Digital Capital, the Transformation of the Working Class, and the Reshaping of the Future Labor Market

Interview Transcript

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Interviewer: Huihui Yan is a PhD candidate at Tongji University and Visiting Scholar at The Center for Labor and a Just Economy, at the Harvard Law School. Huihui Yan's research areas are the gig economy, digital labor, etc. She can be reached at <yanhuihui0411@gmail.com>.

Interviewer's Note： With the rapid development of the digital and platform economies, the rise of digital capital has not only transformed traditional modes of capital operation but has also profoundly influenced the structural changes in labor markets and the evolution of working-class identity. As platform economies and artificial intelligence technologies advance and iterate rapidly, traditional labor relations and workers' rights face new challenges, while also presenting new opportunities. The impact of digital capital on the working class involves both the tension between job flexibility and instability, as well as significant implications for the future trends of the labor market.

To explore the transformation of digital capital, the changing dynamics of the working class, and the reshaping of the future labor market, we conducted an interview with Richard B. Freeman, the Herbert Asherman Chair in Economics at Harvard University and a renowned labor economist. Drawing from his extensive research experience, Professor Freeman offers an in-depth analysis of how digital capital affects global labor markets and working-class identity. He also provides forward-looking insights on labor rights protection and employee ownership, offering valuable guidance for academic research and policy development.

Richard B. Freeman is the Herbert Asherman Chair in Economics at Harvard University，a Research Associate at the National Bureau of Economic Research, and Faculty Co-Director of the Center for Labor and a Just Economy at the Harvard Law School. He is recognized as one of the most influential labor economists in the world. His research focuses on the job market for scientists and engineers, Chinese and Korean labor markets,

the effects of AI and robots on the job market; and forms of labor market representation and employee ownership. Professor Freeman has made significant contributions to the field of labor economics. He has received several prestigious awards, including the Mincer Lifetime Achievement Prize from the Society of Labor Economics, the IZA Prize in Labor Economics, and the Global Equity Organization (GEO) Judges Award, in recognition of his outstanding research in labor economics and exceptional contribution towards the promotion of global employee share ownership.

1.The Rise of Digital Capital and the Transformation of the Labor Market

○ (Huihui Yan, hereinafter referred to as "Yan"): As the global economy becomes increasingly digitized, how do you view the functional and influential differences between digital capital, platform capital, and traditional capital?

● (Richard B. Freeman, hereinafter referred to as "Freeman"): It's easiest to start with traditional capital because it has been around for a long time. In this model, all the knowledge primarily resides in people's minds. However, with the advent of digital capital, much of this knowledge has been transformed into digital formats, allowing for the creation of algorithms that utilize this knowledge to produce goods and services. Historically, in the U.S. and other countries, a company's value was mainly derived from its physical assets—buildings, factories, and machinery. But today, a company's value is increasingly tied to its intellectual assets, which were once stored only in people's minds but are now encoded in digital forms, like algorithms and artificial intelligence. This shift represents a significant transformation.

Platform capital, on the other hand, is quite different. Platforms provide a digital space where people interact in the virtual world to achieve goals in the physical world. Essentially, platforms act as digital marketplaces. In the past, workers would gather in central locations, such as a park, to seek employment, and employers would arrive looking for labor, like carpenters. Today, you can simply place an order for food, and a delivery person will bring it to you—everything happens digitally, yet it facilitates connections between workers, customers, and jobs in the real world. Running a platform is akin to owning the "marketplace" itself, as in ancient times when people gathered in a common space. The platform determines who meets, what jobs are available, and which workers are needed. Overall, this digital approach is more efficient than the traditional model.

○ Yan: What labor market effects, different from traditional capital, has digital capital created in the context of globalization? In particular, how has it impacted the structure of the working class?

● Freeman: The first significant impact of digital capital has been the stark division between workers who have digital skills and those who do not. The former group mainly consists of professionals, managers, and white-collar workers, who were able to work from home during the COVID-19 crisis, avoiding the risk of exposure. In contrast, non-digital workers, such as blue-collar employees, had to be physically present at their workplaces, whether it was a construction site or a factory, as they couldn't operate machinery remotely. This situation created a substantial class divide, as white-collar workers largely retained their jobs, while many blue-collar workers faced layoffs. Essential workers, however, were an exception. In the U.S., certain sectors were deemed essential, while in China, delivery workers played a critical role. If delivery services had been halted, people would have struggled to access necessities. This division resembles traditional distinctions between capitalists and workers, but now it exists among workers themselves—those with digital skills versus those without. With the rise of AI, there is the potential for AI to replace digital, white-collar roles, while blue-collar workers may retain job security since they perform tasks in the physical world that AI currently cannot handle. For example, blue-collar workers can interact with the physical environment, while AI and robots are not yet capable of doing so effectively.

Industries that require high levels of personal interaction, such as healthcare (e.g., nurses, doctors), security, and traffic management, also face limitations in terms of automation. While some aspects of these jobs can be digitized, many tasks still require human presence and cannot be done remotely. Thus, the impact of digital capital extends beyond factories and encompasses any role that requires physical presence, which includes a large segment of the workforce.

In addition, digital work is highly beneficial for some people, and it is likely to be very significant in China. With China aiming to increase its birth rate, work-from-home opportunities could play a critical role. Such flexibility could help balance family responsibilities, particularly for women. If men also have similar work-from-home options, it could enable both genders to share household tasks more equally, making childcare more

manageable. However, this flexibility is largely unavailable to blue-collar or non-digital workers. They are typically required to work on-site, whether in factories or other physical workplaces. Factories are a classic example, but any job that requires physical presence falls into this category.

In some fields, such as scientific research, there is a mix: certain scientists need to be in laboratories, which are essentially their "factories," while others can work remotely, analyzing data sent to them via computers. Efforts can be made to digitize more jobs, but the costs are still prohibitive in many cases, and the impact varies significantly across different types of workers.

Regarding the broader discussion of capital, the distinction between traditional and digital capital is evident, but the underlying issue remains the same: whether it's factory capital or digital capital, ownership tends to be concentrated among a small group of people, excluding the workers. This creates a conflict of interest—capital owners seek to maximize output while minimizing wages, while workers seek higher wages, reduced workloads, and more leisure time. The fundamental problem is not the type of capital, but rather who owns it. Ownership is the key factor that determines the dynamics between capital and labor.

2. Labor Alienation and the Reconstruction of Working-Class Identity in the Digital Economy

○ Yan: With the widespread adoption of platform economies and digital technologies, do you believe the identity of the working class has undergone fundamental changes in the expansion of digital capital? In your opinion, can gig workers in the platform economy, such as Uber drivers or delivery workers, still be considered part of the working class?

● Freeman: That's an excellent question, as it largely depends on how workers perceive themselves. For instance, gig workers, like Uber drivers, own part of the capital—namely, their cars—but they do not own any part of the platform they operate on. Theoretically, platforms could be partially owned by workers, allowing them to share in the profits when the platform succeeds. However, this is not the current structure, and these jobs remain a mix of self-owned capital and platform dependency. Workers in these roles often operate independently rather than as part of a team, which might influence their attitudes toward their work.

Despite owning some capital, gig workers are still subject to the control of the platform, which dictates how they perform their jobs. In the U.S., there have been efforts to organize gig workers into unions or similar structures, though such initiatives often face challenges. Delivery workers face similar dynamics, and in China, there have been protests among gig workers, such as delivery drivers in different cities, due to their lack of platform ownership despite some private capital investment (like their vehicles).

On the other hand, if a worker is employed by a company and operates a company-owned vehicle, they are more likely to view themselves as traditional employees without any capital ownership. Regardless of the form of capital—whether it's a traditional factory, digital assets, or a platform—ownership tends to be concentrated among a few, while workers only contribute labor. This creates a clear division between capital owners and workers, often leading to labor protests and efforts to organize.

In Western countries, unions have traditionally been the primary means of worker organization, but they have not been as successful in integrating digital gig workers. In China, unions also appear less active in organizing digital platform workers, so when these workers face issues, they often self-organize protests. They are aware that their interests differ from those of the platform owners, which drives them to seek better working conditions independently. The level of support for workers depends on each country's labor laws and whether these laws encourage workers to organize and defend their interests. In China, there was a period when the government was more supportive of workers' unions. In 2007, the Contract Labor Law was introduced, which offered stronger protections for individual workers. Under this law, if a worker has a formal contract and faces issues with their employer—such as unfair treatment—they can take their case to labor courts. Many workers did so, as the courts generally sided with workers when clear legal violations occurred. After all, no one would choose to go through the legal system unless they genuinely felt wronged. This suggests that the courts were fair and often ruled in favor of the workers, given the presence of real issues. However, there is also a collective way to address labor issues, not just through individual legal action. While China was once more favorable toward unionization than it is now, the shift in support has made collective organization more challenging for workers in recent years. However, it's important to recognize that each country has its own rules and mechanisms for labor unionization. The roles of unions and the processes they follow can vary significantly from one country to

another. Different countries have developed distinct institutions and approaches to address labor issues, reflecting the diversity of labor relations across the world.

○ Yan: So compared to the traditional worker, traditional full time worker have their labor rights and social protections being adequately addressed under the current framework ?

● Freeman: It really depends on the country. For example, in the United States, the unionization rate is the lowest among developed countries. Many people argue that there isn't enough union representation here, and that's a valid point. On the other hand, in places like Sweden, where nearly everyone is unionized, some might say it's too much.
What's particularly interesting in the U.S. is the recent growth of unions among college students, graduate students, and postdoctoral researchers at universities. This suggests that these young academics feel mistreated not necessarily by senior professors, but by the universities themselves, leading them to organize. Traditionally, it was less educated workers who formed unions, but now we're seeing organization among more educated groups, creating a sort of "young versus old" dynamic.

What's fascinating about labor issues is that different countries adopt different laws and procedures to address them. This allows for comparisons: you can observe how certain procedures work in one country and wonder whether they could work better in another context. Some laws may be effective in one country but not as suitable in another, highlighting the diversity of labor policies worldwide.

○ Yan: How does the tension between job flexibility and instability brought about by digital capital influence the future of the working class? In the context of globalization, do you see the gig economy as a temporary phenomenon or a long-term trend in the labor market?

● Freeman: If we are indeed in a globalized world, gig-type activities are likely to grow. For instance, if I can hire workers in another country to perform coding or related tasks, I can benefit from lower wages than in my own country, spreading such work across the globe. However, for delivery workers, the scope is more limited, as they need to operate within the same city or area.

One aspect that often goes unnoticed or underemphasized is that many current AI programs have been developed and tested using the input of low-wage workers in countries

like India and parts of Africa. These workers have helped guide the AI by providing feedback, as machines build their knowledge. Much of this feedback involves correcting misinterpretations in machine language, which has been essential for technological advancement in more developed countries.

I'm not sure to what extent China has utilized this approach, but as Chinese wages rise, it would make sense for certain tasks to be outsourced to lower-wage regions. This shift could enhance business efficiency and competitiveness.

3. Structural Shifts in Labor and the Redefinition of the Working Class in the Expansion of Digital Capital

○ Yan: In the face of increasing global competition, how can the working class respond to the challenges and opportunities brought by digital capital and digital technologies? How might their identity and rights further evolve?

● Freeman: Well, one ideal long-term solution would be for workers to own shares of the capital. In other words, they would have partial ownership of the company. In employee-owned firms, workers would own part of the capital, meaning that if the company performs well, the workers benefit too. This creates alignment between the interests of the workers and the capital, as workers become partial owners. Even if capital sometimes acts against workers with certain skills, shared ownership provides workers with a degree of security.

Additionally, when workers are also part-owners of the firm, it reduces conflict, as both roles are aligned. Disagreements may still arise over company policies, but they are more manageable when workers have a stake in the firm's success. In my view, this is the best possible solution, because if AI and advanced robotics take over more work, then everyone should benefit by having partial ownership of the capital that generates the wealth. However, this model isn't widely adopted. The U.S. has implemented laws and policies that encourage employee ownership, but it hasn't become a major trend. In contrast, strong unions, like those in Europe, serve as an alternative by representing all workers and balancing the power of capital. While union representation is effective, it's not as ideal as direct worker ownership of capital, but it is still a functional alternative.

The weakest position for workers is when they neither own part of the capital nor have an organized way to express their interests. In such cases, they are vulnerable to the

fluctuations of capitalism and the decisions of the company. When China was experiencing rapid growth, these issues were less concerning since overall prosperity was rising. However, as the economy reaches a more advanced stage, growth slows, and adjustments become necessary. Ultimately, the ideal solution is for everyone to own a part of the capital.

We could certainly push for more worker ownership as a goal. Government policies could be designed to favor firms owned by workers over those owned by billionaires like Elon Musk. In this scenario, Musk would have his firm and remain a billionaire, while a worker-owned firm would be composed of ordinary people who, while not billionaires, would have higher incomes and shared ownership. Government laws could be established to prioritize worker-owned enterprises over those owned by wealthy individuals. This approach would force traditional enterprises to perform better to compete with worker-owned organizations, essentially tilting policies toward more equitable ownership models. So far, no country has fully embraced this concept, and a complete shift in favor of worker ownership has not occurred. It would need to be a gradual process. One of the issues with classical Marxism was the notion of a massive rebellion where workers would overthrow capitalists. In contrast, transitioning to partial ownership is less violent and much more practical, as it allows everyone to benefit from the system.

There's a saying from about 15-20 years ago: "Who owns the robots rules the world." I would extend that to say, "Who owns the AI and robots rules the world." Robots, in this context, are machines that can substitute for human labor. If workers have a share in the ownership of these machines, they gain power in society. However, if a few billionaires own all the AI and robots, the world becomes highly unequal, concentrating both power and wealth in a few hands.

○ Yan: In your view, what is the relationship between employee ownership and company development? Distributing shares to workers might initially reduce the company's profits and even pose a risk of declining performance. However, if workers own company shares, they may be more motivated to work harder and drive the company's growth. How do you see the balance between these two factors?

● Freeman: One way to study this issue is by comparing worker-owned companies with traditional ones. I'm most familiar with American companies, but also some British

ones, and in my experience, worker-owned companies tend to operate a bit differently. Workers in these firms generally work harder and pay more attention to the quality of their work. If I'm not doing a good job and you're also a worker-owner, you might approach me and say, "We all benefit from good performance—what's the problem?" This creates a culture of self-monitoring among workers.

However, the existing evidence comes from a relatively small number of companies that operate this way, so we don't know what would happen if worker ownership became widespread. I'd like to believe it would be a positive change, regardless of the timing, but I can't definitively prove it because there hasn't been a country where workers own the majority of the capital. Without a broader experimental context, we can't say for certain that it would work universally, but it certainly appears to be effective where it currently exists.

○ Yan: What specific measures do you think the government can take to promote employee ownership?

● Freeman: Governments can use tax policies and procurement strategies to encourage worker-owned companies. For example, if two companies make similar bids for a contract and one is worker-owned while the other is not, the government could choose to award the contract to the worker-owned company. However, if the worker-owned company's proposal is clearly inferior, it wouldn't make sense for the government to favor it. But when the options are fairly equal, why not choose the one that reduces inequality and benefits more people?

Governments can also introduce special loan programs for worker-owned businesses, along with other policies that tilt the market toward a more equitable form of ownership. This approach isn't about staging a revolution where workers overthrow capitalists—it's about gradually promoting companies that offer better conditions for their workers by providing them with more business. Consumers can contribute to this change as well by choosing to buy from employee-owned firms, knowing that they are likely to treat their workers better.

The challenge to this approach comes from wealthy individuals who own large companies and are resistant to losing market share. This creates a fundamental conflict between two different models of organization. While there shouldn't be extreme policies

that favor only worker-owned companies, there can be a marginal preference for those that create less inequality and more worker participation.

The U.S. and China are likely to be the most affected by such policies, as both have very high levels of income inequality—much higher than Europe or other advanced countries.

○ Yan: In the future, will the value of labor and the collective consciousness of the working class be further disrupted by digital capital? What is your outlook on the future of working-class identity and the trajectory of the labor market?

● Freeman: Actually, I think the sense of worker identity is likely to increase. In the U.S., we're already seeing students unionize, not as students, but as employees working for universities. Graduate students and young scientists, such as postdocs, are becoming more active in union formation. This suggests that more people, including the educated and younger generation, are beginning to see themselves as workers. The most effective way to change this dynamic would be to make them partial owners of the capital, although that's a separate challenge.

As more educated individuals identify as workers, it indicates a shift toward a more worker-oriented mentality. Since young people and educated workers represent the future leadership of a country, their perspectives will shape the future. In China, for instance, young people facing job market challenges are likely seeing themselves as digital workers and actively searching for solutions to improve their lives.

We are currently beginning a major study of American students to understand their attitudes toward unions. We want to determine if the experience of union membership during college influences their approach in the business sector after graduation. For example, students who participated in a union at Harvard might wonder, "Why shouldn't we have a union in our company?" This applies to both union formation and employee ownership—why not have mechanisms that give workers a greater voice in decision-making?

○ Yan: With the widespread implementation of the platform model, many digital platform workers are dispersed across different workspaces. This fragmentation in time and space has weakened the traditional collective strength of workers. What is your view

on this phenomenon, and how can the strength of the working class be consolidated?

- Freeman: Traditionally, workers formed unions by being physically together in the same place. However, attempts to organize workers across different locations have often struggled. Now, as some companies in the U.S. are requiring workers to return to the office, the situation has changed. Workers can use the internet and social media to connect, even when working remotely. The tools of communication can be repurposed—although remote workers may not meet in person, they can still connect virtually, especially when there is a shared interest, like maintaining remote work options.

In China, one thing that surprised me years ago, and continues to do so, is how quickly workers in one city can learn about disputes in another city. For example, if drivers in one city have a conflict with their employers, workers in other cities hear about it very quickly. This rapid information exchange suggests that even remote connections can be highly effective in spreading awareness and solidarity among workers.

When workers or companies achieve something significant, it should spread, prompting others to adopt similar strategies. Social media and the internet offer a way to disseminate successful models widely, enabling workers and organizations to learn from each other, even in different locations.

New technologies provide us with tools to address these challenges. While social media can indeed be mean and cruel at times, like many other tools, it has both its drawbacks and its potential. The key lies in finding ways to use these technologies positively and constructively. Hopefully, we will focus on the possibilities and use these tools to foster connection, collaboration, and solutions.