images. Speech models extract tone and hesitation from earnings calls. Satellite imagery proxies for local economic activity where official statistics are weak. Computer-vision models classify housing quality or crop conditions from photos. Gentzkow, Kelly, and Taddy (2019) made the early case for treating text as data. Dell (2025) extends it. DL here is a measurement tool that imputes structured variables from text, images, and audio for use in econometric designs. Data that economists once skipped past is now data they can put on the right-hand side of a regression.

Solving Models

Macroeconomic models often require solving systems of high-dimensional equations. Think of a heterogeneous-agent model whose state space can run into the thousands, or a New Keynesian model where the zero lower bound binds stochastically. Classical methods like value function iteration and perturbation-based methods run into the curse of dimensionality. Economists end up working on the models they can solve, not the ones they would like to solve. DL offers another path. Neural networks approximate solutions by minimizing residuals under equilibrium conditions, handling high-dimensional spaces directly. A growing literature now solves dynamic models that were intractable a decade ago. So this is no longer prediction or inference. It is computation. Fernández-Villaverde (2025), the recent benchmark on this approach, walks through it using the neoclassical growth model.

Why It Matters

What ties these five uses together is not a single algorithm but a way of approaching empirical work. AI fits into existing economic research designs rather than replacing them. What matters is knowing which tool fits which question.

References:

- Athey, S., & Imbens, G. W. (2019). Machine learning methods that economists should know about. *Annual Review of Economics*, 11, 685–725.
- Dell, M. (2025). Deep learning for economists. *Journal of Economic Literature*, 63(1), 5–58.
- Fernández-Villaverde, J. (2025). Deep learning for solving economic models (NBER Working Paper No. 34250). National Bureau of Economic Research.
- Gentzkow, M., Kelly, B., & Taddy, M. (2019). Text as data. *Journal of Economic Literature*, 57(3), 535–574.
- Goodfellow, I., Bengio, Y., & Courville, A. (2016). *Deep learning*. MIT Press.
- Mullainathan, S., & Spiess, J. (2017). Machine learning: An applied econometric approach. *Journal of Economic Perspectives*, 31(2), 87–106.

Is having a common currency beneficial for EU countries?

"If the Euro fails, Europe fails."

-Angela Merkel



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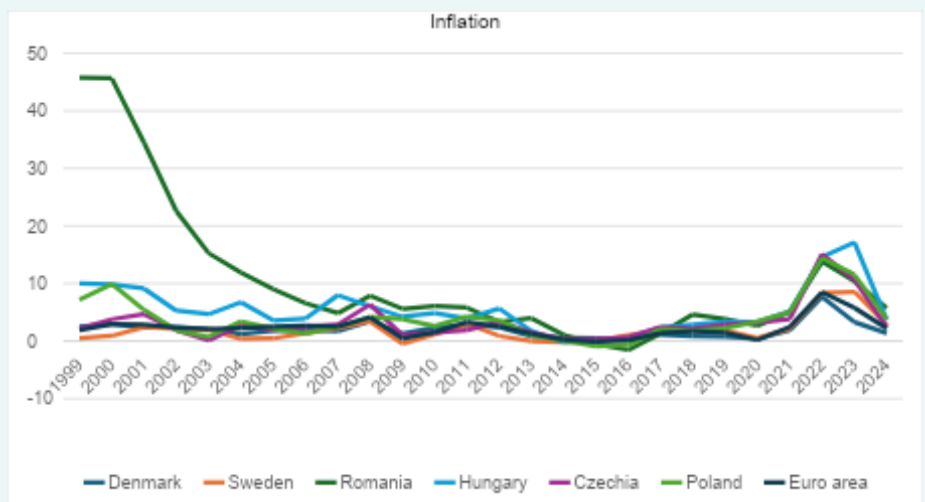
Europe is seen as the centre of enlightenment and civilization thanks to having crucial periods like the Renaissance and industrial revolution. Besides that, Europe has struggled with conflicts, and following world wars devastated most European cities in terms of infrastructure, institutions, and population, so European economies spent time fixing their economies. The European Union was established in 1991 after the collapse of the Berlin Wall. To join the European Union itself, a country must fulfil the Copenhagen Criteria, such as democracy and the existence of the rule of law. To then enter the Euro Area, a country must also meet the Maastricht Criteria, such as price stability and a budget deficit of around 3 percent. Croatia joined the Euro Area in 2023, and Bulgaria joined the Euro Area in 2026.

The common currency, the Euro, satisfies economic integration, low inflation, low exchange rate, low trade cost and has a reserve currency for the Euro Area countries.

However, from the establishment, the vulnerability of the economic system of the European Union has demonstrated that every member reacted to exogenous shocks differently.

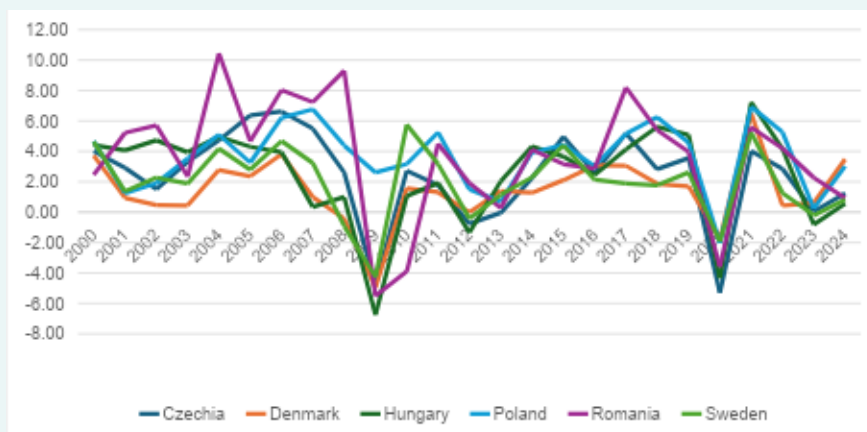
Also, endogenous shocks like the European Debt Crisis within the union could harm other members. These cases lead us to ask these questions: Is the adoption of the Euro as a common currency suitable for European Union members, and is having a common currency, the Euro, adequate to bring inflation down? These questions might be answered by looking at different perspectives, the first one is the monetary policy perspective.

Sweden, Denmark, Hungary, Romania, Czechia and Poland are non-Euro Area countries of the EU. To answer these questions, it's necessary to look at monetary policy tools like inflation and Real GDP data of those countries to compare with the Euro Area.



Source: World Development Indicators

From the inflation of non-Euro Area and Euro Area data below, it can be seen that there is a similar trend between the two groups over the two decades. Non-Euro Area countries' inflation was below 10 per cent during the European Debt crisis between 2010 and 2012, which hit Euro Area members like Greece and Portugal.



Real GDP Growth

Source: World Development Indicators

Some shocks, like the 2009 global financial crisis, have demonstrated that the flexibility of using one's own currency decreases the harm of shocks to the economy. Cases of non-Euro Area countries might be examined by using a similar Trilemma of Dani Rodrik. The Trilemma includes national sovereignty, a democratic state and hyper globalization currency, which is the Euro for the EU, and the country must pick two of three policies and must give up one of them. Countries like Sweden and Denmark prefer nation-states, democratic states, by giving up the Euro. Vermeiren (2013) argues that non-Euro Area countries have flexibility by refusing economic integration and insulating themselves from possible shocks by protecting national sovereignty and democratic politics

The people of Sweden refused to be integrated into the Euro in 2003 to protect the flexibility of the Swedish Krona and national sovereignty. Likely, Denmark refused the Maastricht Criteria in 2000 to protect the flexibility of the Danish Krone and national sovereignty, and the EU provided Denmark an opt-out, which includes stabilization of the Danish Krone with the Euro.

Furthermore, Poland, which uses the Zloty, has been affected minimally among European Union members in the 2009 global financial crisis. Drozdowicz-Bieć (2011) states that Poland was the only member of the European Union that avoided the global financial crisis in 2009, and the flexibility of the Zloty helped Poland to enhance exports through the global financial crisis. Also, Poland takes advantage of financial stability in the firm dynamics side, and Akcigit et al. (2023) argue that Poland has considerable development in innovation in Eastern Europe and has moved from low to middle income.



Czech Central Bank

Ceska Narodni Banka, Prague

Source: Mehmet Orkun Apaydin Archive

Czechia stays away from using the Euro due to cultural and economic concerns. Baun et al. (2010) argue that the Czech Krona symbolises economic stability and independence, so moving the Euro from the Krona is not just an economic decision. Horvath (2007) states that independent monetary policy is a kind of insurance to avoid a crisis.

There is a historical background of disagreement about a common currency, from the Rodrik Trilemma perspective. Ortaylı (2026) states that the economic integration of the European Union is a project that appears perfect on paper; however, it fails to account for the profound social and cultural differences within Europe's fabric. The economic structure of Northern Europe, shaped by the Protestant ethic and discipline, cannot be fused in the same melting pot (the Euro) as the Mediterranean world, which is more flexible, prone to the informal economy, and detached from such discipline. This is akin to forcing a suit of armour onto a weak-bodied economy that it simply cannot carry. Consequently, while the hegemony of the strong (Germany) increases, others lose their room for manoeuvre (Ortaylı, 2026, p. 185).

In conclusion, using the Euro provides economic integration, low inflation, a low exchange rate, low trade costs, and a reserve currency for Euro Area countries; however, during crises, non-Euro Area countries have the flexibility to mitigate the impact of possible shocks, as in Poland's case during the 2009 crisis. Moreover, non-Euro Area countries have national sovereignty and democratic state concerns against the acceptance of the Euro. There is no certain answer for these questions, common currency preferences of EU members depend on members' political, economic and cultural attitudes, so the Euro could be just as advantageous as not using it, and not using the Euro might be beneficial for European Union members.



References:

Baun, M., & Marek, D. (2010). "The Czech Republic and the Euro: Public Opinion and the Political Economy of Euro Adoption", *Journal of Contemporary European Studies*, 18(2), 179-194.

Drozdowicz-Bieć, M. (2011). "Reasons Why Poland Avoided the 2007-2009 Recession", *Prace i Materiały Instytutu Rozwoju Gospodarczego (SGH)*, 86(2), 39-66.

Horvath, R. (2007). "Ready for EMU? Evidence for the Czech Republic."

Ortaylı, İ. (2026). *Europe and Us (Avrupa ve Biz)*. Istanbul: Kronik Kitap. (pp. 182-190).

Rodrik, D. (2011). *The globalization paradox: Democracy and the future of the world economy*. W. W. Norton & Company.

Vermeiren, M. (2013). "The Political Economy of the Eurozone Crisis: A Rodrikian Perspective.", *Journal of Common Market Studies*, 51(6), 1194-1210.

World Bank. (2024, August 1). From shadows to sunrise: How to overcome the middle-income trap. World Bank Blogs. <https://blogs.worldbank.org/en/developmenttalk/from-shadows-to-sunrise-how-to-overcome-the-middle-income-trap>

World Bank. (t.y.). World Development Indicators. <https://databank.worldbank.org/source/world-development-indicators>

How Commuting Is Affecting Our Mood?



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Commuting is a concept for some of us that is scary and stressful. As a person who is commuting almost every day between Batıkent and Kolej using public transport, I am quite sure that I am also among these people. On some days, I am not using the metro due to the congestion, although it will be quicker. Instead, I am trying to find alternative ways to my home which are not as crowded as the Ankara Metro. Besides, I sometimes even feel bad when I remember that I have to use public transport to come back home. Due to “commuting” being a stressful concept in my life, I wanted to read literature and learn about this topic. In this article, you will read my findings in the literature.

Commuting Paradox

Firstly, the Standard Urban Model (Alonso, 1964; Muth, 1969; Mills, 1972) is a model that can explain a lot of daily concepts, such as rent prices, house and work locations. The model explains that in the city centers, house rents are high, but your commuting time is very low. However, if you are far from the city center, there are cheaper houses but a longer commuting time. Besides, your house satisfaction could be higher due to the larger houses and gardens. Therefore, people can compensate for their work commute with higher satisfaction that comes from bigger houses or cheaper rents. As a result, there is a general equilibrium where no one can move to a place that gives higher utility. However, some economists argue that there is a “commuting paradox” of people in real life. In other words, they think that people couldn’t compensate for their utility level if they are living far from the city center, which means their work. The theory is brilliant, but is it aligned with real life?

Stutzer and Frey (2008) investigated the link between the theory and the data. By using the German Socioeconomic Panel survey (GSOEP) between 1985 and 2003, they tried to compare the utility level differences by commuting time. To calculate the utility level, they used subjective well-being level data that comes from GSOEP as a proxy variable. Their initial assumption is that the utility level will not change as the commuting time changes. The reason behind that is the Standard Urban Model’s compensation.

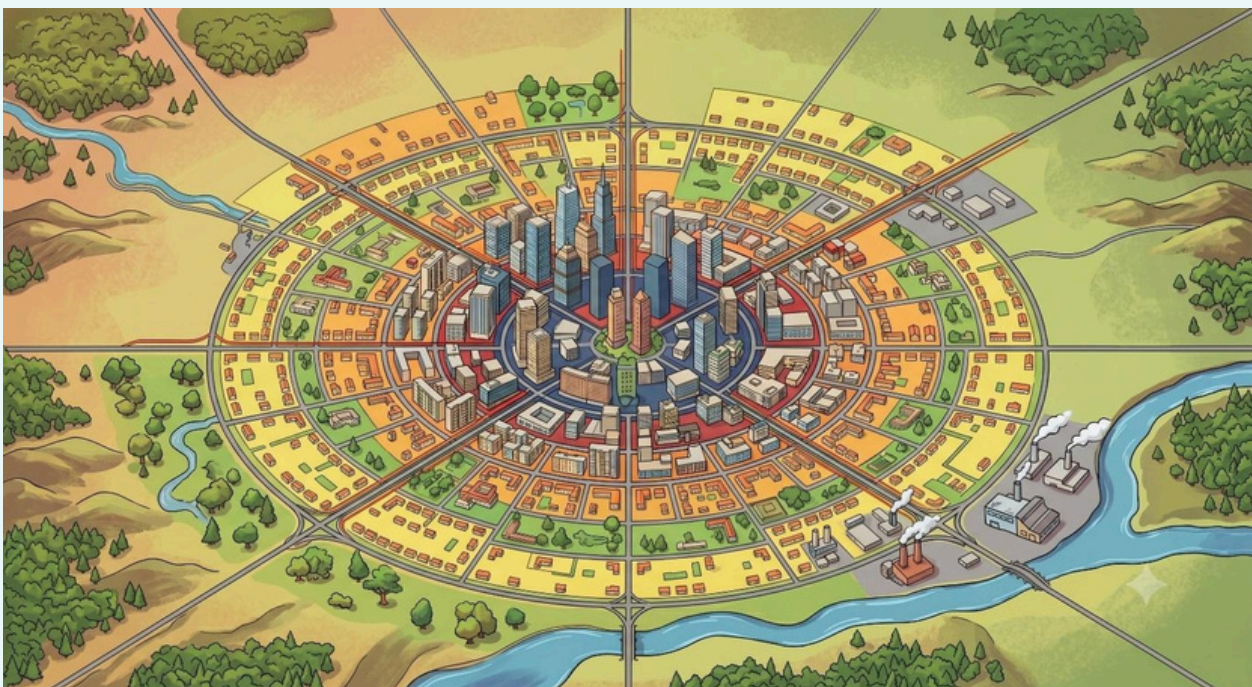


Basically, people can compensate for their well-being by renting cheaper or better houses even though these houses are far from the city center. However, if there is a statistically significant well-being level difference between the individuals who are suffering from different commuting times, that means that there isn't enough compensation for these people. The results of this study show that people's subjective well-being decreases as commuting time increases.

Hence, the theory isn't aligned with the data, and people cannot compensate for their utility level in real life. The authors named that situation the "commuting paradox". Moreover, they found that people need a 35.4% increase in their wages on average to fully compensate for their subjective well-being.

Does Commuting Type Matter?

Commuting time is not the only thing that affects utility. Commuting type is also effective. Olsson et al. (2013) focus on happiness and commuting. In this study from Sweden, they divide the communication types into 3: private cars, public transport, and biking or walking. According to the results of this study, the people who are walking or biking as commuting have higher satisfaction levels than commuting with cars or public transportation. Another finding is that increasing commuting time also decreases the satisfaction level. Therefore, people's satisfaction levels aren't just related to the duration of commuting but also to the type of commuting.



Monocentric City (Google Nano Banana 2)

Another study from the Netherlands mainly focused on different commuting types and their effects on people's moods (Lancée et al., 2017). Their results showed that the people who are using public transport for commuting have the lowest happiness. Similarly, walking and riding a bike are the best in terms of happiness levels. A different finding is that commuting with someone also affects your mood positively.

Although these papers perfectly reflect my experiences, I am also wondering about the Turkish literature on this topic. Serin Atis et al. (2022) investigated the relation between commuting, mood, and job performance. People who are using public transportation as commuting have a significantly worse mood than using private cars. Another finding is that people who have lower moods are also performing worse in their jobs. However, they couldn't find any significant relation between commuting duration and job performance.

I think these papers explain perfectly the situation that most people feel every day. Even though reading these papers will not provide a better experience for me, I believe that we can still make our journey enjoyable by socializing or focusing on ourselves.



Reference :

Alonso, W. (1964). Location and land use: Toward a general theory of land rent. Harvard University Press.

Lancée, S., Veenhoven, R., & Burger, M. (2017). What way of travel feels best for what kind of people? Mood during commute in the Netherlands. *Transportation Research Part A*, 104, 195–208. <https://doi.org/10.1016/j.tra.2017.04.025>

Mills, E. S. (1972). *Studies in the structure of the urban economy*. Johns Hopkins University Press.

Muth, R. F. (1969). *Cities and housing*. University of Chicago Press.

Olsson, L. E., Gärling, T., Ettema, D., Friman, M., & Fujii, S. (2013). Happiness and satisfaction with work commute. *Social Indicators Research*, 111, 255–263. <https://doi.org/10.1007/s11205-012-0003-2>

Serin Atis, G., Ozic, A. B., Bukruk, T., Ozkaya, E., & Kantas Yorulmazlar, O. (2022). The association between commuting, mood and job performance: the structural equation modelling approach. *International Journal of Occupational Safety and Ergonomics*, 28(4), 2599–2605. <https://doi.org/10.1080/10803548.2021.2010970>.

Stutzer, A., & Frey, B. S. (2008). Stress that doesn't pay: The commuting paradox. *Scandinavian Journal of Economics*, 110(2), 339–366. <https://doi.org/10.1111/j.1467-9442.2008.00542.x>

Transportation and Infrastructure From An R&D And Innovation Perspective

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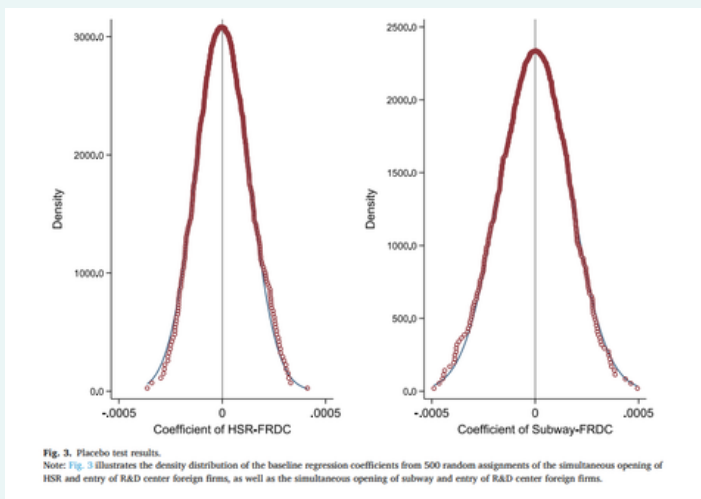
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Despite enormous literature on R&D activities and innovations, the role of transportation and innovation is still to be examined. Recent studies show that high-speed rails (HSR), subways, and highways all have a substantial effect on R&D activities and innovations.

Previous studies present two main ways that transportation and infrastructure influence innovation. The first way is knowledge-spillovers. These spillovers come from the fact that when people are able to transport between areas, they also transport ideas, which comes back in a much more enhanced and developed style. This brings forth cooperation between firms and increases their room for innovation. The second way is decreased travel expenses. With reductions in cost, people have a greater chance of mobility, which once again contributes to cooperation and, hence, additional output (Zhang & Cui, 2025). One more noteworthy point is that the demand for innovation can raise when railway systems merge internal and external markets through trade (Donaldson & Hornbeck, 2016).

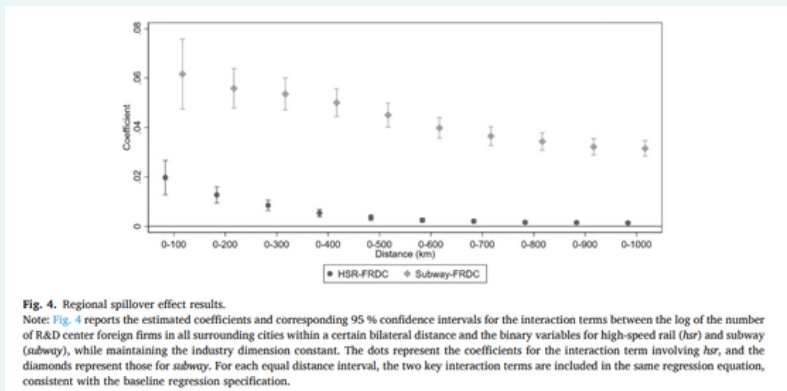
To discuss an example, we can look at China and their HSR. With over 45,000 km of operational rails, China has the most operational train transportation system globally. A contemporary study by Zhang and Cui (2025) points out that HSR lines improve resource allocation through increased labor flexibility, as workers have a better opportunity to be matched with a more suitable job. This leads to firms having increased human capital, which contributes to increased R&D investments. Another key finding is that HSR creates more efficient financial systems by making it easier for banks, firms, and investors to meet together and so acquire credit approvals needed for producing innovative outputs.

We may continue once again with China, this time by referring to the work of Li et al. (2025). Li et al. look at HSR together with subways. They find that there is an increase in technology spillovers from foreign R&D firms when there are HSR lines and subways. In similarity to HSR, subways also lower the distance between regional firms and R&D firms, consequently easing labor movements and increasing access to technology. Moreover, if the area has high-quality institutions and therefore a better implementation of law and if the rate of competition is high, then the effect of HSR and subways on technology spillovers multiplies. We can note that this effect is greater in developing and high technology industries.



Lastly, we can examine the research of Mao et al. (2024), Mao et al. (2024), in difference to the other authors we have mentioned, focuses on Chinese highways instead of railways. They put forward several essential results. These results include the following: there is a positive relationship between highway construction and firm innovation. With each new highway, the patent applications by firms increase by more than 1.5%.

Li et al. (2025)



Li et al. (2025)

There is a 0.7% increase in firm applications for patents when one more highway intersects with another. When compared internationally, between countries with and without highways, firms in countries with highways increase their patent applications by nearly 4% when a new highway is available. Not so differently from our previously mentioned authors, they also look at the effect of knowledge spillovers, constraints in financing, and additionally labor wage distortions. The effect of knowledge spillovers is

the same as for HSR and subways; there is increased innovation by firms as reaching knowledge is easier. Also, when there are more highways, firms can reduce their financial constraints to an important extent. Finally, it is known that there is a negative relationship between labor wage distortions and the level of innovation. Highways in this sense have the potential to reduce these distortions.

In conclusion, R&D activities and innovation are affected by transportation infrastructures such as high-speed rails, subways, and highways through various channels the two main ones being spillovers and cost reductions.

References:

- Donaldson, D., & Hornbeck, R. (2016). Railroads and American Economic Growth: A “Market Access” approach*. The Quarterly Journal of Economics, 131(2), 799–858. <https://doi.org/10.1093/qje/qjw002>
- Li, L., Liu, B., Sheng, B., & Wang, T. (2025). “A tale of two rails”: Transportation infrastructure and technological spillovers from R&D center foreign firms. China Economic Review, 90, 102367. <https://doi.org/10.1016/j.chieco.2025.102367>
- Mao, N., Sun, W., & Zhang, L. (2024). The innovation effects of transportation infrastructure: Evidence from highways in China. Economics of Transportation, 38, 100352. <https://doi.org/10.1016/j.ecotra.2024.100352>
- Zhang, X., & Cui, T. (2025). Transportation Infrastructure and Innovation: Evidence from China’s High-Speed Railways. Sustainability, 17(22), 10004. <https://doi.org/10.3390/su172210004>

AI-Employment Puzzle: An Exclusive Interview with Prof. Dr. Cilasun

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Prof. Dr. Seyit Mümin Cilasun, Arda Akgül, and Ezgi Eylem Erdoğan during the interview.

The global economy is changing in terms of structure, with the help of artificial intelligence transitions. The economies' rules are being rewritten in real time, from the rise of autonomous AI agents to the shifts of the labor market. But what does this mean for policymaking, the future of the workforce and developing nations such as Türkiye?

To understand these complex changes, Arda Akgül and Ezgi Eylem Erdoğan from TEDU ERU interviewed Prof. Dr. Seyit Mümin Cilasun..

Prof. Cilasun has a unique background as he bridges academia and high-level policymaking, including his tenure as Deputy General Manager of Structural Economic Research at the Central Bank of the Republic of Türkiye, and now leads the Applied Data Science Master Program, as well as Applied Data Science Center beside being a faculty member at TED University Economics Department. In this exclusive interview, he gives his thoughts on the intersection between data science and traditional econometrics, the threat of wage polarization, and why tomorrow's economists will need to learn to treat AI not as a replacement, but as a colleague.

1) Before we dive into the technological shifts, let's talk about your personal journey. We know you specialize in areas like econometrics, microeconometrics, and development economics. What initially motivated you to choose economics?

Let's start with a somewhat disappointing answer: it was entirely by chance. Back when we took the university entrance exams, you had to make your choices right as you entered. I didn't really know the difference between business administration and economics, or what either profession actually did. I just followed the standard ranking for my academic track: business, economics, international relations, public administration. Economics at Middle East Technical University was selected. Looking back, it was probably one of the luckiest moments of my life.

My love for economics didn't really blossom until my senior year. Through elective courses, I finally grasped how economics contains such diverse, high-quality information, and how enjoyable it is to understand those concepts. Even my transition into academia was a stroke of luck, I applied for a Master's degree at Hacettepe University on the very last day. But the professors there, had a profound impact on me. That's when I decided I wanted to be an academic.

2) Alongside your academic work, you've held significant roles at the Central Bank of Türkiye. How did your experience in a policymaking institution intersect with your academic perspective?

I place a massive emphasis on the intersection of social sciences and policymaking. In the academic world, the research you produce often stays trapped within a journal, reaching a very limited audience. On the flip side, policymakers, especially in Türkiye, rarely have the time or connection to sift through academic journals for guidance.

The Central Bank is arguably the best place in Türkiye that bridges this gap. It is highly active in the policymaking process, but it also possesses a deeply qualified human resource pool capable of producing academic knowledge. Being there showed me how much these two worlds need each other. Seeing your research directly utilized to design policies that improve things is far more rewarding than just publishing a highly-cited paper. Today, whether I'm doing academic work or consulting for institutions like the Ministry of Trade or KOSGEB, I always start by asking: "What practical policy can we derive from this data?"

3) Economics has increasingly shifted toward a data-driven field. As the Director of an Applied Data Science Center, how do you see the rise of data science tools, like Python and machine learning, transforming traditional economics?

Data science is incredibly useful for handling massive datasets and speeding up our workflows. For instance, I can use machine learning to quickly determine which variables to focus on before diving into my econometric models. Furthermore, data scraping allows us to essentially create our own data. In the past, we asked, "What can I extract from this limited dataset?" Now, thanks to data science, we can ask, "What data can I create to answer my specific question?" The two fields are finally converging, particularly through causal machine learning, which is exactly where the future lies.



4) In this issue of ERUMAG, we are focusing heavily on AI agents and their capacity for autonomous decision-making. Looking through the lens of a development economist, how will this technology alter management and production structures?

A: From a management perspective, it will likely lead to a flattening of corporate hierarchies. The middle management layer is at risk of disappearing. Unlike previous technological shifts, like heavy robotics, which were too expensive for small firms to adopt, AI is much more accessible. We are already seeing high adoption rates among smaller firms.

However, we must distinguish between general AI tools and autonomous AI agents. Advanced AI agents are still costly. If they become the standard, larger firms will adopt them first. But overall, we are looking at a transformed management architecture: strategic, top-level decision-makers on one end, basic routine workers on the other, and a hollowed-out middle.

5) From a labor economics standpoint, will AI act as a substitute for human labor, or a complement that boosts productivity? Could this deepen income inequality?

A: It is a highly uncertain landscape right now, but every new technology brings a degree of substitution. AI will definitely replace certain routine cognitive tasks, like basic data entry and preliminary analysis. In the short term, those workers will face unemployment.

On the other hand, AI acts as a massive complement for higher-level, strategic decision-makers. It removes time friction and vastly increases their efficiency, which will likely drive their wages up. Because of this dynamic, wage polarization is almost guaranteed to increase in the near future.

“Furthermore, data scraping allows us to essentially create our own data. In the past, we asked, "What can I extract from this limited dataset?" Now, thanks to data science, we can ask, "What data can I create to answer my specific question?"

6) With that in mind, how should the current workforce approach "reskilling"? Can human labor and autonomous software seamlessly co-exist?

A: Reskilling is no longer optional; it is mandatory. We have to redesign our entire educational and professional planning around this. The winners in this new era will be the people who learn to treat AI as a co-worker. Yes, AI will automate tasks, but if you can figure out how to leverage it to increase your own output and efficiency, you will thrive.

There is a trade-off, of course. Some worry that by relying on AI to draft emails or write code, our own raw skills will degrade. That is true to an extent. But if you stubbornly refuse to use AI just to preserve your traditional skills, someone less skilled than you, who is using AI, will outpace you in speed and quality. You have to find a balance.

7) Many routine office and data-entry jobs are predominantly held by women. As AI automates these roles, will it exacerbate gender inequality in the workforce?

A: In Türkiye, we are already starting from a severely disadvantaged position regarding female labor force participation. Even as the rate of female university graduates rises, unemployment remains disproportionately high. AI introduces another major shock to this fragile ecosystem, specifically targeting roles traditionally held by women.

However, this doesn't have to be entirely negative. If the state steps in with active labor policies and targeted AI training, this technology could actually facilitate remote work and flexible hours. For a new mother who might otherwise leave the workforce, mastering AI could allow her to stay integrated into the economy on her own terms. It all depends on whether we proactively design policies to support this transition.



8) How should a developing nation like Türkiye prepare for this looming wave of AI-driven unemployment? Do we need radical policies like Universal Basic Income?

A: Let's be realistic: Fiscal space for Universal Basic Income would not be possible in Türkiye. Furthermore, our policymaking process is historically sluggish, and inter-institutional coordination is weak. With AI, the cost of falling behind is exponential.

Türkiye urgently needs a centralized "supreme council" or mastermind for AI policy. We need rapid integration starting from the education system all the way to active labor market incentives. If the state just sits back and expects the private sector to handle it, the productivity gap between Türkiye and developed nations will widen drastically.

9): Are there heavy bureaucratic hurdles for companies trying to adopt AI in Türkiye compared to Europe or the US?

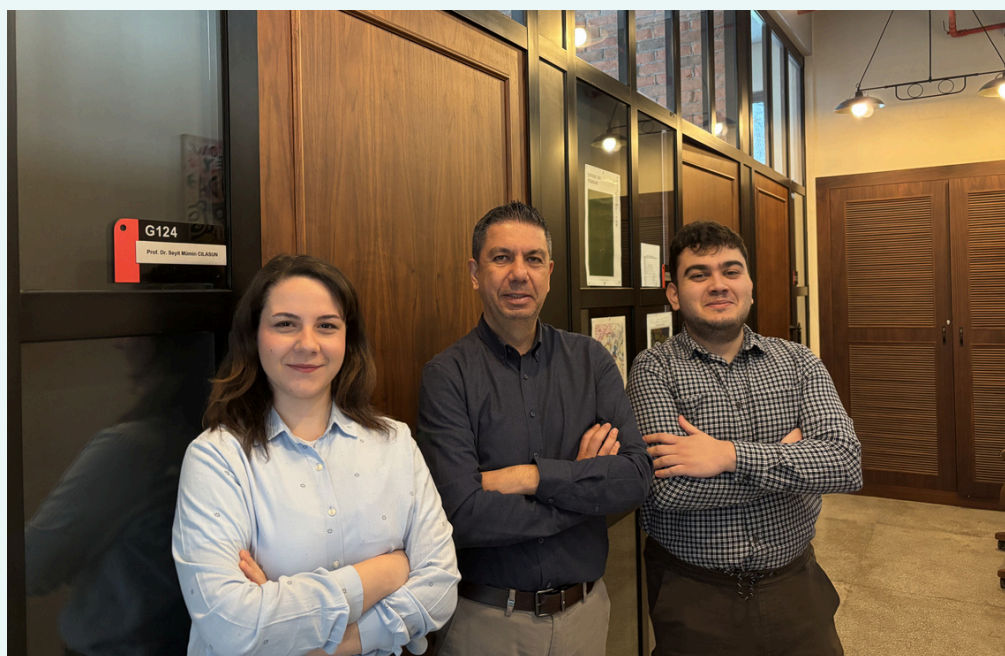
A: I don't see any significant bureaucratic or legal hurdles in Türkiye for companies wanting to adopt AI; the barrier is mostly financial.

Globally, the landscape is shifting. Historically, Europe has taken a more conservative, highly regulated approach to tech, which I actually prefer, as it protects social equality. But after seeing the US and China deregulate and aggressively push AI to dominate the market, Europe realized it was losing its capital and talent. They've been forced to change their stance. We are now in an era of somewhat uncontrolled AI frenzy worldwide.

10) Finally, what is your ultimate advice for young economists just starting their careers in this rapidly changing environment?

A: An economist who trains themselves properly is actually highly advantaged right now. Three or four years ago, everyone said "software engineering" was the profession of the future. Now, AI can write that code.

The unique advantage of economics is that we teach you how to interpret. Even if AI automates your data analysis, you still need a human to look at the results and ask, "How does this connect to reality? What strategic policy can we build from this?" If you can combine strong data analysis skills with strategic interpretation, using AI as your assistant, you will be the most sought-after professional in both the public and private sectors. Put AI in your toolkit, but don't surrender everything to it. Add your unique economic intuition to the mix.



As TED University Economics Research Union, we thank Prof. Dr. Seyit Mümin Cilasun for this special interview and his support in our works.

The Greatest Macroeconomic Illusion in History: A Breakdown of Hjalmar Schacht's "Miracle"

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Mert YÜCE

Economics 4th Year Student

There are lots of “miracles” that haunt the history of economic thoughts, which turns out to be nothing more than sophisticated government created misinformation after a closer examination. Biggest and the most persistent one of these miracles is the narrative surrounding the German economy between 1933 and 1938. At the center of this narrative stands Hjalmar Schacht who is the President of Reichsbank and Minister of Economics, he is romanticized as a 143 IQ genius financial miracle (“Wirtschaftswunder”) that collapsed the hyperinflation and unemployment by himself. However, a solid objective analysis of the institutional shifts and balance sheets shows that Schacht did not build a recovery plan instead, he created a huge and unsustainable Ponzi scheme that sacrificed civilians’ welfare to engineer a war machine. When we decrypt the mechanism of this period, it is seen that the achieved “success” was fallout of institutional erosion and shadow financing that made the final collapse inevitable and the subsequent reliance on military plunder a direct consequence of an unsustainable economic equation (Tooze, 2006).

The initial pre-requisite for this illusion was the systematic breakage of central bank independence. As we know, in the modern macroeconomic theory, the main protection against political authorities short term inflationary decisions is central banks autonomy. However, Schacht allowed the Reichsbank’s total coordination (“Gleichschaltung”), so transforming the country’s monetary anchor into a dependent instrument of the Nazi regime’s (Hitler) re-arming objectives.

Since Schacht was serving as both the Reichsbank President and Minister of Economics, so he was able to eliminate the institutional checks and balances which are necessary to preserve monetary stability. Due to this power concentration, regime’s insatiable demand for re-arming started to control the money supply rather than real productive output. As the institutional barriers between fiscal spending and monetary expansion collapsed, stage was fully ready for the hidden indebtedness that the German economy could never possibly repay through civil productivity (Overy, 1994).

This erosion of institutional integrity provided Schacht the cover he needed to implement the MEFO (Metallurgische Forschungsgesellschaft) bill system, which is now regarded as history's most audacious shadow banking operation. By the establishment of MEFO, basically a front firm, he was able to avoid direct money printing due to constraints of international treaties and the growing threat of hyperinflation. This entity, which lacked actual industrial assets, issued state guaranteed five year bills to pay the weapon manufacturers. Since these bills were kept off the official government balance sheets by using the MEFO, it allowed the Hitler regime to finance massive military expansion without alerting international markets or the German public to the skyrocketing level of public debt (Barkai, 1990). Essentially, Schacht invented an off the balance sheet liability management prototype to hide the reality that the state was practically bankrupt. The hidden debt had grown to over 12 billion Reichsmark by the time these bills were aged, created a pressure chamber of underlying inflation that could only be released by seizing foreign assets. The illusion of stability created by this shadow financing was reinforced by a manipulated narrative regarding labor. A key component of the Nazi "miracle" myth is the regime's claim that unemployment has been eliminated, but it ignores the fact that this "fake employment" was a result of state imposed pressure rather than real market expansion.



Millions of citizens which included Jewish people, women and political dissidents were simply removed from unemployment statistics, made them invisible for the data. At the same time, Reichsarbeitsdienst (RAD) was established, young Germans were forced to mandatory, low wage work camps which were like military conscription rather than a career development. Due to the brutal suppression of trade unions and the prohibition of strikes, German workers lost their ability to negotiate and transformed into a cog in a militarized industrial machine (Shirer, 1960). This artificial "full employment" did not increase the living standards, instead, it masked the sharp decline in the production.

Since the labor market was being militarized, Schacht used a policy of autarky and forced commerce to shield the German economy from the strains of the international market pressures.

The "New Plan" of 1934 was not an exercise in economic sovereignty, but a desperate reaction to the depletion of gold and foreign exchange reserves. Schacht encouraged trading partners to accept the "Special Reichsmark" credits that could only be used for German industrial goods by establishing a system of bilateral clearing agreements, especially the Balkan and South American countries. This move cut Germany off from the global competition and also turned those countries into captive satellites of the German economy (Tooze, 2006). This internalized, command and control trade model created huge inefficiencies and made the procurement of vital raw materials increasingly dependent on political leverage.

By 1937, Schacht's "genius" financial engineering finally reached its limits. The economy hit full capacity and the continued injection of liquidity via the MEFO bills was threatening to trigger a hyperinflationary spiral. Schacht was a technocrat and he realized that his system reached the breaking point and advised for a pivot towards civilian exports and a decrease in military spending. On the other side, in Hitler regime where ideological dogmas consistently beat rational economic limits, Schacht's warnings were dismissed as "defeatism". His step by step removal from power and the transfer of economic control to Hermann Göring's "Four Year Plan" marked the end of even the pretense of economic logic. The Hitler regime did not structure a reform but an increase in the level of aggression against the looming bankruptcy. The first of several opportunistic actions required to prevent the debt-ridden German state from collapsing was the 1938 annexation of Austria (Anschluss), which permitted the Hitler regime to seize the gold reserves of the Austrian Central Bank.

In conclusion, the economic policies of the Schacht era provide a stark warning about the dangers of abandoning institutional independence and transparency for short-term political gain. Schacht was not a miracle worker; he was a balance sheet magician who mortgaged the future of a nation to fund a catastrophic war. The perceived recovery of the 1930s was a perfectly created pure illusion, built on the disenfranchisement of labor, the manipulation of data, and a shadow banking system that made war an economic inevitability. For any modern student of economics, the Schacht legacy serves as a definitive case study in how the erosion of central bank autonomy and the use of hidden debt can transform a national economy into a ticking time bomb. The "miracle" was never real; it was merely the silence before the inevitable explosion of a system that had long since abandoned the laws of economic gravity.



Prisoner work force in the construction.

Source: Bundesarchiv

References:

Barkai, A. (1990). *Nazi economics: Ideology, theory, and policy*. Yale University Press.

Overy, R. J. (1994). *War and economy in the Third Reich*. Oxford University Press.

Shirer, W. L. (1960). *The rise and fall of the Third Reich: A history of Nazi Germany*. Simon & Schuster.

Tooze, A. (2006). *The wages of destruction: The making and breaking of the Nazi economy*. Allen Lane.

World Bank. (2024, August 1). *From shadows to sunrise: How to overcome the middle-income trap*. World Bank Blogs. <https://blogs.worldbank.org/en/developmenttalk/from-shadows-to-sunrise--how-to-overcome-the-middle-income-trap>

Political Economy, Institutions and Technology: FieldTalks with Asst. Prof. Arda Gitmez

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Arda Akgül
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Political economy is often described as the point where economic reasoning meets political institutions, social conflict, media, technology, and collective decision-making.

In this FieldTalks episode, we hosted Asst. Prof. Dr. Arda Gitmez from Bilkent University's Department of Economics to discuss how economists think about politics, institutions, information, persuasion, polarization, and artificial intelligence.

Throughout the conversation, Asst. Prof. Gitmez emphasized that political economy is not only about elections or governments. It is also about how institutions shape incentives, how media organizations build credibility, how citizens interpret incomplete information, and how technological change may redefine the meaning of production, work, and citizenship.

Asst. Prof. Gitmez defines himself primarily as a microeconomist working on political economy applications, market design, and the intersection of these fields. His academic path, beginning with engineering and later moving toward economics, also reflects one of the central themes of the conversation: economics does not exist in isolation. It borrows tools, questions, and intuitions from mathematics, engineering, sociology, philosophy, and political science.



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From engineering to economics: Why economics?

Asst. Prof. Gitmez's path into economics began with a familiar uncertainty faced by many students: choosing a university department before fully knowing what that field means in practice. Although he initially studied electrical and electronics engineering, he gradually realized that he was more interested in social questions and the behavior of people and institutions.

Economics became attractive because it allowed him to keep a mathematical and analytical way of thinking while turning toward social problems. In his words, economics offered a bridge: it preserved the modeling intuition of engineering while opening space to think about society, politics, and human behavior.

What exactly is political economy?

One of the central questions of the episode was how to define political economy. Dr. Gitmez noted that even within academia, the boundaries of political economy are not always easy to draw. Historically, the term has carried different meanings: at one point, "political economy" was almost synonymous with economics itself; later, it became associated with heterodox and Marxist traditions; today, in his own work, it is closer to neoclassical political economy.

For Asst. Prof. Gitmez, the most useful definition is methodological rather than purely thematic. Political economy, in this sense, means analyzing political problems with economic tools. These problems may include voter behavior, electoral systems, politicians, institutions, media, courts, social unrest, or propaganda. The defining feature is not only the topic, but the use of economic reasoning to understand political and institutional questions.

Economics and other disciplines: A one-way relationship?

The conversation also touched on whether other disciplines are moving toward economics or whether economics is increasingly absorbing other fields. Dr. Gitmez argued that economics still has much to learn from other social sciences. While economists have often borrowed from mathematics, physics, or neuroscience more easily, they have been less open to sociology, philosophy, and other disciplines that study meaning, norms, and social structure.

This matters because many political economy problems cannot be understood only through formal models. Questions of polarization, media influence, technological legitimacy, and institutional trust often require economists to step outside their comfort zone.



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Information asymmetry, persuasion, and everyday life

A major theme of the episode was information asymmetry: situations where one side knows something that the other side does not. Asst. Prof. Gitmez explained that this is not only an abstract economic concept. It appears in education, politics, media, hiring, and everyday communication.

One example he discussed is signaling. A university degree may not only show what someone learned; it may also signal that the person has the ability or discipline to learn. He also discussed “cheap talk” and evidence-based persuasion, where people can infer meaning not only from what is said, but also from what is not shown. If someone claims something but cannot provide evidence, the absence of evidence itself becomes informative.

This idea becomes especially powerful in politics and media. A political actor, a campaign, or a media institution does not persuade only through direct statements. It also persuades through repetition, omission, selective evidence, and the balance between credibility and bias.

Media strategy: Between credibility and persuasion

Asst. Prof. Gitmez’s research interests include strategic communication, political persuasion, media strategies, propaganda, and censorship. In the episode, he described a key trade-off for media organizations: they need to be persuasive, but if they appear too biased, they lose credibility.

A media organization that always repeats the same claim may eventually become less convincing, even to people who might otherwise be sympathetic. In strategic communication, credibility depends partly on restraint. Sometimes, not pushing a message too aggressively can make the message more believable.

One of the most striking points of the conversation was the relationship between diversity of opinion and media behavior. Asst. Prof. Gitmez explained that when society contains a wider range of views, media actors may need to become more credible and less overtly biased to persuade audiences beyond their immediate base. In that sense, diversity of opinion can create incentives for more reliable communication.

Polarization or diversity?

The episode then moved to polarization, disinformation, and the digital public sphere. Dr. Gitmez warned that “polarization” is often used too freely. Different forms of disagreement should not automatically be treated as dangerous. Sometimes what we call polarization may actually be diversity, differentiation, or the ability of like-minded people to find each other more easily.

However, he also emphasized the real risk: societies may lose the belief that people with different views can still meet on common ground. The danger is not simply that people disagree. The deeper danger is that they stop believing agreement is possible at all.

This distinction is especially important in the age of social media. Digital platforms allow people to connect, organize, and find communities. But the same platforms can also amplify extremism, reward outrage, and create incentives for attention-seeking behavior.

Social media, algorithms, and regulation

The discussion of social media led to the role of algorithms. Asst. Prof. Gitmez argued that the incentives of digital platforms often make the problem worse: engagement, visibility, and outrage can become more important than careful public reasoning.

He did not present a simple solution, but suggested that political economy can help us ask the right questions. How much moderation is necessary? Who should decide the rules of digital platforms? How do platform incentives shape political behavior? These are not only technological questions; they are institutional and political economy questions.

Artificial intelligence and political decision making

On artificial intelligence, Asst. Prof. Gitmez was careful not to reduce politics to computation. Political economy begins from the fact that people have different preferences, and society must find ways to aggregate them. But some problems of collective decision-making involve real theoretical impossibilities and value judgments. Therefore, even very advanced AI systems cannot simply “solve” politics.

He argued that AI may support decision-making, but it will not remove the need for political judgment. The more urgent concern is elsewhere: automation, labor displacement, and the social meaning of productivity.

If AI changes how people produce, work, and innovate, then societies may need to rethink what it means to be a “productive” or “reasonable” citizen. A future in which only a small group controls technological direction may deepen inequality and weaken democratic participation.

Technology, labor, and the question of progress

One of the strongest moments in the episode was the discussion of whether every technological change should automatically be called progress. Dr. Gitmez gave the example of self-checkout machines in supermarkets. If such technology does not make the consumer experience better and mainly reduces labor costs for firms, then we need to ask: progress for whom?

This question connects technology to power. If only firms or technology elites define what counts as innovation, society may accept a narrow version of progress. Dr. Gitmez linked this concern to broader debates on automation, Silicon Valley, and the democratic governance of technological change.



Asst. Prof. Arda Gitmez during podcast at RadioTEDU studio.

Three economists and three films

Toward the end of the conversation, the format became lighter but remained intellectually connected to political economy. Asked to name three economists, Dr. Gitmez mentioned **Kenneth Arrow, Roger Myerson, and Thomas Fujiwara**. Arrow stood out for his ability to formalize deep social questions mathematically; Myerson for his foundational contributions, especially in mechanism and auction design; and Fujiwara as an example of the more applied, empirical, and causal direction political economy has recently taken.

Asked for films that can be read through a political economy lens, he mentioned ***Susuz Yaz***, ***A Separation***, and ***Leviathan***. These films, in different ways, deal with property, power, social norms, bureaucracy, informal rules, and the pressure of institutions on individuals.



Advice to economics students

Asst. Prof. Gitmez's final advice to economics students was simple but powerful: **learn to leave your comfort zone**. For him, economics becomes stronger when economists engage with unfamiliar fields, methods, and ideas. He described this as a kind of **"intellectual arbitrage"**: taking an idea from one field, understanding it seriously, and translating it into another context.

This does not always need to be immediately strategic. Sometimes, reading, learning, and exploring something simply because it is interesting can later become intellectually valuable. For students of economics, the ability to move between fields may become one of the most important skills of the future.

Conclusion

This FieldTalks episode shows political economy not as a narrow subfield, but as a way of thinking about society. From media credibility to polarization, from AI to labor, from institutional design to student life, Dr. Gitmez's answers point to a common theme: economic tools become most meaningful when they help us understand real social conflicts, institutional constraints, and the future of collective life.



As TED University Economics Research Union, we thank Asst. Prof. Arda Gitmez for joining FieldTalks and sharing his insights on political economy, institutions, and technology.

ERU NEWS

U.S. Inflation Surges to 3.8%, A 3-Year High

U.S. inflation jumped to 3.8% annually in April 2026, up from 3.3% in March, marking the highest rate since May 2023. The monthly CPI rise of 0.6% was the steepest since January 2025, driven by soaring oil prices linked to the Iran conflict and the lingering effects of Trump-era tariffs. The Federal Reserve faces an extremely difficult position, with inflation well above its 2% target while political pressure mounts to cut interest rates.



Bruton, P. (2026, May 12). US inflation jumps to 3.8%, the highest level in three years. Semafor. <https://www.semafor.com/article/05/12/2026/us-inflation-jumps-to-38-the-highest-level-in-three-years>

Iran War Triggers Most Severe Energy Supply Shock in History

Following U.S.-Israeli strikes on Iran in late February/early March 2026, Iranian missile activity effectively halted approximately 15% of the world's oil supply, making it nearly double the scale of the 1970s oil crisis relative to today's economy. Brent crude surged from roughly \$70 to over \$115 per barrel in weeks. The shock created a global inflation spiral, threatened European economies with recession, and cut off China's access to discounted Iranian oil all while adding to existing trade war pressures.



Zahn, M. (2026, April 14). Iran war triggered 'most severe oil supply shock in history,' the International Energy Agency says. ABC News. <https://abcnews.com/Business/iran-war-triggered-severe-oil-supply-shock-history/story?id=132024753>

ERU NEWS

IMF Cuts Global Growth Forecast, Warns of "Shadow of War"

The IMF's April 2026 World Economic Outlook titled "Global Economy in the Shadow of War" downgraded global growth projections to 3.1% for 2026, down from earlier estimates, citing the Iran war and renewed inflationary pressures. Growth forecasts for emerging markets were cut to 3.9% (down from 4.2%), and the Middle East & Central Asia region was revised down to around 1.9%. The IMF warned that a prolonged conflict could push global inflation higher well into 2027 before any recovery.



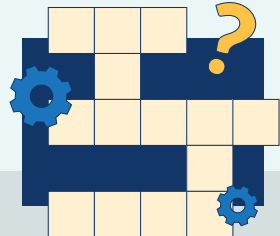
Geldard, R. (2026, April 16). IMF downgrades global growth, and other finance news to know. World Economic Forum. <https://www.weforum.org/stories/2026/04/imf-downgrades-global-growth-and-other-finance-news-to-know>

U.S. Credit Downgraded by Moody's

In May 2025 (with ongoing major fiscal consequences through 2026), Moody's stripped the U.S. of its last remaining Aaa credit rating, downgrading it to Aa1. This made the U.S. the only major economy to have been downgraded by all three major agencies S&P (2011), Fitch (2023), and now Moody's citing an unsustainable \$39 trillion national debt and rising interest costs. The downgrade has continued to drive up U.S. borrowing costs in 2026, with analysts warning of further fiscal deterioration if debt trajectory is not addressed



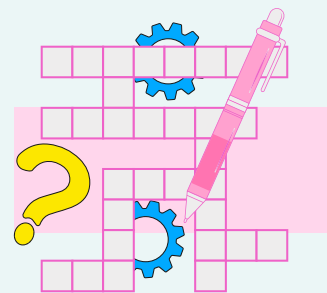
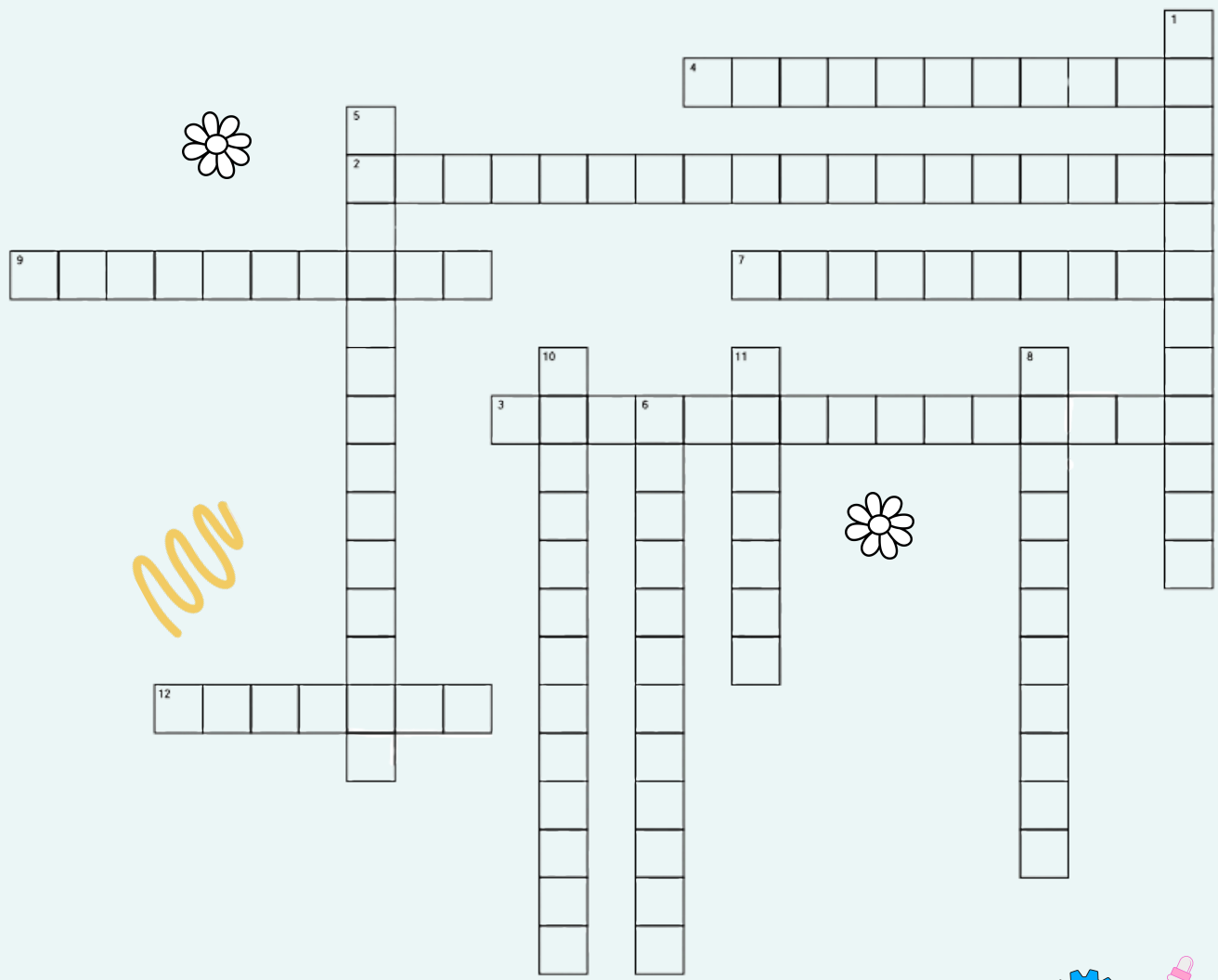
Moody's Ratings. (2025, May 16). Moody's Ratings downgrades United States ratings to Aa1 from Aaa; changes outlook to stable. Moody's Ratings. <https://ratings.moody's.com/ratings-news/443154>



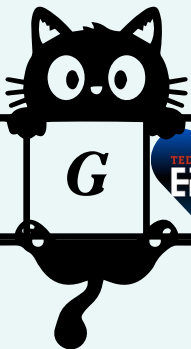
ECON CROSSWORD

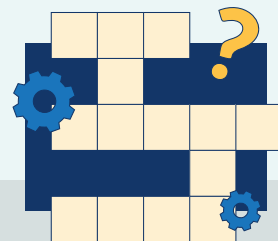


Defne TOKDEMİR
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E R U M A G 





ECON CROSSWORD

Down

4. A general increase in prices over time.
5. A system of money used in a country.
7. Money owed by one party to another.
9. Percentage charged by a lender to a borrower for the use of money
11. Income generated from business activities.
12. The buying and selling of goods and services.

Across

1. A fixed-income investment.
2. A centralized marketplace where shares of publicly held companies are bought and sold
3. How easily an asset can be converted into cash.
6. A situation in which there is not enough of something.
8. Resources owned by a person or company that have value.
10. Money earned after all costs are deducted.

ANSWERS



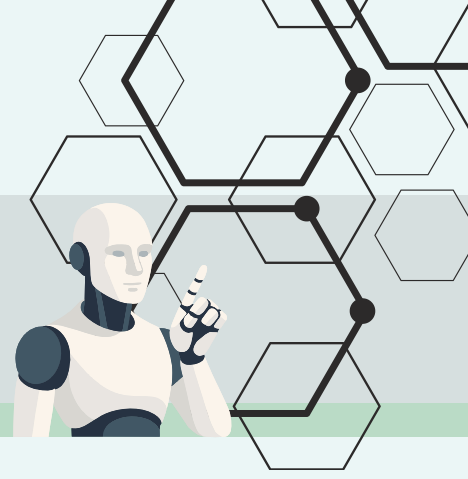
ACROSS

1. BOND
2. STOCKMARKET
3. LIQUIDITY
6. SHORTAGE
8. ASSETS
10. PROFIT

DOWN

4. INFLATION
5. CURRENCY
7. DEBT
9. INTERESTRATE
11. REVENUE
12. TRADE

ERU Recommends



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Ada Ezgi Pesen
Economics 2nd Year Student

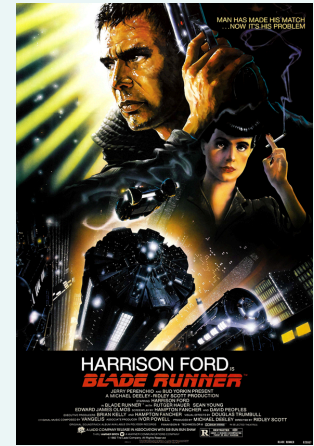


The Blade Runner (1982)

Set in a neon dystopia controlled by hi-tech corporations. The society relies on the forced labor of replicants, which are bioengineered human beings. There is psychological battle between genuine human identity and replicants, serving as a direct critique of labor exploitation.

Director:

- Ridley Scott

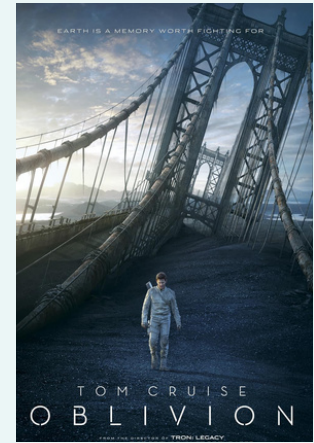


Oblivion (2013)

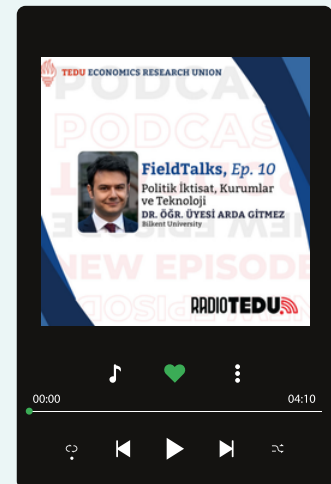
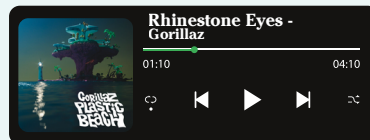
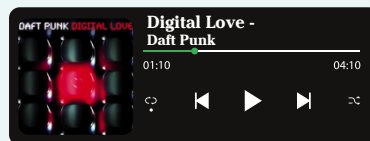
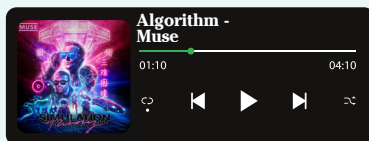
Set on a ruined, post-apocalyptic Earth. The film explores the global resource exploitation, highlighting advanced cloning, automated drone warfare, and centralized AI manipulation.

Director:

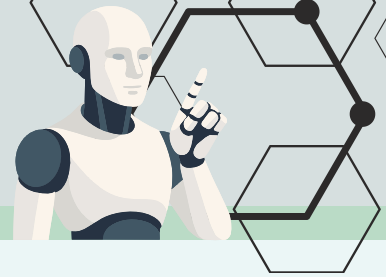
- Joseph Kosinski



Music & Podcast



ERU Recommends



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The Overcoat - Nikolai Gogol

Nikolai Gogol’s “The Overcoat” serves as a critique of capitalism and socio-economic stratification through Akaky Akakiyevich, a low-wage ordinary man trapped in a hierarchy. In the book, Akaky’s current coat gets very old and he needs to replace it with a new one since the weather in St. Petersburg is very cold. To afford a new overcoat, Akakiy lowers his consumption to zero. This tragic sacrifice perfectly illustrates how a low-wage worker must pay a huge opportunity cost just to acquire a basic survival commodity.

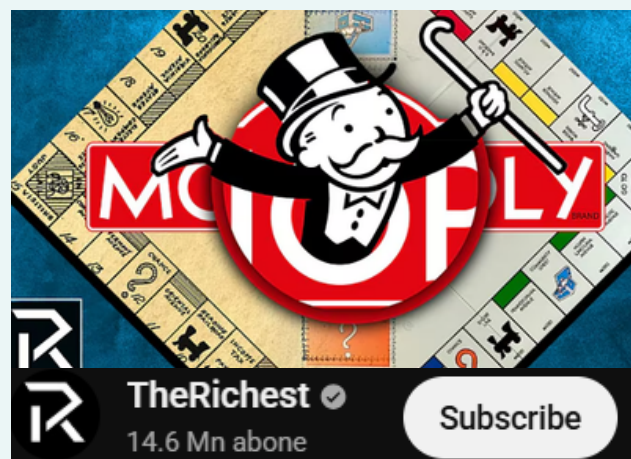
Encyclopaedia Britannica. (2020, May 27). The Overcoat. Britannica.



The Little-Known History And Political Origin Of The Board Game Monopoly

The Richest is a YouTube channel that creates content focusing on spending, wealth, and capitalism. The channel delivers analyses of economic concepts, explaining them through popular examples involving places, events, and celebrities.

Their “The Little-Known History And Political Origin Of The Board Game Monopoly” video reveals how the game, originally created to protest monopolies, was transformed into a capitalist game.



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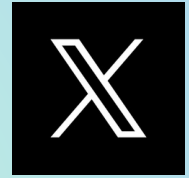
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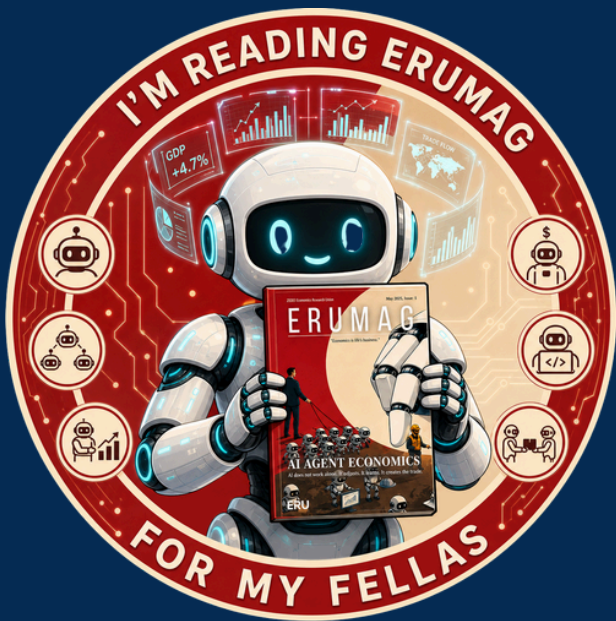
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