

The Impact of AI on China's Three Industries and Economic Structure, and Policy Responses

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Abstract. Against the backdrop of profound global economic transformation driven by artificial intelligence (AI), China, in a critical stage of economic restructuring, faces long-standing issues such as resource misallocation and supply-demand mismatches, which hinder high-quality growth. AI offers unprecedented potential to address these challenges through optimized resource allocation, enhanced supply-demand coordination, and productivity improvements. This study, through a literature review, explores the role of China's monetary and fiscal policies in utilizing AI for economic development. The findings reveal that AI significantly promotes upgrading across primary, secondary, and tertiary industries: in primary industries, it enhances agricultural efficiency, enables standardized production, and reduces resource misallocation via intelligent equipment and big data; in secondary industries, it optimizes capital allocation, fosters cross-industry integration, and strengthens non-price competitiveness; in tertiary industries, it improves service quality, personalization, and alleviates supply-demand imbalances. Regarding consumption structure, the popularization of intelligent products may trigger demand-pull inflation, necessitating balanced regulation through monetary tools and fiscal policies.

Keywords: AI, Primary, Secondary and Tertiary Industries, Economic Structure, Monetary and Fiscal Policies

1. Introduction

The global economy is undergoing a profound transformation driven by the rapid advancement of artificial intelligence (AI), which is reshaping industrial structures, investment patterns, and consumption behaviors worldwide. For China, a country in the critical stage of economic restructuring and upgrading, AI presents both unprecedented opportunities and unique challenges. Historically, China's economy has faced long-standing issues such as resource misallocation (e.g., inefficient labor and capital usage in traditional agriculture) and supply-demand mismatches (e.g., fragmented connections between producers and consumers in primary industries, and uneven quality in services). These problems hinder high-quality growth and industrial upgrading.

AI can optimize resource allocation through data-driven decision-making, enhance supply-demand coordination via intelligent analysis, and boost productivity across sectors. However, the integration of AI into economic systems is not spontaneous. It requires effective policy guidance—particularly through fiscal tools (e.g., subsidies, targeted transfers) and monetary tools (e.g., interest

rate adjustments, targeted re-lending)—to mitigate risks, balance interests, and maximize AI’s transformative potential. Existing studies primarily focus on AI’s technical impacts on China’s economy, but few systematically explore how monetary and fiscal policies can be tailored to leverage AI for addressing structural challenges. This research gap underscores the urgency of examining the interplay between AI, economic restructuring, and policy design.

This research focuses on the role of China’s monetary and fiscal policies in using AI for economic development in the AI era by literature review. It specifically investigates how AI influences primary, secondary, and tertiary industries, investment, and consumption structures, and how policy tools (e.g. changing the interest rates & reserve ratio requirement and targeted re-lending) can mitigate risks. Findings aim to provide policy insights for aligning economic policies with AI advancement, supporting China’s high-quality economic growth and industrial upgrading.

2. AI’s impact on industry

2.1. For primary industry

In the past, Chinese primary industries have had most of the character of the previous generation. For example, their conventional agricultural industry. Include a high level of labor input, not only the number of workers needed but also the quality and efficiency of human resources [1-2]. How to produce depends on passing experiences, as a result, it is easier to lead misallocation of resources [3]. Weak connection between producer and consumer, which leads to higher costs during trading. As a result, how to improve the yield with the help of the latest chance—the artificial intelligence—has become an important.

With the development of human society, artificial intelligence, or the web of things, can energize Chinese primary industry. Let us take their agriculture as an example. Increasing input of capital, like a harvester manipulated by AI (which has been trained by big data collected from lands and will be efficient) [1]. According to the production function, the total output will be higher. Besides, during the application of AI, more of the latest and secluded details of the land can be caught. The actions of the plant will be more scientific. AI also makes standardized production possible. Yield may be higher. Thirdly, advanced nets allow order-based manufacturing to decline the waste. Like the analyses show, the demand for some mines is in a certain range, and the workers do not need extra work. They may try to find more work-life balance. Therefore, the industry has stronger pricing power and is able to meet the needs of industrial upgrading [2].

2.2. For secondary industry

For the second sector, the more intellectualized and informationalized manufacturing is, the better the structure of the industry. This upgrading will have three major influences. Firstly, the companies may produce in a “smarter way”, like AI checking the yield and malfunctions [3]. Therefore higher automation will improve the distribution of capital. Secondly, some new technologies are generic. That AI who controls the harvester is a general AI but had been trained by some specific inputs. So the interaction between firms from different areas is becoming possible. They create something together but not physically. In a macro view the integration of the whole economy will be deeper. Thirdly, AI can let the companies offer some more precise and personalized goods. This non-price competitiveness could let the businesses provide goods that are more price inelastic. Hence, they have more price-setting power and may earn extra revenue [4].

2.3. For tertiary industry

For the tertiary sector, the average quality of services will improve. Because traditionally, in this sector, it mostly depends on the quality of human capital. It is easier for the imbalance between the demand side and supply side to occur. But the migration of this sector and AI can push up the quantity and quality of the personalized & trans-regional management [5]. By the efficient and less costly collection of individuals' tastes, the services provided will satisfy the consumer's needs and wants more. There is less variable to damage the service. Not only can AI change our lives, but technologies also can in different countries. Then the inequality of medical resources may influence our health less [6].

3. AI's impact on investment structure

Digital infrastructure, as a core component of the investment sector, derives its importance from multiple significant advantages, with the sustained release of the multiplier effect being one of its key characteristics. Within the macroeconomic framework, investment, government spending, and exports all function as inputs into the economic system. According to the principle of the multiplier effect, each unit of initial investment generates social output that is several times larger than the original scale through the transactional cycles among economic entities [7]. This amplification mechanism not only directly drives the expansion of the overall economy but also provides strong and sustained momentum for economic growth through supply chain transmission and demand stimulation, thereby making the overall economic development trend more stable.

Another prominent advantage of digital infrastructure investment lies in its ability to break through physical constraints. Taking land resources as an example among production factors, compared to traditional infrastructure projects, digital investment significantly reduces the scale of land occupation. This characteristic enables it to effectively avoid conflicts arising from the competition for scarce resources such as land during the resource allocation process. In contrast, the expansion of government spending often comes with a strong resource crowding-out effect. When the government increases its demand for capital and other factors, it leads to rising market interest rates, which in turn increases corporate financing costs and ultimately suppresses private sector investment intentions. However, digital infrastructure investment, with its low reliance on physical resources, has a relatively weaker crowding-out effect on private investment, thereby better maintaining the vitality of market investment entities [8].

The widespread positive externalities of digital infrastructure are another key advantage, primarily manifested through positive spillover effects on third-party entities. Taking China's economic development as an example, less developed western regions have not only gained significant direct employment opportunities by participating in digital infrastructure projects but also shared in the indirect benefits of economic growth through technology diffusion and industrial upgrading. The National Computing Resource Allocation Project in China is a typical practical example of this advantage. Part of the project's funding comes from the national water conservancy budget, and this cross-sectoral fiscal resource allocation model provides a diversified funding guarantee approach for digital infrastructure construction. It is expected that such fiscal innovation measures will continue to be adopted in future construction projects in related fields.

From the perspective of policy sustainability, to maintain national interest rates at relatively low levels during specific periods and avoid debt repayment pressures caused by high interest rates, the potential opportunity costs of digital infrastructure investments must be incorporated into a systematic assessment framework. In addition to fiscal policies, the coordinated use of monetary

policy tools is equally crucial. For example, reducing the reserve requirement ratio to improve market liquidity can create a more favourable financial environment for project funding, thereby effectively alleviating financing difficulties and providing stable support for the continued advancement of digital infrastructure.

4. Upgrading of consumption structure

The advanced GNI of China makes them affordable for some clever products, like some robot vacuum cleaners that can design their schedule themselves [9]. These goods can provide consumers a better living standard and some other non-price competitiveness, so they aim at consumers that are $0 < \text{Price elasticity of demand} < 1$. This means that the level of acceptability of the goods by consumers when the price changes is relatively higher than before. In other words, these goods have a higher value-added ratio = $\text{value added} \times 100 \div \text{revenue}$. These goods with much higher prices will improve the price level of the country, and demand-pull inflation may be created directly. Besides, another reason may be that if people can afford durable goods like houses and cars, then they will have more willingness for borrowing. Thus, the People's Bank of China may decline the base interest rate to prevent the overheating of the Chinese economy. However, this may lead to some difficulties with the advice for the arrangement of funds for digital infrastructure. As a result, the control on interest rate should be oriented instead of those on base interest rate. Fiscal policies should be established on the house property to weaken the bonds between the Chinese economy. Then the potential property-value bubble will have less menace to the whole economy [10].

Moreover, many policies for these have been established, including the management of liquidity. One of the most significant measures is to decline the reserve ratio requirement, which is set by the central bank to prevent running out and subsequent panic. In 2018 this data was 14.9%, and in 2025.6 it had decreased to 6.2%. According to a decline in one percentage point, ¥ 1.2 trillion will be released [11]. Or depending on the relevance of financial institutions to industry, which is related to AI, the central bank may set a lower Required Reserve Ratio (RRR) for financial institutions that actively extend credit to these industries. For example, the Agricultural Development Bank of China allows financial institutions to obtain low-cost funds from the central bank, which they then lend to special projects in the target field at preferential interest rates, usually two percentage points lower than the market rate. As a result, enterprises' financial costs, i.e., the interest they need to pay, are reduced, leaving them with more funds to invest in the purchase of AI equipment and supporting employee recruitment, among other areas [12].

Another highly targeted policy is targeted re-lending. The central bank firstly identifies key areas to support the AI industry, such as specific application scenarios of AI within the three major industries (primary, secondary, and tertiary industries), including the training of general artificial intelligence discussed above. Then, it provides low-interest re-lending funds to qualified financial institutions, mainly the commercial banks like China Construction Bank. After obtaining the funds, these financial institutions target areas at preferential interest rates. The reason why the central bank does not do this directly is that it is the "bank of banks" and lacks such capabilities.

5. Conclusion

This article focuses on the development path of China's economy in the context of AI, with an emphasis on exploring the role of monetary and fiscal policies in addressing problems in China's economy (such as misallocation of resources and mismatched supply and demand). It analyzes the impact of AI on the primary, secondary, and tertiary industries, as well as its role in the upgrading of

investment structure and consumption structure, and discusses the application and limitations of relevant policies.

AI can significantly promote the upgrading process of various industries in China. In the primary industry, the application of AI (such as intellectual harvesters, which use big data analysis to design specific production arrangements) can improve production efficiency, achieve standardized production, and reduce resource misallocation. In the secondary industry, intelligent upgrading optimizes the allocation of capital, promotes cross-industry integration, and enhances the position of China's manufacturing industry in the value chain. In the tertiary industry, AI can improve service quality and personalization level, alleviate the imbalance between supply and demand, and materialize the upgrading of the Chinese economy.

As the foundation for AI×economic development, investment in digital infrastructure supports them in ways such as the multiplier effect, low natural restrictions, and strong positive externalities. It also has a weak crowding-out effect on private investment.

For the upgrading of the structure of consumption, the popularization of intelligent products may trigger demand-pull inflation. It is necessary to balance the general price level through monetary and economic means such as interest rate regulation and fiscal policy adjustment (such as real estate-related policies). This study holds that it is necessary to use policy tools such as subsidies, interest rate regulation, and targeted re-lending to combine with the application of AI, while balancing policy limitations such as resource competition and debt pressure.

The biggest shortcoming of this essay is the insufficient empirical analysis. The article mostly conducts theoretical analysis and does not cite enough industry cases. Insufficient depth in policy analysis should also be considered. The limitations of monetary and fiscal policies are only briefly mentioned, and there is no in-depth analysis of the conflict and coordination mechanisms of different policy tools in specific scenarios (such as the contradiction between interest rate regulation and the fund arrangement for digital infrastructure investment).

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