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Article

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The rise of digital capitalism and the social changes it caused: how to develop the digital economy in socialist China

Digital capitalism and social changes

35

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Abstract

Purpose – The study aims to take a step back and take the big picture of how digital capitalism is changing people's ways of living and production. On that basis, China should enhance its digital governance rationally and develop the digital economy efficiently, thereby bringing its socialist economy to new heights.

Design/methodology/approach – The rise of digital capitalism in the 1990s has profoundly changed the ways of consumption, employment, production organization and investment in the realm of capitalism.

Findings – Digital Capitalism has not changed the nature of capitalism, that is, exploitation and capital accumulation, which continue only in a more profound, extensive and covert way.

Originality/value – For the economy of socialist China to grow in the new era, China should tap into digital economy platforms, take a people-centered approach and let the people jointly develop the digital economy, share the fruits of development and participate in the governance of the digital economy. The government should leverage its modern digital governance and a high-quality digital economy to meet people's ever-growing demand for a better life.

Keywords Digital capitalism, Social changes in the west, Digital economy in China

Paper type Research paper

In the second decade of the 21st century, one of the changes that stand out most about capitalism is how its digitalization gradually touches people's ways of living and production. Digital capitalism may seem to have risen to prominence overnight. Still, the “new economy” myth had existed since the early 1990s, when the Internet-based information technology (IT) revolution came around. The bursting of the dot-com bubble in 2000 and the outbreak of the global financial crisis in 2008 showed that digital capitalism was another failed attempt to shake off the haunting capitalist crises.

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As the global landscape goes through a once-in-a-century reshuffle, China should take a step back and take the big picture of how digital capitalism is changing people's ways of living and production. On that basis, China should enhance its digital governance rationally and develop the digital economy efficiently, thereby bringing its socialist economy to new heights.

1. The rise of digital capitalism

Starting from the 1960s to 1970s, as information and communication technology (ICT) evolved and the information service industry expanded, the post-industrial information theory began to catch on in the West. This theory played up the contributions of information technology, contending that information technology drove a historic leap in capitalist property relations (Schiller, 1996, pp. 22, 24, 92 and 94) while leaving out the correlation between ICT and the history of capitalism. In the Internet age since the 1990s, the “new economy” in the United States (US), characterized by low inflation, high employment and high growth, further glorified the information technological revolution. It seemed that “knowledge economy” and “information economy” could make all capitalist conundrums disappear. However, the deep-rooted conflict and contradiction in the production relations were still lurking in the dark.

Although American sociologist Castells (1997) regarded the “network society” as a particular form of capitalism, he kept a cautious distance from the internal relation between the revolution brought about by ICT and the capitalist system. In *Digital Capitalism*, which was firstly published in 1999, American communications and political economy scholar Dan Schiller stood as an unequivocal critic of the capitalist logic behind the ICT revolution for the first time and used empirical analyses of industries to prove that information networks are permeating all fields in the capitalist economy and culture on an unprecedented scale, turning into an indispensable instrument and momentum for capitalist development, and driving the shift of the political economy towards digital capitalism. Instead of focusing only on the new economic momentum brought about by the digital technological revolution, Schiller reveals the internal relation between digitalization and capitalist development and takes communications and information as a new underpinning of the ever-changing capitalist political-economic structure. Schiller (2001) points out that the “paradigm of information economy” confuses the concept of information as a useful resource with information as a commodity produced by wage labor to trade on the market. However, digital capital was then yet to become full-blown digital capitalism, and knowledge, information and data were just elements of capital that were in no position to dominate or become capital *per se* back then (Lan, 2018).

The second decade of the 21st century has witnessed the spread of cell phones and mobile Internet, the emergence of platforms and IoT, and the evolution of big data and AI. Along with these changes, the digital economy has become a dominator in socioeconomic development, fully demonstrating its remarkable advantages and flaws and bringing an explosive growth of academic attention to digital capitalism and relevant concepts.

Popular concepts about “digital capitalism”, such as “digital economy”, “platform economy”, “gig economy” and “sharing economy”, are all coined to encapsulate those digital technology-based new organizational forms. “Digital capitalism” in the Chinese Marxist context mainly focuses on the digitalized capitalist mode of production. The digital economy refers to a series of economic activities that feature digitalized knowledge and information as crucial production elements, modern information networks as essential platforms, and the effective use of ICT as a significant efficiency booster and economic structure optimizer. The platform economy refers to the integration of information and optimal organization of social production and reproduction processes, tapping into its powerful capacities for data collection, transfer, calculation and processing, as well as algorithms, with digital platforms as the core. The gig economy is a model where under the coordination of online intermediaries, a large number of independent workers provide their services and get paid on a piecework basis. The sharing economy mainly refers to

economic activities where idle resources and working time are rented out. Among these concepts, the digital economy is about digitalized economic activities; the platform economy is about the mode of production organization; the gig economy is about the form of employment; the sharing economy is about means of living and services and digital capitalism focuses on the all-round impact of digitalization on the capitalist mode of production and is more in line with the classical Marxist paradigm of analysis.

From the grand perspective of historical materialism, the rise of digital capitalism can be traced to capitalist attempts to break away from economic crises. In the 1970s, as economic stagflation and international competition intensified, western countries had to find a way to recover the interest rate and enhance competitiveness and they reshaped their economies through “destructive innovation”. The core of this reshaping power was no other but the digital economy, which drives production revolution through the information technology revolution, not only providing globalization and financialization with digital infrastructure but also making its way towards the center of monopoly capital. In recent 40 years, the rises and falls of digital capital have already become an integral part of the vicissitudes of the capitalist economy and a historical witness to the capitalist sustained efforts to mitigate the economic crises and to the failures to break with them. Marx believed that capitalism-driven industrialization brought a global market into being, expedited economic globalization, helped form and further the global division of labor, and enabled the United Kingdom (UK) to monopolize international trade in all major industrial sectors virtually (Zhou, 2019, pp. 174–179). To a certain degree, digital capitalism has advanced the formation of the modern global market and the advent of globalization, stitched together the divided international labor and enabled platform capital to hold a virtual monopoly on critical economic sectors. While reshaping the form of capitalism, digital capitalism conceals the privatized mode of production in the name of the revolution of economics, hides the sources of surplus-value by holding high technology determinism, disguises exploitation through the value law of equivalent exchange and covers poverty and inequality with capital accumulation (Bai, 2018). Consumption, employment, production and investment in the West are all changing along the way, getting capitalized and subordinated to a higher degree when digitized and modernized.

2. Digital capitalism has changed the way of consumption

The development of the digital economy has drastically changed the way people consume in daily life and the landscape of material and cultural consumption, making consumption a far more convenient, diversified and personalized experience. In addition, the evolving digital economy has optimized the logistics, warehousing and other links behind consumption, bringing down the costs of circulation and middlemen and speeding up circulation. Thanks to digital capitalism, consumption, integral to realizing surplus value has been modernized to an unprecedented extent. The consumption sector related to digital capitalism has registered a growth rate far exceeding that of the overall gross domestic product (GDP), becoming the cornucopia for digital capital worldwide. Shopping in online platforms has taken the front seat in retailing because of its strengths in smart popping-up, correlation matching, one-click ordering, one-day delivery, whole-process tracking and taking in consumers’ feedback for improvement. Quite a few service platforms are quick to grab the market shares. By means of rich online resources and real-time interaction offered, the social network, video streaming, online medium and online games have become the main fronts of young people’s cultural consumption. Wi-Fi is just as important as air and water nowadays and has even made it available to some African areas before drinking water and electricity do. Although digital consumption has not become the mainstay of a country’s consumption yet, its vigor is roughly indicative of how modern a country’s consumption is. The recent emergence of the sharing economy in the West has significantly increased the diversity and novelty of consumption and even narrowed the inter-class consumption gap to some extent.

Digital capitalism has notably optimized consumption but also exposed consumers to pervasive risks, one of which is the information security risk. In exchange for greater convenience, consumers have to authorize access to their personal information, which puts data security at risk. Moreover, consumers' preference data gets collected to personalize advertising and entice shoppers, resulting in irrational and excessive spending. Consumer characteristics may also be used for screening, resulting in price discrimination or even access discrimination (such as denial of some people's access to commercial medical insurances or opportunity of online interviewing because some of their characteristics data reveal certain unfavorable traits about them). Consumer privacy data may even be used for wealth theft and personal attacks. The belief that "huge followings and traffic prevail" may exacerbate cyber-bullying. The second risk that comes with digital capitalism is low information quality. While digital capitalism brings together massive data at a low cost, the quality and diversity of information have not improved along with it, at least not for nonVIP users – For example, whether the search ranking mechanism in search engines is natural or manipulated by capital is also in great conflict with the profit model of digital capitalism. The third risk is information distraction. Although teenagers, adults and the elderly could have tapped into the riches of digital resources for self-improvement, many of them ended up absorbed in endless online entertainment. The ability to improve oneself with digital resources while filtering out online distractions has been vital to personal upward mobility in the age of digital capitalism and a country's talent training and technological development. Thus, in late July 2018, the French Parliament enacted a law to ban elementary and middle school students from bringing cell phones to schools.

Although digital capitalism has remarkably improved consumer experience, one of the biggest myths arising from digital capitalism is the popular misconception that the general public is the most significant customer of digital capitalism. Schiller (2018) insightfully points out that the most important and favored big customer of digital capitalism is always enterprises, especially large ones, whose demands are counted as investment. Investments in communications equipment prior to the Internet era were biased toward internal private networks of large companies rather than the public network, and the Internet also ended up with the model most conducive to serving private enterprises. Financial institutes, retailers, manufacturers, agriculture actors and defense R&D (research and development) contractors in the US have all been generous with investment in hardware and software for information processing. In 2013, the related investment was as high as United States dollar (USD) 313 billion, in which the financial industry contributed USD 60 billion, only trailing the USD 86 billion from the information industry (Schiller, 2018, pp. 107–109, 137–168, 172–181). For digital capitalism, the Internet is more than a tool for communication and production but a privilege of accessing information. Information is a conducting baton dominating the industrial landscape, input and operation, as well as the digital capital to grab profits, rather than an ordinary commodity. The acquisition of temporary advantages in the collection, transmission and processing of financial information through huge investments in information technology has become one of the keys for financial monopolies to maintain their monopoly advantage. In this sense, digital capitalism also perpetuates financial monopoly capitalism.

3. Digital capitalism has changed the way of employment

Digital capitalism has changed not only the means of consumption but also the means of employment increasingly, especially for young people. In the age of digital capitalism, employment is more flexible and elastic, information in the job market is more rapidly and timely updated, part-time job vacancies are increasingly diverse and abundant, and employment models such as outsourcing economy, gig economy and sharing economy are increasingly popular. Across the industry spectrum, both the traditional manufacturing and service sectors on the low end and the emerging knowledge-intensive service industry on the medium-to-high end alike have virtually adopted the piece-wage system on the modern digital infrastructure and digital platforms and

countered substantial market risks with a performance review system. On the one hand, digital capitalism stimulates workers' adaptability and ability to develop and market personal skills, increases the possibility of high remuneration and reduces the risk of complete unemployment. On the other hand, it should be noted that the enhanced employment elasticity brought about by various employment modes in digital capitalism is mainly about strengthening the recruitment flexibility and freedom for enterprises, especially for monopolies and platforms. It is more about maximizing the cost performance of hiring, shirking off labor-related risks and obligations, and retaining a massive reserve army of labor at the lowest cost possible. Moreover, capitalism has penetrated people's daily life through communication media, imperceptibly extending reproduction by turning leisure hours into working hours. Data, cloud computing and AI – technologies that are supposed to empower human's pursuit of a better life and play an active role in eco-protection, peacekeeping and global equity and justice, have become a tool for profiting and reproduction under the sway of digital capitalism. As of now, instead of reducing the degree of capitalist exploitation of the masses, digitization has even incorporated the entire territory of people's lives into the exploitation of labor by capitalists by means of digital media. The "siphon effect" of digital capital perpetuates a state of constant acceleration in social life (Yuan, 2018). In essence, digital labor has produced a large amount of data for digital platforms and these data constitute digital capital. The digital capitalists are constantly multiplying digital capital by extracting the surplus value of digital labor, and this new round of enclosure movement taking place on the Internet is more powerful and hidden than before.

From the perspective of workers, employment in the age of digital capitalism is first and foremost defined by the increasing scarcity of stable full-time job vacancies. Digital capitalism has hit hard such traditional industries as manufacturing, retailing, publishing, journalism and entertainment. In developed and even developing countries, many jobs in labor-intensive industries have been replaced by robots, artificial intelligence (AI), technology companies and platforms. However, tech firms have rarely created new full-time jobs. For example, WhatsApp had only 55 employees when acquired by then Facebook for USD 19 billion, and Instagram had only 13 when acquired for one billion dollars (Srnicek, 2018, p. 5). In recent years, part-time, unstable employment has taken an increasing share of the newly created jobs in quite a few western countries, and the proletariat has been prone to become the precariat class (Antunes, 2018). The second defining feature of employment is that the piece-wage system has featured increasingly prominently. Karl Marx once said that the piece-wage was the form of wages most in harmony with the capitalist mode of production. By virtue of powerful data computing, storage and transmission, digital capitalism has greater control over work processes. The piece-wage system is applied not only in traditional manufacturing and service industries but also in the most cutting-edge scientific and technological service sectors. The piecework-based model has increased workload and risks for workers in the disguise of crowd-sourcing, sub-contracting, outsourcing, partnerships, projects and other forms. Although a few workers may get more pay, most suffer more severe exploitation. The third feature of employment is the growing blurring of the distinction between working time and leisure time. While the industrial revolution and the invention of whale oil lamps may extend the working hours of industrial workers into the night, the modern digital communication technology and the real-time competitive pressure from digital capitalists racing against the clock may take it further to the extent that digital workers are sleep-deprived. Social communication apps and platforms have also become part of the workplace. "996" or "007" work schedules and "hairline" became buzzwords in the digital age. Some enterprises may drive employees to the brink of burnout because they increase the intensity of mental labor unlimitedly. In addition, some digital platforms, such as YouTube and Yelp, also lay hands on workers' pastimes and feedback, converting the leisure time of workers into unpaid working time to the advantage of platforms, and the full range of online reviews also increases the pressure of work.

4. Digital capitalism has changed the mode of production organization

The digital economy-driven changes in consumption and employment stemmed largely from innovations in the production organization. As data gains importance in the capitalist economy, traditional business models where data are difficult to extract and utilize have been gradually replaced by the platform model that supports exclusive big data access, extraction, analysis and usage. As a result, a number of monopolies and startups have been brought onto platforms. Platforms offer digital infrastructure and digital interactivity with powerful computing, algorithms, data storage and data transmission. [Srnicek \(2018, pp. 48–51, 55–57\)](#) classifies platforms into five categories, namely advertising platforms that extract and analyze user information (e.g. Google and Facebook); cloud platforms that rent out digital business hardware and software (e.g. AWS and Salesforce); industrial platforms that facilitate the connection of traditional manufacturing into the Internet (e.g. General Electric and Siemens); product platforms that transform traditional goods into services through other platforms (e.g. Spotify, a streaming music service platform); lean platforms for the sharing economy (e.g. Uber and Airbnb) and Amazon, which spans nearly all of the above categories. A well-run platform can bring together many platform-dependent organizations and individuals to create network and scale effects. This promotes the flow of goods, services and information, greatly optimizes the way traditional enterprises organize their production and marketing networks, brings down operational costs and allows companies to focus on core competitiveness in key businesses. A good platform not only advances the on-demand customization of products but also facilitates the systematic integration of R&D modules.

Organizations operating platforms successfully are gaining greater systemic importance in digital capitalism and taking center stage in the production organization. While significantly advancing the socialization of production, these organizations intensify the internal contradictions of capitalism. In their early days, digital platforms tend to have significant positive externalities, which they offer at a low price or even for free to win an edge against fierce competition. However, once a platform takes off, its inherent monopolistic nature is prone to come into play. Platforms are highly likely to monopolize profits at the expense of the interests of platform-dependent organizations or the efficiency and equity of the platform itself. It is even possible that these platforms may suppress or acquire emerging rivals to keep their monopoly. In this sense, they are increasingly a double-edged sword in promoting productivity over time. Many nonplatform companies depend on platforms, and small platforms rely on digital infrastructure and promotional traffic from large ones, while large platforms nested with small platforms rival each other fiercely. The end is cut-throat competition between giant platform systems – mega-platforms like Apple and Amazon all have giant platform systems ([Xie et al., 2019](#)). Incompatibility between different platforms constrains the degree to which production is socialized. The hierarchical organization of platforms means the higher levels control the lower ones and that the surplus-value is concentrated at the top, which undermines the sustainability of innovation power of the whole society. Digital capitalism may have taken on a new look, but it has yet to break away from the inherent limitations of traditional monopoly capitalism.

5. Digital capitalism has changed the way of investment

Like traditional capital, digital capital seeks the maximum return on capital. Digital capitalism, since its advent, has been inextricably interwoven with financial capital. Investment in digital capital, characterized by high risks, high returns and high barriers, can hardly secure funding from prudent commercial banks. As a result, it has to resort to venture capital, which cashes out when the investment goes public or gets acquired by larger companies. While venture-backed digital capitalism has a high failure rate, a successful investment can yield hundreds of times higher returns than the original input. For example,

Sequoia Capital in the US has wisely invested in Apple, Cisco, Oracle, Yahoo and Google; KPCB in Amazon and AOL; and Japan's Softbank in Yahoo and Uber. It is safe to say that the advancement of digital capitalism would have been impossible without mature venture capital and capital markets. When taking off, digital capitalism emerged as the brightest spot in the western stock market. As of May 12th, 2022, 22:00 (China Standard Time UT+8:00), among the largest five companies by market capitalization in the US stock market (Apple, Microsoft, Google, Amazon, Tesla), the top four were all digital platform companies, and their market caps combined reached an astonishing USD 8.24 trillion.

Despite the unprecedented growth it has brought about in the stock market, digital capitalism may harbor the most dangerous financial bubble ever seen. Some digital tech companies have gained high market capitalization with high earnings, but there are also many digital technology companies whose earnings are not yet significant. The high market capitalization depends on high market expectations. For example, AMD's price-to-earnings (P/E) ratio is 41, Amazon's 51, and NVIDIA's 47. However, many tech companies report negative P/E ratios, such as Zynga's -83. Investment in digital capitalism is characterized by high risk, high return and high leverage. The market capitalization of listed companies hinges on market expectations and therefore is significantly volatile. Startups that have not been publicly traded or acquired are exposed to unknown risks, which may worsen the volatility of economic cycles, particularly investment cycles, resulting in a massive waste of capital. Moreover, the rise of a mega platform may come at the cost of failed investments and capital impairment in numerous similar platforms and successful platforms may fail to find an ideal investment for their monopoly profits. The major US digital platform companies have stashed away hundreds of billions of dollars in cash overseas for lack of ideal investment opportunities and also for international tax avoidance. Mega digital platform companies are mostly multinational, and the nature of digital products facilitates international tax avoidance. It seems that tax avoidance has become an important means to pursue higher returns and a focus of the tax reform in the US in recent years.

One of the biggest myths about the role of private capital in the rise of digital capitalism is private capital is believed to be the only linchpin of the prosperity of digital capitalism. [Schiller \(2018, pp. 107–109, 137–168\)](#) makes an insightful observation, noting that the facilitation and regulation of state-monopoly capitalism are also fundamental to the growth of digital capitalism. When it comes to digital technology R&D and application, similar to biomedicine, venture capital tends to invest in the final application stage, leaving the daunting and lengthy basic research in the early stage to be funded by the state (e.g. the invention of the Internet). The state has also been a generous supporter in application areas. A case in point here is that the US Department of Defense and National Aeronautics and Space Administration (NASA) support small and medium-sized enterprises in Silicon Valley by placing large orders, which is significant for the rise of Silicon Valley companies. Given the state's pivotal role in the rise of digital capitalism and the systemic importance of the digital economy to capitalism, it is only natural that the state comes in to regulate financial and platform companies when they jump to feast on dividends of the digital economy. The USD 5 billion fine the US government slapped on Facebook in 2019 was just a start. When a penalty befalls multinationals, international disputes may arise. For example, in 2019, the European Union imposed huge fines on Google and other American tech companies, which triggered disputes between the two parties, hinting at the fierce rivalry and imbalance regarding digital capitalism.

6. How socialist China develops digital economy

The digital economy is not only the fastest-growing sector in the capitalist economy but also the most vigorous one in the socialist market economy with Chinese characteristics. China is already a large digital economy. Its flourishing digital economy helps upgrade its traditional

industries and adds new momentum to economic growth. According to the *White Paper on China's Digital Economy Development (2021)*, China has witnessed sustained rapid growth in its digital economy. The scale of China's digital technology industry reached Chinese yuan (CNY) 7.5 trillion in 2020, up 5.3% from the same period last year in nominal terms and accounting for 7.3% of its GDP. The size of digitized industries reached CNY 31.7 trillion, up 10.3% year-on-year in nominal terms and accounting for 31.2% of its GDP. In 2020, the digital economy contributed over 50% of China's economic growth, becoming the engine of China's economic development. The digital economy has created many more jobs, and China's digital governance has improved on all fronts. Nevertheless, it's worth noting that under the background of economic globalization, the problems and risks in western digital capitalism also exist in China, and they may be even more complicated in China. Therefore, China should fully use its institutional advantages to keep improving its digital governance.

First of all, China's digital platform companies are mainly consumer-oriented. Issues of misinformation, unhealthy information and information leak on these platforms are harder to tackle, and platforms are suing each other for the ownership of user information. Therefore, it is necessary that the government explicitly assign the data ownership, safeguard data security and a clean environment for data consumption, clarify penalties for platforms that deal illegally with proprietary data or third-party data and bring algorithms under supervision. On top of that, the authorities can govern better by actively leveraging digital capital. With information technology, the government can mitigate overcapacity, enhance monitoring and regulation of pollution, supervise grass-root officials and keep corruption in check.

Second, when it comes to the platform monopoly, an inevitable issue in the digital economy, it is necessary to strike a balance between enabling platforms to grow and promoting the industry's overall development, which means that platform monopoly that stifles other companies or small platforms should be constrained to prevent information monopoly and manipulation while an enabling institutional environment should be created for platforms with positive externalities. Efforts should be made to facilitate innovation in and coordinated development of the whole sector, and more opening-up and sharing should be encouraged.

Third, to respond to the issues of the digital divide among workers and the vulnerable workers brought by the digital economy, it should be noted that unleashing the employment potential of the digital economy requires not only building up the digital infrastructure (to lower fees and increase Internet speed, for example) but also more spending in digital literacy public programs and strengthening labor protection in the digital economy to fully tap into the institutional advantages of socialism and let more workers share the employment dividends in the digital economy.

Last, regarding the investment in the digital economy, China should give a better play to the market, seeing that market plays a decisive role in the allocation of resources. Digital technologies can help mitigate information asymmetry and enhance information transmission efficiency. It should further improve its capital market to encourage rational venture capital while restricting speculation in relevant concepts and preventing financial bubbles from getting overinflated in the digital economy. Also, the government should continue strengthening fundamental R&D and coordination and resource integration regarding the digital economy to make breakthroughs in core technologies in critical areas as soon as possible and underpin China's digital economy with proprietary core technologies.

To sum up, China needs to develop a socialist digital economy rather than a capitalist one. Instead of capital-centered, it is people-centered and is built by the people, shared by the people and governed by the people. China should leverage its more modernized digital governance capability and high-quality digital economy to satisfy people's ever-growing demand for a better life and empower people's free and comprehensive development, driving the shift from a moderately prosperous society in all respects to a strong modern socialist country and turning a page on the socialist economic development with Chinese characteristics.

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