

Current Chinese Economic Report Series

Ling Wang · Xiaofan Wu ·
Xiaomei Jiang · Jianhua Xiao ·
Binglian Liu · Yu Gong *Editors*

Contemporary Logistics in China

Path to Modernization and Regional
Collaboration



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Current Chinese Economic Report Series

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Chapter 1

High-Quality Development of the Logistics Industry Under Chinese Modernization



Ling Wang

The 20th National Congress of the Communist Party of China (CPC) proposed to advance the rejuvenation of the Chinese nation on all fronts through a Chinese path to modernization. This marks a critical moment as China embarks on a new journey to build a modern socialist country in all respects, progressing toward the second centenary goal.¹ The grand blueprint for constructing a great modern socialist country serves as the guiding principle for China's future economic and social development. The logistics industry, as a fundamental, strategic, and pioneering industry, plays a crucial role in supporting the national economy's growth. Chinese modernization further highlights the significant strategic value of modern logistics, charting the course for the high-quality development of the logistics industry.

This chapter consists of four sections. Section “[Background and Characteristics of Chinese Modernization](#)” introduces the background and characteristics of Chinese modernization. Section “[Significant Strategic Value of the Logistics Industry Under Chinese Modernization](#)” elaborates on the significant strategic value of the logistics industry in light of the five characteristics of Chinese modernization. Section “[Direction of Development of the Logistics Industry Under Chinese Modernization](#)” provides an overview of the direction of the development of the logistics industry under Chinese modernization from seven aspects. Finally, section “[Summary](#)” concludes this chapter.

¹ The CPC drew up a development plan for the new era at its 19th National Congress. In the first stage, from 2020 to 2035, CPC will build on the foundation of the moderately prosperous society with 15 more years of hard work to see that socialist modernization is basically achieved. In the second stage, from 2035 to the middle of the twenty-first century, having achieved basic modernization, CPC will work hard for 15 more years and develop China into a great modern socialist country that is prosperous, strong, democratic, culturally advanced, harmonious, and beautiful.

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Background and Characteristics of Chinese Modernization

Chinese modernization presents a new picture that is different from the western modernization model, expands the paths for developing countries to choose towards modernization, and provides a Chinese solution for mankind to explore a better social system. A deep understanding of the content and characteristics of Chinese modernization is of great significance in promoting China's high-quality development and building a modernized economic system, and also helps to realize the direction of the development of China's logistics industry.

Background of the Proposal for Chinese Modernization

Realizing modernization is the common aspiration of people of all countries, and it has been a relentless pursuit of the Chinese people since modern times began. After the founding of the People's Republic of China in 1949, "the construction of a modernized country" became a key agenda item for China. In 1954, during the First National People's Congress (NPC), the proposal was made to "develop strong and modernized industries, a modernized agriculture, a modernized transport industry and a modernized national defense." This reflected China's exploration of a path towards modernization during the socialist revolution and the construction period.

Since the reform and opening-up in 1978, China's understanding of a modernized country continued to expand and deepen. In 1987, the report of the 13th CPC National Congress put forward the idea of "building China into a modern socialist country that is prosperous, strong, democratic and culturally advanced" as a goal during the primary stage of socialism. This is the preliminary definition of a "modern socialist country." In 2007, the report of the 17th CPC National Congress proposed "building a modern socialist country that is rich, strong, democratic, civilized and harmonious", which further enriched the connotation of a "modern socialist country".

Since the 18th CPC National Congress in 2012, the CPC Central Committee, with Xi Jinping at its core, has carried out far-reaching planning and strategic thinking on Chinese modernization, which is positioned in the construction of a socialist modernized power (Chen 2022). In 2017, the report of the 19th CPC National Congress put forward the goal of "building a rich, strong, democratic, civilized, harmonious and beautiful socialist modernized power", reflecting China's expanding understanding of a modernized country. In 2022, the 20th CPC National Congress declared, "From this day forward, the central task of the Communist Party of China will be to lead the Chinese people of all ethnic groups in a concerted effort to realize the Second Centenary Goal of building China into a great modern socialist country in all respects and to advance the rejuvenation of the Chinese nation on all fronts through a Chinese path to modernization."

Characteristics of Chinese Modernization

Chinese modernization has the common characteristics of modernization in all countries, but it also has Chinese characteristics based on its own national conditions. Chinese modernization is the modernization of a huge population, of common prosperity for all, of material and cultural–ethical advancement, of harmony between humanity and nature, and of peaceful development.

Chinese Modernization is a Modernization of a Huge Population

China has a population of more than 1.4 billion, which is larger than the total population of existing developed countries. This determines that China’s modernization cannot simply copy foreign models, and the path of development and the approach to advancement must have their own unique characteristics. The substantial size of the population is one of China’s fundamental national conditions. On one hand, it highlights the challenges and complexity of China’s modernization; on the other hand, it provides a distinct advantage for China’s modernization. China’s population size has generated a significant demographic dividend, supporting the growth of labor and capital-intensive industries, creating a massive market, and serving as a stable cornerstone of China’s economy. Promoting urbanization, building a comprehensive well-off society, improving the overall quality of the population, and establishing a social security system are both key objectives and accomplishments of Chinese modernization. These milestones will also shape the direction of modernization worldwide. The report of the 20th CPC National Congress outlines a clear direction for China’s modernization and development based on the substantial size of its population: “We will, as always, bear China’s realities in mind as we address issues, make decisions, and take action. We will neither pursue grandiose goals nor go by the rulebook. We will stay patient in advancing the course of history and take steady and incremental steps to sustain progress.”

Chinese Modernization is a Modernization of Common Prosperity for All

Common prosperity is the essential requirement of socialism with Chinese characteristics, as well as a long-term historical process. It is an important characteristic of Chinese modernization. In 2021, General Secretary Xi Jinping emphasized at the 10th meeting of the Central Financial and Economic Commission (CFEC) that “the ‘common prosperity’ is prosperity for all the people, the prosperity of both material and spiritual lives of the people, neither prosperity for a few, nor simple equalitarianism.” To achieve the goal of common prosperity, China must implement a people-centered development concept, respond to the people’s aspirations for a better life, and strive to promote high-quality development. At the same time, China should consciously and proactively solve the problems of regional disparity, urban–rural

disparity, and income disparity, safeguard security and improve people's livelihoods, improve the distribution system, and address the most pressing difficulties of great concern to the people. The report of the 20th CPC National Congress stated that "the immutable goal of our modernization drive is to meet the people's aspirations for a better life. We will endeavor to maintain and promote social fairness and justice, bring prosperity to all, and prevent polarization."

Chinese Modernization is a Modernization of Material and Cultural–Ethical Advancement

Material and cultural–ethical abundance are the fundamental requirements of socialist modernization. Material advancement represents progress in social material production and improvement in material life, while cultural–ethical advancement represents the improvement of cultural and ideological components. Material advancement is the basis for cultural–ethical advancement, providing the necessary material prerequisites; cultural–ethical advancement is the necessary condition for the consolidation and development of material advancement, regulating and influencing the direction of material civilization construction. It is only through the synergistic development of cultural–ethical and material civilization that Chinese modernization can be effectively promoted. The report of the 20th CPC National Congress points out the direction of coordinating material and cultural–ethical civilizations: "While continuing to consolidate the material foundation for modernization and improve the material conditions for people's well-being, we will strive to develop advanced socialist culture, foster strong ideals and convictions, and carry forward China's cultural heritage. We will thus promote all-around material abundance as well as people's well-rounded development."

Chinese Modernization is a Modernization of Harmony Between Humanity and Nature

Man and nature are a community of shared life. Endless demands on nature and even the destruction of nature will inevitably be retaliated against by nature. Harmony between man and nature is one of the most significant characteristics of Chinese modernization, with fundamental and strategic status (Guo 2020). Nature is the foundation on which mankind relies for survival and development, and economic activities are closely linked to the natural environment. Respecting nature, adapting to nature, and protecting nature are the inherent requirements of building a modern socialist country in all respects. With regard to the harmony between humanity and nature, the report of the 20th CPC National Congress of the Communist Party of China sets out a clear direction: "China is committed to sustainable development and to the principles of prioritizing resource conservation and environmental protection, and letting nature restore itself. We will protect nature and the environment as we do our own lives. We will continue to pursue a model of sound development

featuring improved production, higher living standards, and healthy ecosystems to ensure the sustainable development of the Chinese nation.”

Chinese Modernization is a Modernization of Peaceful Development

When expounding the direction that China’s modernization construction must adhere to, General Secretary Xi Jinping emphasized that China’s modernization follows the path of peaceful development. This assertion shows that China pursues its own development while maintaining world peace and development, and provides Chinese wisdom for world peace and development. The momentous changes unseen in a century are accelerating. Creating a favorable international environment and a stable neighborhood is China’s long-term goal in pursuing peaceful development, a good condition for achieving sound global governance, and a solid foundation for the world to jointly pursue peaceful development. A peaceful development path towards modernization reflects the responsibility of China as a great power. The report of the 20th CPC Party Congress points out: “Dedicated to peace, development, cooperation, and mutual benefit, we will strive to safeguard world peace and development as we pursue our own development, and we will make greater contributions to world peace and development through our own development.”

Significant Strategic Value of the Logistics Industry Under Chinese Modernization

Connecting production with consumption and highly integrating transportation, warehousing, distribution, information, and other services, modern logistics is an important support mechanism for extending the industrial chain, improving the value chain, and building the supply chain. Modern logistics plays a pioneering, fundamental, and strategic role in building a modern circulation system, facilitating the formation of a strong domestic market, promoting high-quality development, and building a modernized economic system. Modern logistics is an important support and guarantee to achieve Chinese modernization.

Modern Logistics as an Important Support for Super-Large-Scale Markets

China’s huge population constitutes a super-large-scale market. With the accelerating global changes of a magnitude not seen in a century, the super-large-scale market’s advantages of economic stability, self-reliance, external adhesion, competitiveness, and vitality bear great strategic significance for the continuous enhancement of the

viability, competitiveness, development, and sustainability of the Chinese economy (Mao and Zhao 2021). As a fundamental industry to ensure the smooth circulation of the national economy, the logistics industry has effectively improved circulation efficiency and resource allocation efficiency by enhancing the industrial scale and professional service capability, innovating and developing new businesses and models, and has played an important and fundamental role in fully harnessing the advantages of China's super-large-scale market.

First of all, the constant expansion of the logistics industry guarantees the long-cycle resilient development of the super-large-scale market. As a composite service industry, the logistics industry is an important support and guarantee for connecting the supply chain, coordinating the industrial chain, and creating the value chain. China strives to build a modern logistics system that meets the needs of industrial development and consumption upgrading, improves the adaptability of the supply system to domestic demand, leads, creates, and expands new demand with high-quality supply, thereby effectively guaranteeing the smooth operation of the mega-market. After long-term development, China's total value of social logistics has grown significantly. By the end of 2022, China had ranked as the world's largest logistics market for seven consecutive years; the scale of ports ranked first in the world, and the cargo and container throughput of ports have been the largest in the world for more than 10 consecutive years. The scale of the express market has ranked first in the world for nine consecutive years. Over time, China has become a major logistics country with international influence.

Second, the professional service capacity of the logistics industry is constantly improving, which safeguards the security and stability of the industry chain and supply chain. China's logistics industry has expanded from one single area to diversified service areas, especially in automobile logistics, home appliance logistics, cold chain logistics, e-commerce express logistics, engineering logistics, and other key areas, forming a batch of third-party logistics enterprises with outstanding specialized service capability and brand influence. In the automobile logistics sector, SAIC Anji Logistics, FAW Anji Logistics, and Dongfeng Logistics have effectively promoted the development of automobile logistics. The market size of China's automobile logistics industry in 2021 was 408.4 billion yuan, representing a year-on-year growth of 6.72% (Eastmoney.com 2022). In terms of cold chain logistics, leading companies such as SF Express and Rokin Logistics have become industry leaders. The market size of China's cold chain logistics market in 2021 was about 418.4 billion yuan, a year-on-year growth of 9.2%, and the total market demand for cold chain logistics was 275 million tons, a year-on-year growth of 3.8% (Huaon.com 2022). Additionally, China has formed numerous logistics enterprises with outstanding specialized service capabilities in various industries, including consumer goods, energy, food, electronic communications, and high technology. By building a complete professional service system, the logistics industry is deeply embedded in the supply chain, providing integrated logistics solutions. Particularly, during the pandemic, the logistics industry strengthened production and circulation, both domestically and in foreign trade, becoming a key force in promoting the stability of China's industrial and supply chains.

Finally, the new businesses and new models of modern logistics have contributed to the consumption upgrade and the development of the super-large-scale market. The development of economic models such as the digital economy, platform economy, and sharing economy, as well as the application of new technologies such as the Internet of Things (IoT), big data, cloud computing, artificial intelligence (AI), and other new technologies, have promoted the development of automation, unmanned, and intelligent systems in the logistics industry in terms of information sharing, operation organization, platform transactions, and more. China has seen the emergence of network freight platforms, digital warehouses, contactless delivery, and other new modes of ‘Internet plus’ efficient logistics, as well as the development of an ‘Internet plus’ supply chain platform ecosystem business innovation model. At the same time, China has built a world-leading, high-density, sinking channel logistics network. A consumption logistics network, with new modes such as express delivery logistics for online retail and instant takeaway logistics, has gradually matured, becoming the largest “door-to-door” logistics network with the highest density and best time efficiency, thus effectively expanding the potential of domestic demand.

Modern Logistics as the Strong Guarantee for the Realization of Common Prosperity for All

By effectively building the circulation channels for all kinds of commodities between regions, cities, and towns, modern logistics promotes the equal exchange of production and living materials between regions, cities, and towns, and the balanced allocation of public resources. This, in turn, promotes the coordinated development of the regional economy and integrated urban–rural development, narrowing the regional gaps and urban–rural gaps, and providing a solid guarantee for the realization of common prosperity.

Modern logistics is conducive to promoting the coordinated development of the regional economy, narrowing regional gaps, and creating favorable conditions for common prosperity. China leverages the supportive role of logistics as backbone channels. Relying on the comprehensive national transport network, China accelerates the construction of cross-regional logistics channels and national logistics hubs as the backbone of the national logistics network. This improvement in the operation system of “channel + hub + network” helps to drive regional economic development, narrow regional development gaps, and promote common prosperity. At present, the spatial pattern of the main skeleton of the national comprehensive three-dimensional transport network, known as the “6 axes, 7 corridors, and 8 channels,” has taken shape, and the “Ten Vertical and Ten Horizontal” (10V10H) comprehensive transportation channels are open. The construction of the “Eight Vertical and Eight Horizontal” (8V8H) high-speed railway main channel, the “71,118” national expressway main line, world-class airport clusters, and port clusters is accelerating (Gmw.cn 2022a). At the same time, the logistics network of the new western land–sea

corridor is expanding rapidly. Moreover, the scale of rail–sea intermodal trains has grown significantly, becoming an important and fast sea route in the western region, thus driving the western region to integrate more deeply into the global industrial pattern (Xinhua News Agency 2022a).

By the end of 2022, China had built a total of 95 national logistics hubs covering 30 provinces and the Xinjiang Production and Construction Corps, forming a “corridor + hub + network” modern logistics operation system (National Development and Reform Commission 2022). Among them, a total of 64 logistics hubs had been built in the central, western, and northeastern regions, accounting for two-thirds of the total number. At present, the operating railway mileage in the central and western regions of China has reached 90,000 km, accounting for nearly 60% of the national total. The gap in accessibility between the central and western regions and the eastern part of the country has significantly narrowed. The scale of motorways and national and provincial trunk roads under construction in the western region exceeded that of the eastern and central regions combined, and some provinces have realized motorways connectivity among counties. Air transport services have covered 92% of prefecture-level administrative units and 88% of the national population (China Transport News 2022).

Modern logistics promotes urban–rural integration, narrows the gap between urban and rural areas, and lays a solid foundation for the realization of common prosperity. The healthy development of rural logistics is an important foundation to support the modernization of agriculture and an important path to improve the living standards of urban and rural residents. The development of rural logistics can effectively construct the circulation channels of agricultural products and daily-use consumer goods between urban and rural areas, promote the equal exchange of urban and rural production and living materials, and support the balanced allocation of public resources. This, in turn, improves the quality of life of urban and rural residents and farmers’ income, and narrows the gap between urban and rural areas. With further implementation of the rural vitalization strategy, China has increased the construction of rural logistics networks, promoted the allocation of more resources to the rural logistics system, and improved the three-level logistics distribution system at county, township, and village levels. This facilitates the two-way circulation of industrial products to the countryside and agricultural products to urban areas, promoting a sustained increase in farmers’ income and rural consumption. Rural e-commerce and logistics and distribution have become important means of assisting rural vitalization and consolidating and expanding the achievements of poverty alleviation. In recent years, China has cumulatively supported 1489 counties to build more than 2600 county-level e-commerce public service centers and logistics distribution centers, as well as more than 153,000 village-level e-commerce logistics service stations (The State Council Information Office 2022). By the end of 2022, the total mileage of rural roads nationwide had reached 4.53 million kilometers, with the proportion of graded roads reaching 96% (People.cn 2023a). 95% of the country’s established villages were covered by express delivery services (CCTV 2023a). In 2022, China’s rural e-tailing sales of goods reached 1.99 trillion yuan, a 4.9% year-on-year increase (CCTV 2023b).

Modern Logistics as a Pioneer Practitioner in the Coordination of Material and Cultural–Ethical Civilization

Science and technology, as the primary productive force, always promote the progress of social material production and the improvement of material well-being and life in general. The modern logistics industry has always advocated scientific and technological change and innovation to achieve digital and intelligent transformation, thus effectively promoting the high-quality development of the industry. At the same time, the logistics industry attaches great importance to the construction of cultural–ethical civilization, consciously fulfilling social responsibility and constructing a new high ground of cultural–ethical civilization.

The logistics industry is the forerunner and transformer of cutting-edge technological research, development, and application and is a front-line practitioner of material advancement. Modern logistics is one of the fields with the highest and fastest application of advanced technology. In particular, with the rise of a new round of technological revolution, China's logistics industry has accelerated the promotion and application of emerging technologies such as the IoT, big data, cloud computing, and AI, which has had a significant impact on the world's logistics field. Some modern logistics infrastructure such as China's high-speed rail network and port network have taken the lead in the world. The in-depth application of new-generation information technology and facilities and equipment in the field of modern logistics, such as 5G communication, third-generation identification technology, intelligent IoT, BeiDou navigation, Internet + , big data center, AI, cloud computing, quantum computing, unmanned driving technology, smart ports, digital warehouses, logistics robots, and others, has been prominent in the field of modern logistics (News.nankai.edu.cn 2022). China has made breakthroughs in a number of key technologies in multi-track transport freight transport technologies, such as the carrying system, running system, intelligent loading and unloading equipment, fast loading and unloading, etc., and has successfully developed the world's first high-speed freight EMU (electric multiple unit) with a speed of 350 km per hour. China has built 10 automated container docks and has another eight under construction, ranking first in the world for those both built and under construction, with core technologies reaching a world-leading level. The operation mode of smart ports is constantly providing the world with "China's solutions".

China's logistics industry actively undertakes social responsibility with courageous and selfless contributions, constructing a new high ground of cultural–ethical advancement in the new era. During the pandemic, the majority of logistics enterprises stood firm on the front line, and actively participated in warehousing, transportation, allocating, and distribution of pandemic control materials and daily essentials, effectively creating a "lifeline" for emergency supply. At the beginning of the pandemic, the e-commerce logistics enterprise Cainiao Network collaborating with ZTO Express, STO Express, Yunda Express, YTO Express, BEST Inc., Deppon Express, and other major Chinese express logistics enterprises, along with several overseas logistics enterprises, opened domestic and global green channels to provide

free transportation of social donations of relief materials from all parts of the country and abroad to Wuhan. The highway freight network platform enterprise Huolala leveraged the advantages of integrating social capacity resources, participated in public welfare transport, established a driver support team in Wuhan, and opened a pandemic control transport “green channel” (Gmw.cn 2022b). During the first half of 2022 when Shanghai controlled the pandemic, e-commerce logistics enterprise JD Logistics delivered more than 150,000 tonnes of supplies, including rice, flour, grain, oil, medicines, and baby products, deploying more than 5000 delivery personnel from all over the country to set up 1620 contactless community supply stations (Cfbond.com 2022). Port enterprises integrated pandemic prevention and control with production organization, putting every effort into ensuring safe, orderly, and efficient port production, and diligently maintaining a stable and smooth supply chain. Air transport enterprises actively responded to the policy of “conversion of passengers to cargo,” continuously improving air transport efficiency and protective capacity, and opening new emergency channels for the transport of anti-pandemic materials, thereby supporting the development of China’s foreign trade. In addition, logistics enterprises are taking on more social responsibilities, actively promoting the development of green logistics and emergency logistics, participating in emergency and disaster relief, and contributing to rural vitalization and fair employment promotion.

Modern Logistics as an Important Area of Harmony Between Humankind and Nature

Modern logistics is one of the primary industries in terms of energy consumption and carbon emissions. Under the guidance of the green development concept and green low-carbon development policy, China’s logistics industry is actively transitioning into a modern logistics system characterized by low pollution, low consumption, low emissions, high efficiency, and high margins. Logistics has emerged as a critical domain for fostering green and low-carbon economic development and advancing harmony between humanity and nature.

China’s logistics industry is taking multiple measures to accelerate green and low-carbon transformation. First, the transport organizational structure is optimized, and the transport of bulk commodities and medium- and long-distance goods is further promoted through the “highway to railway” and “highway to waterway” programs and other low-carbon modes of transport. The proportion of China’s railway freight volume to total freight volume rose from 7.8% in 2017 to 9.2% in 2021, and the proportion of waterway freight volume to total freight volume rose from 14.1% in 2017 to 15.8% in 2021 (The State Council Information Office 2022). During the 13th Five-Year Plan period (2016–2020), the average annual growth rate of rail–water intermodal container transport volume was more than 20%. In 2022, China’s railway freight volume accounted for 9.8% of the total freight volume, and the proportion of

waterway freight volume reached 16.9%. The proportion of rail–water intermodal container transport volume to total freight volume grew by 16% (Ministry of Transport 2023). Second, the proportion of clean energy has been actively enhanced, promoting the transformation of the industry’s energy structure to clean energy from being dominated by fossil fuels. Compared with 2015, the carbon dioxide emission intensity of trucks in operation and cargo vessels in operation in China has decreased by 8.4% and 7.1%, respectively, and the carbon dioxide emission intensity of port production has decreased by 10.2% (Ministry of Transport 2022). Third, the use of clean energy facilities and equipment has been promoted. The application of new energy and China VI emission standard-compliant and other freight vehicles in modern logistics, especially in the field of city distribution, has accelerated. The car parc of China’s new energy logistics vehicle continues to increase; for example, 235,800 new energy logistics vehicles were sold in 2022, a year-on-year increase of 90.7% (Askci.com 2023).

Logistics companies are actively implementing the concept of green development and are continuously innovating their operational modes. In 2018, the e-commerce logistics company Suning Logistics launched the “Green City Initiative” to promote the construction of a holistic, all-chain green supply chain, accelerating the carbon neutrality of various links, such as warehousing, packaging, transportation, and operations. The home appliance logistics enterprise Annto Logistics has realized multi-link palletized transport and standardized pallet recycling, reducing pallet waste in the transport process. The expressway network freight platform enterprise Full Truck Alliance has significantly reduced “three idle” (driving idly, idle truck, idle load) with the help of digital freight platforms, thus improving efficiency and reducing carbon emissions (Szb.sznews.com 2021). In 2019, China’s first carbon–neutral logistics industrial park, the Beijing Capital Logistics Park, was opened. In the same year, China’s first carbon–neutral logistics industrial park, JD Asia No. 1 Xi’an Intelligent Industrial Park, began its operations. The park utilizes distributed photovoltaic (PV) power generation systems and energy storage systems on the roofs of its warehouses, which can independently neutralize a portion of greenhouse gas emissions (News.cn 2022). In March 2022, Cainiao Network launched the first green interactive community in China’s logistics industry, Cainiao Green Family, where consumers can participate in and experience green logistics activities and set up personal carbon reduction accounts.

With the rapid growth of the logistics industry, the value-added of China’s transportation, warehousing, and postal services increased from 1.88 trillion yuan in 2010 to 4.06 trillion yuan in 2020. Energy consumption also increased from 261 million tons of standard coal to 413 million tons of standard coal during the same period (National Bureau of State Statistics 2022). However, the energy consumption per unit of added value dropped from 139,000 tons per billion yuan to 102,000 tons per billion yuan from 2010 to 2020. The initial effect of energy conservation and emission reduction in the logistics industry has emerged. As an energy-consuming industry, the logistics industry will further accelerate green development, build a low-carbon ecology, and make greater contributions to the sustainable development

of the national economy and the promotion of harmony between humankind and nature.

Modern Logistics as an Important Foundation for Peaceful Development

At present, China is facing once-in-a-century changes, and the global industrial chain is accelerating its reconstruction. China is committed to promoting high-level openness to the outside world and building a new development paradigm of domestic and international dual circulation. The logistics industry has expedited the construction of international logistics networks, actively safeguarded the transportation of materials for overseas reconstruction projects, and played a vital role in advancing international economic and trade cooperation and global economic development.

First of all, the logistics industry supports the infrastructure construction and interconnectivity of countries along the Belt and Road, bringing China closer to the countries in the Belt and Road Initiative and promoting economic and trade exchanges and economic development in these countries. The Belt and Road Initiative is “China’s proposal” to the international community to promote global development cooperation. Since its introduction, China and the countries along the route have vigorously cooperated in ports, railways, and highways, rapidly opening up international freight transportation channels and, thus, playing a significant role in driving the economic development of countries and facilitating the smooth flow of global trade. China Merchants Port Holdings Co., Ltd. has successfully promoted large-scale overseas port construction projects such as Sri Lanka’s Hambantota Port, Colombo Port, and Djibouti Port and deployed its plans in South Asia, Africa, Europe, and South America. By the end of 2020, it had invested in 50 ports in 26 countries and regions, effectively promoting the development of the port economy in various countries (Zhang 2022).

China has deepened railway cooperation with Russia, Mongolia, Kazakhstan, Vietnam, Laos, and other countries. The China–Europe Railway Express has reached more than 200 cities in more than 20 countries in Europe, transporting more than 50,000 categories of goods. By the end of 2022, the total number of China–Europe Railway Express trains had exceeded 65,000, transporting more than six million TEUs of goods with a cargo value of 300 billion USD (Bjnews.com.cn 2023). The interconnection of the logistics infrastructure has not only brought China closer to the countries along the Belt and Road in time and space but also further deepened the economic and trade ties between China and these countries. In 2022, China’s trade with the countries along the Belt and Road reached 13.8 trillion yuan, a year-on-year increase of 19.4%. China’s non-financial direct investment in the countries along the Belt and Road reached 141.05 billion yuan, a year-on-year increase of 7.7%, promoting the sustained growth of foreign economic and trade cooperation among the countries along the Belt and Road. The World Bank report shows that if all

transport infrastructure projects under the Belt and Road framework are implemented, by 2030, they are expected to generate 1.6 trillion USD per year in global revenue, accounting for 1.3% of the world's total economic output (Beijing Daily 2023).

Second, large logistics enterprises actively safeguard the transportation of materials for large-scale overseas projects, supporting China's foreign aid programs. With the enhancement of its comprehensive national power, China has increased its foreign aid efforts. Up until 2022, China had invested more than USD 843 billion in about 163 countries since the Belt and Road Initiative was proposed in 2013. Playing a leading role, the Chinese central state-owned enterprises (SOEs) have provided high-starting-point, high-standard, and high-quality logistics services for overseas construction projects, making positive contributions to China's foreign aid efforts. For example, COSCO Shipping Group provided total logistics and transport services for overseas aid materials shipped from China to Tonga, offered logistics and transport services for the coal-power integration project in one block of Pakistan's Thar Coal Field, and provided total logistics and transport services for the 2×350 MW coal-fired power station project in Sihanoukville Port, Cambodia, which has played an important role in promoting the rapid development of the local economy and society.

Finally, China's logistics industry has actively opened up international logistics channels to assist relevant countries in fighting pandemics and promoting economic recovery. The Chinese government has closely coordinated with countries along the Belt and Road route on pandemic prevention mechanisms, shared information on pandemic prevention, provided medical supplies and technical equipment, and sent many medical teams to support pandemic prevention, helping these countries to cope with the challenges (Lacorte 2022). Since 2020, the China–Africa logistics channel has aided African countries in their fight against the pandemic and the promotion of economic recovery in Africa. As of November 2021, China had provided 120 batches of emergency pandemic control materials to 53 African countries and the African Union, achieving full coverage of pandemic control assistance to Africa (Huanqiu.com 2021). In the practical cooperation between China and the Belt and Road countries in the global fight against the pandemic, the China–Europe Railway Express has played a prominent role, with more than eight million pieces of emergency medical supplies delivered by the end of November 2020. Additionally, by establishing the “Air Silk Road” with relevant countries, China has shipped nearly 2000 tons of medical supplies to countries around the world, including large quantities of masks, protective clothing, and COVID-19 test kits (Guangming Daily 2021).

Direction of Development of the Logistics Industry Under Chinese Modernization

Chinese modernization has generated new requirements for China to accelerate the construction of its modern logistics system under the new development paradigm. Looking forward, China's logistics industry will apply the new development philosophy throughout all areas and throughout the whole process. With high-quality development as the theme, China will accelerate the construction of a modern logistics system, providing strong support for building a new development paradigm and advancing Chinese modernization.

Creating an Interconnected, Safe, and Efficient Logistics Network

In the future, China will form a backbone logistics infrastructure network with national logistics hubs as the core. Diversified international logistic channels connecting different modes of transport will be gradually improved, and the logistics service network, which is unimpeded, safe, and efficient, will be perfected.

The main measures include: (1) Further promoting the construction of national logistics hubs, accelerating the interconnection of hubs into a network, and constructing railway sidings and multimodal/intermodal transport facilities at national logistics hubs to realize a close connection of trunk transport between hubs. (2) Promoting the coordinated construction and efficient linkage of national logistics hubs relying on the comprehensive national transportation network and urban agglomeration, coastal and border port cities, etc. (3) Promoting the construction of international channel networks, encouraging large logistics enterprises to carry out cooperation and collaboration in the construction of overseas ports, overseas warehouses, and distribution networks to improve the global logistics service network.

Strengthening Supply Chain Coordination and Building an Emergency Logistics System

China's logistics industry will coordinate development and security, reinforce the security of major logistics infrastructure and information security protection, enhance the level of protection for strategic materials, emergency logistics, and the international supply chain, and enhance economic and social development resilience.

The main measures include: (1) Improving the bulk commodity logistics system, optimizing logistics services for bulk commodities such as foodstuff, energy, minerals, etc., and upgrading the bulk commodity logistics capacity of coastal and

inland waterways. At the same time, relying on qualified national logistics hubs, it will develop modern bulk commodity logistics centers, build a bulk commodity supply chain service platform that connects production and circulation and links logistics and trade, and improve its overseas bulk commodity logistics network. (2) Creating an interconnected network with effective upstream and downstream connection and division of labor, strengthening supply chain security risk monitoring, early warning, prevention and control, response, and other capacity building initiatives, to enhance supply chain resilience and maintain industrial chain security. (3) Improving the layout of emergency logistics facilities, enhancing the level of emergency logistics organization, and improving the mechanism for smooth freight and logistics, so as to effectively block the spread of future epidemics and ensure the smooth flow of logistics channels in the event of major public health incidents.

Improving Modern Logistics on Safeguarding Social Livelihood Materials

China's logistics industry will further connect market supply to market demand and improve the circulation of physical commodities, build an advanced and complete protection system, and create more jobs.

The main measures include: (1) Improving the logistics network of commerce, express delivery, and cold chain, enhancing the logistics facility network in cities (especially mega-cities), strengthening the capability to safeguard key livelihood materials, and addressing the shortcomings of rural logistics facilities and service weaknesses. (2) Relying on large-scale cold chain logistics facilities such as national backbone cold chain logistics bases, strengthening quality supervision of fresh agricultural products (such as quarantine and inspection), and accelerating the establishment of a dynamic monitoring and tracing system covering the whole chain of cold chain logistics and the entire process of pharmaceutical logistics to maintain the safety of food and drug consumption. (3) Supporting the development of new businesses and new models, and steadily developing new businesses and new models, such as instant delivery and digital freight, to create more jobs (Xinhua News Agency [2022b](#)).

Adhering to Science and Technology Leadership, and Digital Intelligence Empowering the Development of Logistics Industry

Looking ahead, China's logistics industry will accelerate the country's transformation towards digitalization, intelligence, and networking, promote the integrated application of modern information technologies such as big data, the internet, and AI,

and comprehensively improve the level of digitalization of logistics and the supply chain. Thus, it will form a new development of modern logistics in accordance with the core essence of transformation and development such as innovation-driven and systematic optimization (People.cn 2023b).

The main measures include: (1) Accelerating the digital transformation of logistics, fostering the logistics data factor market, and actively participating in digital governance in the logistics field to support the development of global trade and cross-border e-commerce. (2) Promoting logistics intelligent transformation, applying fifth-generation mobile communications (5G), Beidou, the mobile internet, big data, AI, and other technologies, promoting the transformation and upgrading of logistics infrastructure, encouraging intelligent logistics technology and model innovation, and expanding commercial application scenarios for intelligent logistics. (3) Building logistics information organization hubs based on major logistics infrastructure, promoting the comprehensive networking of logistics facilities and equipment, facilitating the interactive connection of logistics information, and promoting the orderly opening up of fundamental public information data in the field of logistics.

Encouraging Green and Low-Carbon Development of the Logistics Industry

The “3060” dual carbon goal has proposed new tasks for low carbon development of logistics. In the future, China’s logistics industry will optimize the structure of energy consumption, accelerate the pace of emission reduction and low-carbon transformation, and achieve sustainable development.

The main measures include: (1) Promoting charging piles and hydrogen fueling stations that are compatible with freight vehicles, as well as shore power facilities and liquefied natural gas (LNG) fueling stations for inland waterway vessels, and other supporting facilities, and accelerating the application of new energy and other freight vehicles in the field of logistics and urban distribution. (2) Promoting the green and low-carbon development of logistics enterprises, strengthening the R&D and application of new green logistics technologies and equipment, promoting the use of recycled packaging, reducing excessive packaging and secondary packaging, and promoting the establishment of a “pallet pooling system”. (3) Accelerating and improving the reverse logistics service system, cultivating professional reverse logistics service enterprises, and establishing online and offline reverse logistics service platforms and networks.

Accelerating the Construction of a New Pattern of Opening-Up for the Logistics Industry

At present, and for the foreseeable future, China will promote higher-standard opening-up in the logistics field, enhance the comprehensive competitiveness of foreign trade, and promote the high-quality development of trade.

The main measures include: (1) Promoting the establishment of a coordination mechanism for countries along international logistics channels and promoting the implementation of the “Customs-Train Operators Partnership for Secure and Expedited Clearance of CR Express Carried Goods (C-TOP)” of the China–Europe Railway Express project in concerted countries. (2) Optimizing and perfecting the coordination and dynamic adjustment mechanism of the China–Europe Railway Express, and accelerating the coordination among international shipping, aviation, the China–Europe Railway Express, the new western land–sea corridor, and the international rail–sea intermodal train. (3) Developing a number of modern logistics enterprises with international competitiveness and well-known logistics service brands, and encouraging logistics enterprises to optimize and integrate resources through mergers and reorganizations, alliances, and cooperation to enhance the comprehensive service capability of the integrated supply chain.

Vigorously Improving the Modernization Level of the Governance Capacity of the Logistics Industry

In the future, China will further improve the institutional environment for the development of modern logistics to provide a strong institutional and environmental protection for the development of the logistics industry.

The main measures include: (1) Comprehensively improving market supervision capacity, optimizing the business environment, deepening the reform of “streamlining the government, delegating power, and improving government services”, and improving the institutional framework and policy implementation mechanisms for fair competition. (2) Establishing and improving cross-sectoral and cross-regional credit information-sharing mechanisms and a credit-based enterprise classification and supervision system, and establishing integrity records of logistics enterprises and a list of seriously discredited subjects in accordance with the law, thus raising the consequences of violating the law and breaching trust. (3) Promoting the reduction of costs, improving quality, and enhancing efficiency in the logistics field, and encouraging the transformation from “quantitative cost reduction” of compressing the absolute cost of each link of logistics to “systematic cost reduction” that aims to improve the logistics operation system and enhance the quality and efficiency of logistics, thus reducing social logistics costs across a wider and deeper scope.

Summary

This chapter elaborates on the background and characteristics of Chinese modernization, outlines the significant strategic value of the logistics industry under Chinese modernization, and analyzes the future development direction of the logistics industry in China under the context of Chinese modernization.

Modernization is the common aspiration of the peoples of all countries in the world and has been the goal pursued by the Chinese people since modern times. Chinese modernization has both the common characteristics of modernization in all countries and Chinese characteristics based on its own national conditions. Chinese modernization is the modernization of a huge population, of common prosperity for all, of material and cultural–ethical advancement, of harmony between humanity and nature, and of peaceful development.

Modern logistics, which connects production and consumption, is an important support for extending industrial chains, enhancing value chains, and building supply chains. Modern logistics is also an important support and guarantee for achieving Chinese modernization. It serves as a crucial pillar for super-large-scale markets and is a strong safeguard for realizing common prosperity for all people. It is a pioneer in coordinating material and cultural–ethical civilization, promoting harmony between humankind and nature, and laying an important foundation for pursuing peaceful development.

Chinese modernization has generated new requirements for China to accelerate the construction of a modern logistics system under the new development paradigm. Looking forward, China's logistics industry will apply the new development philosophy throughout all areas and throughout the whole process. With high-quality development as the theme, China will accelerate the construction of a modern logistics system, providing strong support for building a new development paradigm and advancing Chinese modernization.

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Chapter 2

Development of China's Logistics Market



Xiaomei Jiang

The year 2022 saw a significant increase in global instability and uncertainty. Under the impact of multiple factors such as the pandemic and the Russia–Ukraine conflict, the global economic growth rate dropped significantly, the global energy landscape and industrial chain layout called for major adjustments, and China's economic development faced huge challenges and pressure. Against this background, the overall performance of China's logistics market was stable, but the growth rate slowed down significantly. Giving full play to the fundamental role of the industry, China's logistics industry further improved its service capacity and service level, safeguarded the smooth operation of China's industrial and supply chains, and supported the safe and stable operation of China's economy and society.

This chapter is divided into four sections. Section “[The Environment for China's Logistics Development](#)” introduces the domestic and international environments for China's logistics development in 2022, which include: (1) the growth rate of the global economy and trade; (2) changes in the global energy trade landscape; (3) the impact of America's protectionist policies on the global industrial and supply chains; (4) the overall performance of China's macroeconomy; (5) China's major initiatives to enhance its energy security guarantee capacity and the level of safe development of important manufacturing industries, and (6) China's contribution to the construction of Belt and Road and the implementation of the RCEP (Regional Comprehensive Economic Partnership). Section “[Overall Scale of China's Logistics Market](#)” elaborates on the overall scale of China's logistics market in 2022, including the total value of social logistics, the total expense of social logistics, freight volume and freight turnover, cargo throughput and container throughput of ports, cargo and mail throughput in civil airports, and the business volume of the express industry. Section “[Major Characteristics of China's Logistics Market](#)” summarizes the major

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