



China-CEE Institute
中国—中东欧研究院

ISSN 2786-2860

Vol. 4 No. 1

January 2024

CHINA WATCH

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Kiadó: Kína-KKE Intézet Nonprofit Kft.

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The recent Central Economic Work Conference specifically mentioned that scientific and technological innovation should lead the construction of modernized industrial systems, and emphasized in particular using scientific and technological innovation to promote industrial innovation, especially disruptive technologies and cutting-edge technologies, which in turn will spawn new industries, new models, new momentum, and new quality productivity. At the same time, we must vigorously promote new forms of industrialization, including some strategic emerging industries and future industries. Some of this language is new. Let me briefly explain my understanding of new quality productivity and modernized industrial systems.

How Shall We Understand “New Quality Productivity”?

“New quality productivity” is a concept first proposed by General Secretary Xi Jinping during his inspection tour in Heilongjiang in September 2023. Thus far there has been no official and authoritative explanation. It was only recently that the Office of the Central Committee of Finance and Economics (CCFE) of the CPC gave a comprehensive explanation of this term when interpreting the spirit of the Central Economic Work Conference: “New quality productivity” refers to contemporary, advanced productivity spawned by revolutionary breakthroughs in technology, the innovative allocation of production factors, and the in-depth transformation and upgrading of industries.

Generally, productivity as we understand it includes the optimization and combination of laborers, labor objects, and labor materials. But here what must be emphasized is qualitative change, because new quality productivity takes “new quality” as basic content and “the improvement of productivity in all factors” as its core sign.

I believe that new quality productivity can be viewed as a system. From the perspective of systems theory, it would consist of constituent elements and structures

that function as a productive system. Simply put, “elements” refer to new types of labor, new labor objects, new material, and new infrastructure. These new elements can be combined into new structures, which is what we call new or emerging strategic industries and future industries. When new or emerging strategic industries and future industries take the lead, this will push the transformation of our industrial system from tradition to modernization, so that its structure should become a modernized industrial system. The ultimate function of the new quality productivity system would be to support the requirements of new development concepts, our high-quality development, and the promotion of new industrialization. I think this provides a comprehensive explanation of new quality productivity from a systematic perspective.

Of course, the core structures are still modernized industrial systems. Therefore, to develop new quality productivity, we must build modernized industrial systems.

How Shall We Understand Modernized Industrial Systems?

The central government attaches great importance to modernized industrial systems. The first meeting of the 20th CCFE held in May this year specifically discussed two themes: one was modernized industrial systems, and the other was high-quality development supported by high-quality population development. It can be seen that modernized industrial systems have very critical content.

Let us evaluate our industries: among the 26 representative manufacturing industries, around 40% are leading and advanced, and the remaining 60% are still far behind the advanced ones; among the 26 industries, 60% are relatively secure, but 40% still have relatively high external dependence. Our main problem is that there is a series of technologies and processes in which there are developmental bottlenecks, including some spare parts, components, and so on.

So, how shall we understand modernized industrial systems? The CCFE’s 20th meeting mentioned several characteristics of a modern industrial system, including completeness, an advanced quality, and security. I believe that in order to understand such a system comprehensively, we should look at six aspects.

The first is an advanced quality. The advanced quality of a modern industrial

system refers to the technological innovations within it that are adapted to the newest round of scientific and technological revolution and industrial transformation. What is advanced? What is modernization? It is nothing more than being in conformance with the “Four New Modernizations”: high-end, digitized, green, and seamlessly integrated.

The second is synergy. When promoting the advancement of modern industrial systems, attention should be paid to strategic synergy, including the synergy of primary, secondary, tertiary, and quaternary industries, and the synergy of various elements (labor force, labor tools, labor objects, labor materials).

The third is completeness. At present, China’s modernized industrial systems are the most complete ones, and this completeness must be maintained. China’s industrial system as a whole is the most complete, with 666 industrial categories, covering all categories in the United Nations International Standard Industrial Classification of All Economic Activities (ISIC).

The fourth is security. After so many major changes, the likes of which have not been seen in a century, the secure development of industry is of vital importance. This Central Economic Work Conference proposed a new formulation, changing the previous “coordinating development and security” to “coordinating high-quality development and high-level security,” which raised security’s position.

The fifth is openness. Nowadays, the security of industrial chain and supply chain is very important. Our emphases on industrial completeness and industrial security do not mean that we should take a closed path, but rather emphasize its openness. If an industry is not open and does not participate deeply in the global industrial division of labor and cooperation, it will not be modernized. The rules of modernization, in addition to industrialization and marketization, must also include economic globalization. Therefore, openness is key.

The sixth is inclusiveness. The inclusiveness of modernized industrial systems does not mean that the scientific and technological innovations promoted by the construction of modernized industrial systems are all good. Even if we vigorously promote the development of the digital economy, this, too, is only a direction, and it does not mean that all digital economic development is positive. The key to the

inclusiveness of a modernized industrial system lies in the process. During the innovation process, attention should be paid to the use of science and technology for good, and social responsibility should be emphasized.

In addition, the digital economy has brought about the polarization of income distribution and has had a huge impact on employment. In this process, while promoting the development of the digital economy, we must consider how to solve the problems of income distribution and employment for 1.4 billion people.

How Shall State-run Enterprises Play a Leading Role?

In the process of building a modernized industrial system, a term often mentioned is “new industrialization.” The National New Industrialization Promotion Conference, held from September 22 to 23, 2023, conveyed the important instructions of General Secretary Xi Jinping: “In the new journey of the new era, using Chinese-style modernization in order to comprehensively promote the construction of a strong country and the great cause of national rejuvenation, and to realize a new type of industrialization, is a key task.” The question now is, how can state-owned enterprises play an important role in promoting the new industrialization process?

I think that the requirements for high-quality development must be incorporated into the entire process of promoting the “new industrialization.” In this process, some state-owned enterprises have important investment points, such as “new-type infrastructure.” Although this term is not very new, everyone in 2020 was emphasizing this term. But the meaning of “new-type infrastructure,” as we understand it, is rather narrow. New-type infrastructure in the capital market chiefly includes seven main areas:

Ultra-high voltage, new energy vehicle charging stations, 5G base station construction, big data centers, artificial intelligence, industrial Internet, and intercity high-speed rail and rail transit. But in fact, according to the requirements of the new industrialization, new-type infrastructure would refer to all industrial facilities as they push forward the new industrialization. On the foundation of traditional industrialization, it superimposes informatization, digitalization, networking,

intelligence, greening, and other requirements. In accordance with the above requirements, it would promote the integration of all industry, not just the integration of the seven main areas. Urbanization and industrialization must also be combined, and the infrastructure for urbanization must also be integrated—this is critical.

For state-owned enterprises, which already have certain strengths and advantages in new infrastructure, they should now focus on promoting the new industrialization and building modernized industrial systems. In addition, the current emphasis on new quality productivity should be reflected through effort on industries of the future, including strategic emerging industries. If state-owned enterprises want to assume the mission of national strategy, they must pay attention to the industries of the future.

Different countries have different understandings of what the industries of the future are. The recent Central Economic Work Conference highlighted some, including quantum computing, genetic technology, and low-altitude space economy, which also include a few strategic emerging industries. If state-owned enterprises want to realize their mission, they must invest heavily. This could speed up the cultivation of new productive forces, and at the same time it would also be conducive to the advancement of the “new industrialization” process, implementation of the requirements of high-quality development, and implementation of new development concepts. Several key measures would be encompassed here.

First, state-owned enterprises must give full play to the advantages of “the new type of national system” (for making breakthroughs in core technologies in key fields) under the conditions of the socialist market economy and strengthen the supply of high-level independent technological elements. The new type of national system I just mentioned has two implications—openness and marketization—which are very important. For state-owned enterprises, long-termism should be pursued. If their assessments are too focused on the short-term, then the risks to industries of the future will be great, because there is uncertainty in their technical pathways. When state-owned enterprises engage in industries of the future and strategic emerging industries, they will have difficulty in making a difference without any long-term performance appraisal mechanism and an inclusive, fault-tolerant mechanism. Future industrial

technology pathways are uncertain, while strategic emerging industries are still in the growth stage, so their financing mechanisms are different.

The second measure would be to actively explore effective investment mechanisms and increase investment in new infrastructure, such as information infrastructure, integrated infrastructure, and innovative infrastructure.

The third would be to establish and improve the industrial basic capability assessment system and accelerate the implementation of the industrial basic re-engineering project targeting the “four industrial bases”: that is, basic components, spare parts, raw materials, processes and industrial technologies should be evaluated to make breakthroughs.

The fourth would be to accelerate the development of digital technology and use digital technology to empower the integration of manufacturing and service industries.

The fifth would be to actively promote the innovative development of green technology and implement green manufacturing projects. For state-owned enterprises, currently the biggest mission is to contribute to Chinese-style modernization, the most critical aspect of which is innovation, and this is also the state-owned enterprises’ greatest social responsibility.

The author of this essay, Huang Qunhui, is the Director of the Institute of Economics, Chinese Academy of Social Sciences; he is also a Researcher in the Institute. This article is a keynote speech that he delivered at the Ninth China State-owned Enterprise Management Conference, held at the Beijing Convention Center on December 23, 2023.

Translated by Thomas E. Smith