Rationale and Pathway for New Industrialization in the Context of Chinese Modernization

Huang Qunhui[1], Li Fangfang[2*]

[1] *Institute of Economics, Chinese Academy of Social Sciences (IE-CASS), Beijing, China*
[2] *School of Economics & Management, Beijing Forestry University (BFU) , Beijing, China*

Abstract: *The concepts of modernization and industrialization have different connotations that are specific to their historical backgrounds, and their theoretical innovation and development may benefit from China's experiences. Industrialization is the cornerstone of modernization, and holds the key to its success. China's experiences in blazing a new trail of industrialization are challenging the traditional Western theory of industrialization and deepening the connotations of Chinese modernization. New industrialization is a key entry point for steering China's modernization drive and theoretical innovations. This paper offers an overview of the theory of Chinese modernization and its evolving trend along China's socialist industrialization path, as well as the rationale and pathway for new industrialization in the context of Chinese modernization. As our findings suggest, the new industrialization concept has taken hold in every key aspect of Chinese modernization. When combined with the theory of Chinese modernization, the theoretical implications of new industrialization play a crucial role in propelling Chinese modernization forward along a new journey in the new era.*

Keywords: *New industrialization, Chinese modernization, coordinated evolution, theoretical rationale, practical pathway*

JEL Classification Codes: O14
DOI: 10.19602/j.chinaeconomist.2024.07.01

As noted in the *Report to the 20th National Congress* of the Communist Party of China (CPC), China has embarked upon a new journey toward building a great modern socialist country and achieving the second centennial goal, and the all-round implementation of Chinese modernization will lead to the completion of new industrialization by 2035 (Xi, 2022a). In September 2023, President Xi Jinping made the following important remark at the National Meeting on Promoting New Industrialization: "Realizing new industrialization is a key task in the nation's pursuit of Chinese modernization to comprehensively build a stronger country and advance national rejuvenation on the new journey in the new era". In retrospect, it is of great significance to take stock of the important role of industrialization in advancing China's modernization. Such research is conducive to unraveling the development process and the far-reaching implications of new industrialization and Chinese modernization theories, and drawing historical lessons for facilitating the successful completion of new industrialization and Chinese modernization for the new journey in the new era.

1. Joint Evolution of Chinese Modernization Theory and the Socialist Industrialization Path with Chinese Characteristics

Industrial revolutions have unleashed waves of industrialization, transforming human civilization

* CONTACT: Li Fangfang, email: liff602@163.com.

中国知网 https://www.cnki.net

from an agrarian society to an industrial society. This paradigm dictates that the economic foundation shapes the superstructure. Historically, modernization has led to profound economic, political, technological, cultural, and philosophical changes in every aspect of our lives. Industrialization is an economic modernization that serves as a key component and impetus for overall modernization. Over the years, China has blazed its own trail of economic development by "crossing the river while feeling for the stones", establishing a theory of socialist industrialization with Chinese characteristics. After extensive explorations and adjustments according to its national conditions, China's industrialization path has achieved brilliant successes, underpinning the nation's modernization effort.

1.1 Planned Economy Period: Modernization with Priority on Heavy Industry

Agricultural production paved the way for the success of China's Neo-Democratic Revolution between 1919 and 1949. However, China's industrial progress during this period was a minimal response to the historical trend and incomparable to industrialization in the modern sense. The founding of the People's Republic of China in 1949 created the conditions for China's large-scale industrialization, opening a new chapter for the nation's industrialization process in real earnest (Wang et al., 2021). For China as a late-moving nation, it was natural to draw upon the experiences of early-moving industrialized countries in order to escape poverty and achieve prosperity, and the Soviet Union offered the first example for New China to follow. Under the planned economy, the Chinese government prioritized heavy industry at the forefront of economic development to catch up with advanced countries. This led policymakers to equate modernization with industrialization and identify industry as the only dimension of modernization. Upon the implementation of its first five-year plan (FYP) in 1953, the Chinese government enacted the "One Industrialization and Three Transformations"[1] as the General Line of the Transition Period, i.e., to turn the country from a backward agricultural country to a modern industrial one and complete the socialist transformation of agriculture, craft industry, capitalist industry, and commerce. The first five-year plan prioritized the 156 industrial development projects with the Soviet Union's support, laying the foundation for China's socialist industrialization. After the steady implementation of the General Line of the Transition Period, the Soviet model became increasingly incongruous with China's realities of industrial progress. In 1957, Mao Zedong broadened the strategic goal of socialist modernization to the "construction of a socialist country with modern industry, modern agriculture, and modern science and culture".[2] In 1964, the Third National People's Congress (NPC) laid out a grand vision to achieve the "Four Modernizations", i.e., the modernization of agriculture, industry, national defense, and science and technology, to catch up with and overtake internationally advanced levels.[3] It identified the first step in achieving the "Four Modernizations" as "establishing an independent and relatively complete industrial system and national economic system".

During this special period, the "Four Modernizations" shared the traits of industrialization, i.e., both aimed to turn China into an advanced country of socialized large-scale production in which modern technical equipment served as a key factor of production through technical renovation and upgrade. The subsequent setbacks of the "Great Leap Forward", the "Three Years of Hardship", and the "Cultural Revolution" delayed the progress of both initiatives. Yet the Third Front Movement between 1964 and 1980 became China's first independent effort to advance socialist industrialization, as well as a major step toward socialist modernization. Following the 156 industrial development projects aided by the Soviet Union, China implemented the "Four Three Plan" in 1973, realizing another large-scale concentrated introduction of advanced technology and equipment from Western developed countries. However, the strategic priority given to heavy industry in the highly centralized planned

[1] These refer to the socialist industrialization and socialist transformation of agriculture, handicraft industry, and capitalist industry and commerce.
[2] Selected Works of Mao Zedong (Vol.7), the People's Press, 1999 edition, page 207.
[3] Selected Works of Zhou Enlai (Vol. 2), the People's Press, 1984 edition, page 439.

中国知网 https://www.cnki.net

economic system slowed the development of agriculture and light industry. While industrial sectors benefited from free acquisition of agricultural produce, industrial production was inefficient for a variety of reasons. For instance, industrial enterprises were required to achieve planned indicators rather than maximize profits. The government decided everything from the supply of industrial feedstock to the sales of industrial goods and the use of profits from intermediate and final products. Government decrees largely determined whether or not an enterprise could turn a profit, leaving factory managers without incentives to expand market share, raise efficiency, or improve quality.

1.2 Economic Transition Period: Market-Oriented Industrial Growth Set the Stage for Chinese Modernization

In 1981, the Six Plenum of the 11th CPC Central Committee adopted the Resolution on Certain Questions in the History of Our Party since the Founding of the People's Republic of China. This document recognized for the first time that, given the principal contradiction of the primary stage of socialism, the fundamental task of China's socialist construction was to concentrate strengths to develop productivity, and that industrialization served as the "core and main body" of modernization. Since the adoption of the reform and opening-up policy in 1978, China has embarked on a modernization journey, along with other newly industrialized nations. It has blazed its own path of socialist industrialization, aligning with international practices but surpassing the traditional socialist model of industrialization, which was characterized by the centralization of power and seclusion during the planned economy era.

In this period, technological progress brought changes to the organization of production at all levels, as well as to the economic structure. Priority was given to underdeveloped light and labor-intensive industries, together with the shortage sectors of heavy industry. The Chinese government took steps to upgrade technology and improve the capacity of existing enterprises, encouraging a market-oriented approach. It launched rural economic reforms, beginning with the household contract responsibility system, and promoted township and village enterprises (TVEs) to address inefficiency and jumpstart rural industrial growth. As the rural reforms intensified, focus was shifted to cities. From a business manager's perspective, the following incentives applicable to both enterprises and government were adopted to reinvigorate business operations, including the factory director responsibility system, the corporate contract responsibility system, and the local fiscal contract responsibility system, as well as policy initiatives to delegate power, expand autonomy and carry out fiscal reform for state-owned enterprises (SOEs), and promote diverse ownerships and modes of operation (Lin, et al., 1994). All those initiatives were intended to deregulate market-based prices to incentivize production by linking business operators' profits with output. For workers, the government guided the flow of surplus rural labor to cities as urban economic reform deepened, and required enterprises to link labor compensation with business profitability, incentivizing surplus rural labor to contribute to business operations and national comparative advantage (Liu, 2020). As a result, China's export-oriented industrialization received a huge demographic dividend, ushering in a new era of rapid industrial growth.

Rapid industrialization triggered comprehensive social transformations, broadening the implications of China's modernization, and China's policymakers became more pragmatic in outlining the goals and taking the initiatives for modernization (Research Group of IIE-CASS, 2023). In 1979, Deng Xiaoping introduced the concept of "Chinese modernization", defining it as the achievement of "well-off families" as opposed to Western modernization[4]. Namely, Chinese modernization should place a premium on living standards while accomplishing the "Four Modernizations". In the tide of reform and opening up, China's coastal regions were the first to experience rapid economic growth thanks to their favorable location, and

[4] Selected Works of Deng Xiaoping (Vol. 2), People's Publishing House, 1994 Edition, page 237.

中国知网 https://www.cnki.net

Deng Xiaoping's vision that "those who become rich first will guide and help others to get rich together" proved instrumental to the rapid progress of modernization in China. In 1982, the 12th CPC National Congress vowed to "quadruple the annual industrial and agricultural output value" and "build a well-off society" as the strategic goals of basically accomplishing modernization for people across the country according to Deng Xiaoping's vision. In 1987, the 13th CPC National Congress called for "building our country into a prosperous, democratic and civilized modern socialist country, and identified the "gradual achievement of industrial modernization" as an assurance for broader socioeconomic goals. Hence, the connotations of China's modernization became extended to material, political and cultural civilization.

1.3 Export-Oriented Industrialization Period: The Coordinated Progress towards Industrialization, Informatization and Urbanization Promote the Rational Extension of the Connotation of Industrialization and Modernization

Deng Xiaoping's statements during his 1992 tour of South China, combined with the 14th CPC National Congress, marked a significant shift in China's opening up from political stance to institutional development. The massive migration of surplus rural labor from the countryside to cities boosted China's labor market growth, allowing the country to maintain its labor-force competitiveness. Following the 1994 exchange rate reform, China transitioned from a trade deficit country to a trade surplus country, and with its comparative labor force advantage in full swing, export-oriented industrialization became a strategic choice for economic growth. After joining the WTO in 2001, China gradually established itself as the factory of the world as a result of its demographic dividend (Zhang, 2020), and accelerated capital accumulation through export-oriented industrial growth. Policies and processes were developed to promote the movement of excess agricultural labor to cities. The 1994 tax-sharing reform re-delineated the administrative and budgetary authorities of the central and local governments, motivating localities to foster urban development by allowing them greater economic autonomy. This has accelerated China's urbanization trend. In 2011, China's urbanization rate exceeded 50%, creating a massive demand for investment, and the transfer of surplus labor from inefficient agriculture to more productive urban industries increased savings rates and economic growth (Li and Yin, 2005), resulting in job creation for the huge labor force. Industrialization and urbanization went hand in hand, and both labor and capital inputs helped to drive economic growth.

Rapid urbanization and industrialization resulted in the depletion of natural resources and environmental damage. The classic Western industrialization model of "pollute first, clean up later" was no longer appropriate for China's realities. It became necessary to change away from the old economic growth paradigm in favor of improving the quality and efficiency of economic development. Following its WTO entry, China's industrial development became interwoven into economic globalization, and the rapid expansion of high-tech sectors greatly influenced the industrial economies of many countries. Informatization and the knowledge-based economy revolutionized industrial sectors and related products, prompting changes in China's industrial production. The typical Western path of industrialization before informatization is incompatible with China's conditions. In this context, the 16th CPC National Congress in 2002 advocated for a different path from traditional Western industrialization, namely a new industrialization path of high technology, good economic performance, low resource consumption, less pollution, and full use of human resources. In 2007, the *Report to the 17th CPC National Congress* underlined the need of pursuing a "new industrialization path with Chinese characteristics" and promoting comprehensive integration of informatization and industrialization.

By implementing the export-oriented industrialization strategy, China has enhanced its position as an industrial powerhouse, sharpened its competitiveness, and integrated itself into the global industrial division of labor. China's coastal regions have emerged as the principal engine of the country's economic development, thanks to coordinated progress toward industrialization, informatization and urbanization; nonetheless, regional and urban-rural imbalances have occurred. Our understanding of agriculture's core

中国知网 https://www.cnki.net

significance has not altered, and under the planned economy, agricultural modernization was regarded as an aspect of industrialization (Huang, 2023). However, agricultural modernization had struggled to progress under strategic national arrangements during the unique historical stage, and was slowed further by preferential resource allocation to cities and a brain drain in the countryside (Yin and Zhang, 2023). Following the 15th CPC National Congress, China's modernization strategy switched to a "three-pronged" approach, which was then replaced with a "four-pronged" approach after the 17th CPC National Congress included the "harmonious society" theme. China has placed an emphasis on coordination, equilibrium, and sustainability, as well as people's happiness and value propositions, as part of its modernization journey. The 16th CPC National Congress in 2002 declared the goal of creating a moderately prosperous society in all aspects, with industrialization as one of its key objectives.

1.4 New Journey in the New Era: Deepening the Connotations of Chinese Modernization amid Debates on the Blind Spots of Traditional Western Industrial Development

Through rapid industrialization, China completed a journey of industrial development that industrialized countries had taken centuries to complete. Since 2015, China has been transitioning from the late stage of industrialization to the post-industrial stage according to the classic Western industrialization benchmark (Huang, 2017). While fully recognizing this great achievement, it is also important to recognize that China has entered a new stage of structural deceleration due to the joint effects of slowing capital accumulation, shrinking demographic dividend, and diminishing "learning by doing" effect (China's Economic Growth Frontier Research Group, 2014). Several issues have arisen as a result of the industrialization process. First, the virtual economy outgrew the real economy. In 2013, China's service sector value-added as a proportion of GDP exceeded that of the secondary industry. Following traditional industrial structure theories, many regions have pursued a policy orientation to increase the percentage of tertiary industry as an aim of structural adjustment. A few provinces exhibited a noticeable trend of "de-industrialization". The decline of manufacturing and other real-economy sectors contrasted sharply with the rise of virtual-economy sectors such as finance, raising the prospect of a divide between the virtual and real economies in China. Second, the movement of human capital to more efficient sectors became hampered. As our society ages, the window of opportunity from the demographic dividend is closing. While China needs to accelerate its secondary demographic dividend[5] or shift from the demographic dividend to the talent dividend, a significant portion of human capital became trapped in the mid and low-end sectors of the secondary and tertiary industries, resulting in low-level human capital congestion (China's Economic Growth Frontier Research Group, 2015). Third, the level of industrial integration is insufficient. Informatization has overcome the restrictions of division of labor and specialization in conventional industrialization, blurring industry boundaries (Du et al., 2023) and raising the significance of integrated industrial development. The industrial sector not only generates technological innovation, but also helps to apply and disseminate it. Manufacturing innovations have caused spillover effects in agriculture and services, propelling technological development. Fourth, China continues to face significant gaps in its core industrial strengths. China built an independent modern industrial system with a complete range of sectors. However, according to international criteria, China lacks original, core, and critical generic technologies. On the one hand, China's conventional industries rely on foreign equipment and components. On the other hand, China has yet to establish itself as a global leader for emerging technologies and industries. Fifth, regional industrial development is uneven. As a big country, China has adopted a gradient development strategy for regions with varying resource endowments and levels of industrial development. This has led to co-existing and interwoven elements of the mid and late stages of industrialization, as well as the post-industrial stage, across regions. Sixth,

[5] According to Cai (2010), China's secondary demographic dividend is to utilize its large and growing elderly population to make unique contributions to economic development based on the irreversible trend of an aging society.

中国知网 https://www.cnki.net

China's economic growth is limited by natural resource and environmental limits, particularly given the carbon peak and carbon neutrality goals. The need for green growth has arisen as another weathervane of China's industrial growth.

Since the 18th CPC National Congress,Xi Jinping has made important statements on major theoretical and practical issues concerning new industrialization. These remarks have expanded our Party's understanding of industrialization and will serve as the principles and guidelines for our new industrialization. The 18th CPC Central Committee's Fifth Plenum adopted the vision of the "New Four Modernizations" in October 2015, which includes new industrialization with Chinese characteristics, informatization, urbanization, and agricultural modernization based on the traditional concept of the "Four Modernizations"[6]. It advocated for appropriately balancing major development relationships, coordinating urban-rural and socioeconomic growth, and supporting synchronized development of new industrialization, informatization, urbanization, and agricultural modernization. The "New Four Modernizations" emphasizes the integration between informatization and industrialization, interactions between industrialization and urbanization, and cooperation between urbanization and agricultural modernization. In 2017, the *Report to the 19th CPC National Congress* established a "two-step" strategic plan to build a powerful socialist modern country in all respects. The foundation for creating a great socialist modern country is to create a modernized economic structure. Unlike the previous industrialization path, which featured rapid expansion, the modernized economic system demands a high-quality industrialization process (Huang, 2018). The inclusion of "ecological civilization" in the "five-pronged" overarching plan for modernization reflects the holistic nature of social transformation in Chinese modernization (Liu, 2022). The *Report to the 20th CPC National Congress*, delivered in October 2022, called for the great rejuvenation of the Chinese nation in all respects through Chinese modernization. Instead of relying on the virtual economy, Chinese modernization should prioritize economic development and the real economy, construct a manufacturing powerhouse, and accomplish new industrialization by 2035. As China embarks upon a new journey in a new era, its industrialization and urbanization aspirations have become more consistent than ever before. New industrialization provides an important starting point for understanding the tendencies and theoretical advances of Chinese modernization. The notion of new industrialization serves as the foundation for achieving the vision of Chinese modernization, providing empirical evidence for the theoretical innovation of Chinese modernization.

2. Theoretical Rationale for Advancing New Industrialization in the Context of China's Modernization

Chinese modernization provides an answer to the dilemmas of Western modernization theory. Based on the general trend and common traits of modernization in various countries, it represents a Chinese solution for emerging countries to avoid the dilemmas of the Western model. Similar to Chinese modernization, new industrialization follows general patterns of industrialization in other countries while addressing the needs of socialism with Chinese characteristics in the new era. The 20th CPC National Congress adopted the following goals for Chinese modernization: by 2035, China will build a modernized economic system with a new development paradigm. It also defined the prerequisites for Chinese modernization in economic, social, and ecological dimensions, namely high-quality development, common prosperity for the people, and man and nature living in harmony. The theoretical implications of new industrialization complement the concept of Chinese modernization and will continue to propel Chinese modernization into a new era.

[6] The Four Modernizations were goals formally announced by China's first Premier Zhou Enlai to strengthen the fields of agriculture, industry, defense, science, and technology in China.

中国知网 https://www.cnki.net

2.1 New Industrialization: A Core Impetus for Constructing a Modernized Industrial System

The modernization of the economic base, which is an important aspect of China's modernization, manifests itself as the modernization of the industrial system. In order to build a modernized industrial system as the foundation for realizing modernization, it is necessary to reflect on what has worked well in navigating the path of Chinese modernization and reassess the current conditions for the modernization drive in the new development stage, the success of which is hinges on a proper understanding of new industrialization. First, strategic coordination is an essential component of new industrialization. In light of the expanding global industrial chain restructuring, China must coordinate domestic and international markets and resources, as well as integrate domestic and international circulations. Far from being an isolated strategy, new industrialization must be implemented in tandem with informatization, urbanization, and agricultural modernization. It involves the construction of integrated institutional frameworks that enable complementarity and interactivity across strategic objectives, thus providing China with a fresh edge in global competition. Second, technological sophistication is a key priority for new industrialization. In the current round of global technological revolution and industrial transformation, new industrialization must prioritize the development of technology-intensive manufacturing and strategic emerging industries, allowing for an intelligent, digitalized, green, and service-based industrial transition. While conventional and inefficient industries are in decline, high-tech sectors have emerged as the engine of industrialization, helping to enhance China's industrial structure and propelling GVCs in key industries. Last but not least, security is a concern for new industrialization. Regionalization and localization have characterized the landscape and tendencies of global manufacturing, industrial, and supply networks in recent years as a result of a series of key global events. All major countries have declared a desire to establish independent, secure, and reliable industrial and supply chains. By focusing on core technologies and industrial chain vulnerabilities, new industrialization allows China to firmly manage critical industrial and supply chain processes through reengineering its fundamental industrial capabilities. In the face of momentous change unseen in a century, it is critical to have some control over diverse supply chain processes, entities, and factors in order to assure steady industrial operations and national economic security.

2.2 New Industrialization Underpins the "Dual Circulations" Development Landscape

According to the *Report to the 20th CPC National Congress*, China's modernization achievement is based on "long-term explorations and experiences since reform and opening up" and is intended to contribute to the "creation of a community with a shared future for mankind". In this regard, opening up is a critical aspect of China's modernization. In the new development stage, Chinese modernization needs a new landscape of higher-level opening up through the interaction of domestic and international circulations. Compared to the low-cost advantage of conventional industrialization, China's new industrialization path, driven by technological innovation, provides more support for the "dual circulations" paradigm.

First, new industrialization can help to increase domestic circulation. Domestic circulation aims to improve indigenous innovation and domestic economic competitiveness, facilitating the transition and upgrade of the economic structure and increasing domestic consumption. The introduction of advanced technologies and managerial philosophies is another feature of new industrialization, which emphasizes the role of new factors such as data and digital technology in modernizing industrial and supply chains (Research Group of IIE-CASS, 2021). Upstream and downstream industrial chain integration through the adoption of digital and intelligent features has made manufacturing more flexible, efficient, complete and orderly. The benign cycle within the manufacturing ecosystem has enhanced value addition throughout the supply chains. New industrialization will meet people's need for high-quality, personalized products and services, hastening supply-side structural changes and facilitating domestic circulation by unleashing the dynamism of China's vast market.

中国知网 https://www.cnki.net

On the other side, new industrialization has the potential to broaden and deepen China's domestic and international dual circulations, increasing opening up and participation in global value chains (GVCs) for high-quality economic development. With deeper linkages to the international market, new industrialization promotes resource allocation and joint innovation among local enterprises on a global scale, as well as encouraging the engagement of domestic industries in the international system. Furthermore, it also holds promise to improve China's GVC status and competitiveness by creating value-added products and services. Given its emphasis on R&D and high-end manufacturing, new industrialization will propel China's economic growth and structural improvement by extending the domestic market and facilitating consumption upgrades. In this way, strong assistance is provided for expanding international circulation and merging domestic and international dual circulations.

2.3 New Industrialization Is the Inevitable Path to High-Quality Economic Development

The conventional approach to industrialization relies mainly on the accumulation of the factors of production for growth. In contrast, new industrialization boosts technological transformation and innovation-driven development. It is intended to bolster productivity and the quality of economic growth by transforming production factors, resource efficiency, environmental performance, and mode of production (Tang, 2014). New industrialization diverts capital investments to basic entities like platforms, labs, incubators, and high-tech industrial parks. It brings together industry, universities, and research institutions to commercialize R&D results, directing resources toward integrated innovations and creating investment opportunities in new-generation information technology, artificial intelligence (AI), biotechnology, new energy, new materials, and green technologies. New industrialization emphasizes the importance of intelligent production, grid-based division of labor, product customization, and green processes, all of which can drive a dynamic equilibrium state at a higher level, ensuring efficient labor division, investment, and resource utilization.

When it comes to human capital, new industrialization is ideally suited to alleviating the shortage of highly skilled talent in vital sectors. Efficient and sustainable networks will be established to reserve talents from all age brackets and ethnic groups for China's modernization drive. In terms of tech support, new industrialization encourages the adoption of emerging technologies such as cloud computing and the Internet of Things (IoT) to enable digital and intelligent operations. By enhancing manufacturing efficiency and cutting costs, it expands the development space for China's technological innovations, allowing for additional technological advancement and a positive feedback loop for the innovation ecosystem. Data was identified as the fifth factor of production in 2020, after land, labor, capital, and technology. New industrialization has recognized the essential value and relevance of data as a key factor driving growth and the shift in mode of production in the next phase. Extensive data applications in corporate R&D, design, manufacturing, distribution, and management have injected a constant energy into high-quality economic development.

2.4 New Industrialization Lays a Groundwork for Common Prosperity

As a populous country, China has focused its modernization drive on common prosperity for all of its people. Common prosperity will be a milestone in China's path to modernization, national power, and prosperity. It also demonstrates the strength of the socialist system. From a social fairness standpoint, the significance of new industrialization is seen in three main aspects. First, it helps to close regional gaps. As an inclusive approach, new industrialization prioritizes balanced regional development. While improving the functional layout of high-tech zones and industrial parks in early-moving regions, new industrialization prioritizes high-tech application across regions to bring the benefits of development to the masses. Second, new industrialization contributes to a narrower urban-rural gap. Through agricultural modernization, new industrialization facilitates industrial relocation to the countryside. Hence, new

中国知网 https://www.cnki.net

technologies, private sector services, and other benefits can be utilized to upgrade rural economy, raise farmers' incomes, and spur urban-rural economic circulations. Finally, new industrialization helps reduce individual gaps. New industrialization raises workers' incomes and fosters equitable income distribution through industrial upgrading and job creation. Furthermore, a comprehensive talent nurturing and skills training system helps to close skills gaps among workers, allowing people to gain more from economic development. In contrast to traditional industrialization, new industrialization places a greater emphasis on developing a social security system that includes medical, pension and unemployment insurances to ease individual burdens, protect labor rights, and foster a fair and just society.

2.5 New Industrialization Reflects a Key Aspect of Green Development

Man and nature living in harmony is a key aspect of Chinese modernization. In other words, green is the hue of Chinese modernization, representing an epoch-defining feature of China's modernization in new development stage. Based on the carbon peak and carbon neutrality goals, new industrialization is intended to build a resource-efficient and eco-friendly industrial system for green development. First, new industrialization aims to achieve sustainability. Commitment to sustainable resource utilization, as well as the adoption of intelligent and efficient modes of production and the circular economy concept, will optimize product design, manufacturing, and waste treatment, reducing excess resource consumption. Second, new industrialization will hasten the green transition by moving away from the energy-intensive and pollution-heavy development of the past. The energy revolution and green manufacturing will expedite renewable energies such as solar, wind, and hydropower, reducing resource use and air pollution. Green energy is key to energy sustainability. Finally, new industrialization is based on technological innovations, particularly green technologies. Smart manufacturing, energy-efficient features, and eco-friendly materials will reduce energy use and pollution in the modern industrial system, resulting in industry-wide sustainability. This fully indicates that new industrialization has improved the classic industrial model by incorporating the concept of sustainable development.

3. Pathway for New Industrialization in the Context of Chinese Modernization

Given its unique national conditions, China cannot follow the Western traditional mode of industrialization, as evidenced by the synchronous evolution of Chinese modernization theory and the socialist industrialization path with Chinese characteristics, and must instead blaze a trail of new industrialization that leads to Chinese modernization.

3.1 Adhering to Synchronous of "New Four Modernizations" and Maximizing the Multiplier Effect

The "New Four Modernizations" highlights the needs to deepen industrial development beyond a minimum level of industrialization and to complete industrialization across the board (Huang, 2021). Furthermore, this concept acts as a framework for addressing numerous issues of industrial development in the new era. It provides a highly condensed solution as well as a strategic plan for embarking on the next phase of coordinated industrialization and urbanization. According to the connotations of "New Four Modernizations", the success of industrialization is dependent on the support of informatization, technological progress, institutional innovation, resource conservation, and environmental sustainability. In the new development stage, China's manufacturing industry has shifted from an economic growth engine to a pillar of national core competitiveness. Technological innovations, developed and utilized in the industrial sectors, are being incorporated in the primary and tertiary industries. Informatization has raised farm productivity through the use of modern industrial equipment, technology, managerial practices, and private sector services. The process of a country's economic modernization is defined

中国知网 https://www.cnki.net

by the interaction of industrialization and urbanization. New urbanization differs from traditional urbanization in that it includes economic, social, and spatial elements[7]. With those aspects, new urbanization prioritizes eco-friendly industrial growth and a people-centered approach. Only when migrant workers are awarded urban citizenship will they be able to contribute to industrial progress while not worrying about education, healthcare, pension, or other benefits. In this view, new urbanization that puts people first is a great strategy to boost human capital. Meanwhile, new urbanization necessitates service modernization. Improving the quality and efficiency of healthcare, education, elderly care, and other services critical to livelihoods requires resolving gaps in research, education, and other public institutions, as well as in market dynamics. Such investments will relieve China of the lock-up effect of cheap labor. Compared to less-developed central and western provinces, China's prosperous eastern region is more focused on new industrialization and informatization, with less demand for new urbanization and agricultural modernization. The orderly implementation of the "New Four Modernizations" while taking into account regional differences and goals will help to balance China's regional development. Obviously, it is critical for advancing China's industrialization process and the "New Four Modernizations" in tandem.

3.2 Acquiring Manufacturing Vantage Point and Grasping the Main Direction of High-quality Development

High-quality economic development necessitates a rational and sophisticated industrial framework. For the first time in 2013, China's service sector GDP topped that of its secondary industry. As China enters the late stage of industrialization, it is witnessing the second turning point in the Petty-Clark Theorem of industrial evolution. According to this generally accepted theory of industrial structure, many provinces took a rise percentage of tertiary industry as the policy objective of structural adjustment, which resulted in "premature deindustrialization". In actuality, this theory captures the evolving patterns from the early to the middle stages of industrialization, with controversies around what would happen in the late stage. Historical experiences indicate that the move from industrialization to a service-based economy is laden with incalculable risks. Such transition is likely to follow the pattern of an increasing share of the tertiary industry, but the paths of industrial evolution differ across countries, and the growth traits and transition effects are uneven. Manufacturing is the underlying stimulus and symbol of industrialization, and throughout new industrialization, the central government has set the policy goal of "maintaining the generally stable share of the manufacturing sector". In truth, China's current manufacturing development is far from the threshold for "deindustrialization", and its "high-quality development" goal cannot be achieved without an advanced industrial structure led by high-end manufacturing. To accomplish breakthroughs in vital components and basic materials, an appropriate industrial policy must be developed, focusing on priority sectors and chokepoints, using the new whole-nation institutional strength, and coordinating upstream and downstream industrial chains. Efforts must be made to develop key technical equipment and diversify vital supply networks. Enterprises should be encouraged to spearhead innovation. Innovation chains should work alongside industrial chains, bringing together capital, talent, and policy initiatives, as well as embedding advanced manufacturing into services and agriculture. Manufacturing development space should be broadened through further opening-up. Free-trade experiment zones serve as an avenue to capitalize on global value chain structuring, optimize global resource allocation, and have a voice in setting trade rules and negotiating two-way and regional free-trade agreements.

[7] Specifically, economic urbanization needs to improve urban-rural industrial structure and layout; social urbanization needs to provide residents with employment, healthcare, pension, housing, and other basic assurances; spatial urbanization needs to realize intensive and efficient production space, healthy and livable living space, and a beautiful ecological space of blue sky and clear waters.

中国知网 https://www.cnki.net

3.3 Fostering A New Paradigm of Integration between Digital and Real Economies

The digital economy has played an important role in transforming old growth impetus and incubating novel growth drivers in recent years. The vitality of new industrialization is reflected in the growing use of digital technology. The full integration between the digital economy with real economy requires the penetration of data and digital technologies in all aspects of production and distribution via the information network, to generate reforms in quality and efficiency, and development impetus in the latter. As pointed out by Xi Jinping (2022b), developing the digital economy is a strategic choice to embrace a new round of technological revolution and industrial change, as well as a priority in the new round of international competition; we must take the initiative to seize the commanding ground of future development. In order to implement new industrialization, we must integrate the real and digital economies, apply digital technology in production, management, and marketing, promote the interplay between informatization and industrialization, and foster standard and scalable practices for manufacturing-service integration. Digital, network-based, and intelligent manufacturing requires steady progress in both digital industrialization and industrial digitalization. It is suggested to endorse exemplary enterprises and service providers to promote inclusive digital transition solutions that will help late-moving firms embrace the digital age. Top-down policy design should be improved to promote high-quality digital technology supply and digital factor market. New infrastructure is a key vehicle for the integration of the digital and real economies. Priority should be given to digital infrastructure, a unified national market, and application scenarios for new infrastructure in various sectors. It is also important to improve the regional layout of digital infrastructure, break free from the digital island, avoid the digital divide, and explore ways to close regional gaps through the digital economy.

3.4 Rely on the People for Development and Share the Results among the People

Unlike Western modernization, which has the ultimate goal of extracting surplus value, Chinese modernization is based on socialism, so it must prioritize the people, increase productivity, and align production relations with productivity for common prosperity and the people's overall development to meet their desire for better lives. Participation by all its people is required to achieve Chinese modernization and share the benefits. The progress of new industrialization is dependent on the people, particularly top-tier talent. The enhancement of the people's competency is another indication that the benefits of development are shared by the people. A comprehensive talent cultivation system is one aspect of new industrialization. It is also critical to establish a technological innovation system centered on the cultivation of tech champions and innovation teams. It is suggested to create talent incentives, promote innovation outcomes and technology achievements, and facilitate advancement pathways for competent workers. President Xi Jinping introduced the notion of shared development, claiming that "allowing people to share the fruits of reform and development is the essence of socialism". As a result, we should strengthen the socialist distribution system, promote redistribution, and encourage new factors to be utilized to raise incomes and contribute to economic development. Social security and public goods should be strengthened for the people's welfare, which is measured by consumption, competence, income, and happiness. Rural economic development should be given a boost alongside urbanization and agricultural modernization to close the gaps between urban and rural residents and between different regions.

3.5 Protecting Ecological Security and Creating Chinese Practices for a Community for Mankind with a Shared Future

Ecological security is the groundwork for building a community for mankind with a shared future. Green development is a Chinese approach to addressing environmental pollution and climate

中国知网 https://www.cnki.net

change. In order to achieve Chinese modernization and the concept of a community for mankind with a shared future, it is critical to protect ecological security and promote energy transition, environmental technology, and green industrial development. At the macroeconomic policy level, it is suggested to construct a green industrial policy system for green economic and industrial development. On the one hand, fiscal and financial incentives should be provided to industries and businesses to cut emissions and improve energy efficiency. Furthermore, green industry standards should be adopted to compel businesses to go green. Initiatives should be implemented to promote eco-friendly industrial development and pave the way for sustainable new industrialization for China to meet its carbon peak and carbon neutrality targets on time. Manufacturing should adopt resource-efficient practices and clean technologies, reduce waste of energy and raw materials, and maximize output and economic return with the least amount of resource input. Waste treatment and recycling must be improved to reduce the environmental impact of closed-loop industrial processes. Companies should implement green design concepts to reduce the environmental footprint of their products and boost sustainability. They should also be encouraged to implement green supply chains throughout the upstream and downstream processes to complete the green transition. Priority should be given to developing and adopting green technologies, new energy, and new materials among businesses to raise efficiency and reduce waste. The carbon trading market should be formed to support corporate efforts to cut emissions and boost green industrial development.

References:

Cai F. Demographic Shift, Demographic Dividend and the Lewis Turning Point [J]. Economic Research, 2010(4):4-13.

Du C. Z., Wang C., Wang J. J. Study on New Industrialization under the Horizon of Chinese Modernization: Development Rationale, Characteristics and Implementation Mechanisms [J]. Research on Financial and Economic Issues, 2023(12):41-51.

Huang Q. H. China's Attained Basic Industrialization by 2020: Great Achievements of the Centennial Struggles of the Communist Party of China (CPC) [J]. Economic Perspectives, 2021(11):3-9.

Huang Q. H. China's Industrial Development and Industrialization Process in the 40 Years of Reform and Opening Up [J]. China Industrial Economics, 2018(09): 5-23.

Huang Q. H. On New Industrialization and Chinese-style Modernization [J]. World Social Sciences, 2023 (02): 5-19 + 242.

Huang Q. H., Li F. F., et al. Report on China's Industrialization Process (1995-2015) [M]. Beijing: Social Sciences Academic Press, 2017.

Li Y., Yin J. F. High Savings, High Investment and China's Economic Growth during the Labor Force Transfer Process [J]. Economic Research Journal, 2005(2): 4-15+25.

Lin Y. F., Cai F., Li Z. Reflections on the Strategy of Catching Up [J]. Strategy and Management, 1994(6): 1-12.

Liu W. Y. Chinese Modernization: Adherence and Innovation [J]. Tianjin Social Sciences, 2022(6): 4-13 + 37.

Liu X. H. Chinese-Style Growth: A Logical Framework [J]. Journal of Hunan University (Social Sciences), 2020(3): 42-50.

Research Group of IIE-CASS, Zhang Q. Z. Study on the Path to Enhance Industrial and Supply Chain Modernization [J]. China Industrial Economics, 2021(2): 80-97.

Research Group of IIE-CASS, Shi D., Li X. H., et al. New Industrialization: Connotations, Characteristics, Institutional Development and Implementation Path [J]. China Industrial Economics, 2023(3): 5-19.

Research Group on the Frontiers of China's Economic Growth, Zhang P., Liu X. H., et al. China's Economic Growth: Low Efficiency Shock and Deceleration Management [J]. Economic Research Journal, 2014(12): 4-17 + 32.

Research Group on the Frontiers of China's Economic Growth, Zhang P., Liu X. H., et al. New Factor Supply Theory, System and Policy Choices for Navigating Economic Growth Deceleration [J]. Economic Research Journal, 2015(11): 4-19.

中国知网 https://www.cnki.net

Tang H. New Understanding of New Industrialization with Chinese Characteristics [J]. China Industrial Economics, 2014(6): 5-17.

Wang Y. M., Li D. K., Wang C. L., et al. Conversations on the Centenary of the Founding of the Communist Party of China [J]. China Industrial Economics, 2021(7): 5-25.

Xi Jinping. Continuously Strengthen and Optimize China's Digital Economy [J]. Qiushi, 2022(2): 4-8.

Xi Jinping. Hold High the Great Banner of Socialism with Chinese Characteristics and Strive in Unity to Build a Modern Socialist Country in All Respects: Report to the 20th National Congress of the Communist Party of China [M]. Beijing: People's Publishing House, 2022.

Yin H. H., Zhang J. S. Logic and Direction of Giving Priority to the Development of Agriculture and Rural Areas in the Context of Chinese Modernization [J]. Jianghan Luntan, 2023(11): 46-51.

Zhang P. Joint Evolution of Economic and Non-economic Factors in the China's Economic Growth Transformation [J]. Social Science Front, 2020(10): 37-49.

中国知网 https://www.cnki.net