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The Inspiration of New Quality Productive Forces to Accounting Reform and Innovation

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Abstract: Based on learning and understanding the meaning and significance of "new quality of productive forces", this paper, starting from the viewpoint of historical materialism, firstly, from the perspective of the connection between productive forces and accounting, briefly reviews the history of the development of accounting from primitive records to ancient accounting, modern bookkeeping, and modern accounting, and points out that social productive forces are always the driving force and constant force for the development of accounting. It is pointed out that socially productive forces have always been the driving force and constant power for the development of accounting. Then, from the five aspects of accounting objectives, accounting assumptions, accounting elements, accounting nature, and financial reporting, we will discuss in depth the new challenges that the new quality of productivity will pose to the innovation of accounting theory and practice. Finally, it makes some thoughts and prospects on deepening accounting reform, improving talent training mode, and perfecting the construction of accounting discipline in China.

1. Introduction

New quality productive forces are high-quality productivity that takes scientific and technological innovation as its core and emerging and future industries as its carrier to promote high-quality development and Chinese-style modernization. After the concept of new quality productive forces was put forward, it immediately aroused heated discussions in the academic community. Some scholars have analyzed the connotation of new quality productive forces. Li Zheng and Cui Huiyong believe that new quality productive forces are a more advanced form of productivity due to the continuous improvement of the quality of productivity components [1]; Hu Ying believes that new quality productive forces involve new fields and high technological content, and relying on innovation is the key to drive [2]; Zhou Shaodong and Hu Hu Huajie define new quality productive forces as productivity in which scientific and technological innovation plays a leading role [3]. Other scholars have discussed the significance and development path of NQP. Cheng Enfu and Chen Jian pointed out that NQP is of great significance in accelerating the construction of Chinese-style modernization, which should start from strengthening the top-level

layout, developing new industries, promoting the transformation of traditional industries, and giving full play to the advantages of intellectual property rights [4]; Zhou Wen and Xu Lingyun pointed out that the formation of NQP can help to seize the commanding heights in the development, cultivate the new advantages in competition, and build up the new kinetic power of the development, and it should be realized through accelerating the realization of high-level science and technology. Zhou and Xu pointed out that the formation of new productive forces can help seize the high ground for development, cultivate new competitive advantages, and build up new dynamic energy for development, and that the development of new productive forces should be promoted by accelerating the realization of high-level scientific and technological self-reliance and self-enhancement, sounding and perfecting the system of scientific and technological innovation, and constructing a modernized industrial system [5]. General Secretary Top leaders of China emphasized that "we must bear in mind that high-quality development is the hard truth of the new era" and pointed out that "the development of new quality productive forces is the inherent requirement and important focus of promoting high-quality development" [6]. The proposal of the economic category of "new quality productive forces" is an innovation and development of the Marxist theory of productive forces, reflecting the distinctive characteristics of the times and Chineseization. It is undoubtedly clear that China's current focus is on vigorously developing the digital economy, promoting scientific and technological innovation, and driving high-quality development. These efforts enhance China's comprehensive strength, providing a significant boost that will greatly affect all aspects of China's economy and society. Additionally, this focus will become a guide for China's economic, management, accounting, and other disciplines, leading to the deepening of reform and innovation and the adoption of new approaches to remodeling. Based on the meaning and significance of "new quality productive forces", this paper discusses the impact of new quality productive forces on the innovation of accounting theory and practice by sorting out the relationship between productivity and the history of accounting development and makes some reflections on deepening the reform of accounting, improving the mode of talent cultivation and perfecting the construction of accounting discipline.

2. The Central Tenets of the New Quality of Productivity and the Challenge of Reforming the Economics Discipline

New-quality productivity is a new form and a new quality of social productivity in the current context of informationization and digitalized production. The proposal of the economic category of new quality productive forces and the formation of the theory of new quality productive forces are the scientific assertions and expressions made by the Party Central Committee with Comrade Top leaders of China at the core of the new era on the current situation of China's productive forces and the prospects for development, and they have consolidated the Party's profound theoretical insight and rich practical experience in leading the promotion of economic and social development. The goal of Chinese-style modernization and high-quality development requires a new theory of productivity to guide, and the new quality of productivity, which has been formed in practice and has demonstrated a strong impetus and support for high-quality development, needs to be theoretically summarized and outlined, to guide the new development practice.

In the perspective of the theory of new quality productive forces, science and technology innovation is the key, the core element, and the source of power. The basic connotation of the new quality of productivity is to optimize and leapfrog the workers, means of labor, objects of labor, and their combinations through science and technology, knowledge, information, digital intelligence, etc., as well as to form new factors of production. The proposal of new quality productive forces, while strongly promoting Chinese-style modernization, will also clearly guide the reform and

innovation of related disciplines such as economics and management. Productivity theory plays a pivotal role in economics, especially political economy, and the contradictory movement of the new quality productive forces and new production relations is bound to profoundly affect the way of thinking, thesis principles, theoretical framework, teaching content, and talent training mode of modern economics. Accounting, which is based on economics and mathematics, will also face the double challenges of theory and practice. The deepening reform and structural remodeling of accounting is imminent.

3. Productivity as the Driving and Constant Force Behind the Emergence and Development of Accounting

Accounting, as one of the ancient studies of mankind, has been traced back to its origins for thousands of years. Starting from the earliest simple records and calculations of human production activities to the bookkeeping that accompanied the Renaissance and the budding of capitalism after the Middle Ages, and then to the modern accounting that emerged after the first industrial revolution in the 1860s, the emergence and evolution of accounting has always been in step with the development of productive forces and science and technology [7].

First, the Industrial and Technological Revolution gave birth to cost accounting. Before the Industrial Revolution, the economic organization was dominated by individual and partnership enterprises, the production scale was small, the production capacity was low, and the cost consciousness of the businessmen stayed at most in the cost of incoming goods or the cost of raw materials, and there was no conventional systematic cost accounting yet. After the Industrial Revolution due to the extensive use of steam engines and other large machines and the development of the railway industry, the enterprise production scale expanded rapidly, and the proportion of organic composition of capital increased, belonging to the labor means of production of fixed assets in the total assets of the enterprise increased the proportion of fixed assets, so that how to account for fixed asset depletion has become a nuisance at that time. Subsequently, the concept of depreciation arose, and the gradual transfer of the value of fixed assets due to wear and tear became a new component of the cost of goods, which was recognized by people. At the same time, labor compensation that is, workers' wages also entered the category of commodity costs, and the full concept of cost began to take shape. Determining how to reasonably share the depreciation expenses and other costs around the cost of goods has experienced stages such as cost estimation, full actual costing, and standard costing. When the processes of costing and accounting are combined, they produce a cost accounting system.

Secondly, to examine the fulfillment of the fiduciary duties of enterprises, independent auditing and the profession of certified public accountants came into being. The industrial and technological revolution, while promoting the expansion of the scale of production, also promoted changes in the mode of economic organization, with joint-stock companies gradually replacing individual and partnership enterprises as the mainstay of the market economy. As a result of the separation of corporate ownership and operation, capital providers wanted to scrutinize the fulfillment of the fiduciary duties of business operators. When public accountants appeared and formed the profession of certified public accountants, the financial inspection work originally attached to the enterprise was gradually replaced by external independent third-party auditing and assurance services, and auditing thus became independent from financial accounting.

Again, income tax legislation led to the separation of tax accounting from financial accounting, and in the early twentieth century, the main stage of world accounting shifted from the United Kingdom to the United States. With the continuous development of the economy, the income of enterprises became more stable, and the accounting methods of depreciation and other costs became

more mature, so that enterprises could calculate their profits or income more accurately, and the view of accounting income also shifted from the previous "asset and liability view" to "income and expense view". In addition, income taxes replaced customs duties and excise taxes as the government's main source of tax revenue. This, together with the ensuing movement to standardize financial accounting, ultimately led to the United States taking the lead in establishing accounting standards and transforming fragmented accounting ideas and principles into systematic accounting theories.

Finally, financial accounting was separated from management accounting. After the Second World War, all countries in the world entered the post-war recovery and reconstruction state, productivity has been greatly improved but also ushered in the third scientific and technological revolution represented by atomic energy technology, space technology, the application of electronic computer technology, as well as including synthetic materials, molecular biology and genetic engineering and other high-tech. Since the 1960s, under the influence of the "three theories" of systems engineering methodology (system theory, cybernetics, and information theory), the branches of scientific research have become increasingly refined, and the phenomenon of interpenetration between disciplines has become more and more obvious.

It can be seen that the age-old discipline of accounting has always faced both opportunities and challenges at key moments of rapid economic development, scientific and technological progress, and changes in economic relations. Under the influence of various scientific technological, economic, and management ideas, accounting has become a modern discipline with strong specialization and continuous cross-fertilization with other disciplines, which may form new sub-fields or separate from the original branches. Whether the new quality of productivity, which is currently leading the fourth industrial science and technology revolution, can bring about breakthroughs in the accounting discipline, such as the emergence of intelligent accounting, accounting for new quality of productivity, and other emerging accounting branches, is being paid attention to.

4. Innovations in Accounting Theory and Practice Driven by New Quality Productive Forces

The new quality of productivity emerged at the historical node of the leap from the electronic era of the third scientific and technological revolution to the digital and intellectual era of the fourth scientific and technological revolution. In the past three decades, especially since the beginning of the 21st century, along with the advancement of science and technology, the popularization and application of computers, and the rise of the Internet, various new products, new services, new materials, new energy, new equipment, new technologies, and new processes have emerged continuously, and informatization, networking, digitization, greening, synergism, globalization and so on have become the key features of the new quality of productivity. Advanced productivity such as high-end communication, highly intelligent equipment, artificial intelligence, cloud computing, blockchain, big numbers, and big models, as well as new laws and regulations and new systems supporting them, are profoundly affecting all levels of China's economy and society, and are putting forward higher requirements for talent cultivation and integration of various disciplines. The depth and breadth of the challenges posed by the new productivity to accounting ideas, accounting theories, accounting processes, and accounting practices will be greater than in any other period since China's reform and opening up. The following is a discussion of the relationship between the new quality of productivity and the five aspects of accounting objectives, accounting assumptions, accounting elements, accounting nature, financial reporting, and so on.

(1) New quality productive forces and accounting objectives. The theoretical framework of modern accounting is the conceptual system of accounting formed under the leadership of

accounting objectives, which focuses on the issues of why, to whom, and what kind of information to provide. Accounting objectives are subjectively set by human beings and need to be adjusted according to different time backgrounds and objective environments. Currently, there are two popular accounting objectives: the "decision-useful view" and the "fiduciary responsibility view". The decision-useful view holds that accounting should provide information users with useful information relevant to their decision-making, while the fiduciary responsibility view emphasizes that accounting should reflect resource providers information about the fulfillment of their fiduciary responsibilities. Historically, fiduciary responsibility has evolved through three stages: first, custodianship, which is primarily aimed at protecting the safety of assets; second, stewardship, which is primarily aimed at making a profit; and third, stewardship, which is primarily aimed at making a profit from the operation of the enterprise. The second is "stewardship", which is mainly aimed at the profitability of business operations; and the third is "accountability", which is an accounting responsibility that takes into account profitability, environmental responsibility, and social responsibility. Although the world's authoritative accounting organizations have different preferences for the decision-usefulness view and the fiduciary responsibility view, the two are complementary to each other. And, in the most primitive and fundamental sense, fiduciary responsibility is the real motivation for modern accounting and auditing [8]. From the perspective of the new quality of productivity, whether it is the users of information mentioned in the decision-usefulness view or the trustors mentioned in the fiduciary responsibility view, the service targets of the accounting objectives no longer stop at investors or major shareholders, but need to take into account a wider range of stakeholders, including customers, suppliers, lenders, employees, the tax authority, the community, and the regulator, etc.; the accounting objectives need to reflect fiduciary preferences, which are not the same as those of the other parties. Accounting objectives need to reflect the fiduciary duty of performance, not just the profitability of the enterprise, but also the environmental, social, and governance responsibilities of the enterprise. This is the real reason why ESG reporting has become so popular in recent years.

(2) New quality productive forces and accounting assumptions. Accounting assumptions are conventions and predictions about the accounting environment and future uncertainties to achieve accounting objectives and to do a good job of accounting. Traditional accounting assumptions include the accounting entity assumption, the going concern assumption, the accounting staging assumption, and the monetary measurement and currency stability assumptions. About 20 years ago, many scholars wrote about the challenges to accounting assumptions posed by the "new economy" or "knowledge-based economy" that was popular at the time. From the perspective of the new quality of productivity, this challenge has intensified due to the rise of the digital economy, the network economy, and the platform economy. In the new economy, traditional economic organizations have been upgraded, the virtual economy and the real economy are intertwined, and there is also the emergence of objects and contents that are difficult to measure, such as virtual currencies and virtual transactions. Even for traditional enterprises as the real economy, the traditional accounting subject, going concern and accounting staging assumptions will face more challenges because they are facing a more competitive environment, with factors such as outdated technology, obsolete equipment, overproduction, and pressure from mergers and acquisitions putting many of them into an existential crisis.

(3) New quality productive forces and the elements of accounting. By elements of accounting, we mean what accounting reflects and monitors. For financial accounting, it is also the content of accounting and reporting. After the founding of new China, the object of accounting has become an important issue in China's accounting theory for a long time, and the formation of socialist reproduction in the process of expanding the two views of "property theory" and "capital movement theory". From the viewpoint of historical materialism, social existence determines social

consciousness, accounting as a human activity with goal consciousness, the object of its treatment can not leave the objective reality. Moreover, with the development of the elements of productive forces, the content of accounting is not static. In the 18th century, before the Industrial Revolution, the content of accounting was mainly income and expenditure and almost did not involve cost accounting. After the rise of the Industrial Revolution, the problem of cost accounting became more and more prominent, because the increase in fixed assets such as machines, equipment, plants, etc., made the cost of production of goods include not only the cost as a factor of labor, but also the cost of transfer as a means of production, and the cost of wages as a remuneration of labor, and so on. At this time, the status of the enterprise's balance sheet has been increasingly elevated, and the elements of assets listed in the sheet have been increased to include, in addition to the traditional cash and inventory, a large number of fixed assets as well as accounts receivable, which appeared after the popularization of commercial credit.

After the 20th century, with the intensification of enterprises' foreign investment, research and development, mergers and acquisitions, and the development of financial markets, items such as long-term investment, intangible assets, goodwill, and financial instruments have also been included in the balance sheet one after another, and the element of assets has been further expanded. By the age of the digital economy, data has become the fifth major factor of production after land, labor, capital, and technology. The large amount of data resources owned by some enterprises may become a source of great wealth for them, but the resources are not necessarily assets in the accounting sense, and how to recognize them as a new quality of assets, as well as how to measure and present them on the balance sheet, has become an urgent accounting issue to be dealt with. Although the Ministry of Finance (MOF) urgently issued the Provisional Provisions on Accounting Treatment Related to Enterprise Data Resources in August 2023, agreeing to recognize a part of data resources that meet the definition of an asset and can bring economic benefits to the enterprise as inventory and intangible assets respectively by the current accounting standards framework, how to deal with the accounting treatment of data resources that have not yet been developed and utilized or are in the process of being developed urgently needs to be resolved through innovations in accounting theory and practice. However, how to account for more data resources that have not yet been utilized or are in the process of being developed urgently needs to be resolved through innovation in accounting theory and practice.

(4) New quality productive forces and the nature of accounting. Similar to the elements of accounting, the nature or essence of accounting has long been one of the hot topics of discussion in China's accounting theory community, which mainly involves the question of "what is accounting". After entering the era of the digital economy, cloud computing and high-end arithmetic greatly improved the data processing capacity and efficiency of computers, and became a new productivity, coupled with artificial intelligence, blockchain, big data, big models, etc. began to enter the accounting module, accelerating the process of computerized accounting and networking, the concept of blockchain accounting, digital accounting is also gradually formed. Digital technology can indeed improve accounting efficiency, reduce labor costs, and may affect the accounting methods and accounting processes, so some people believe that the future of accounting may no longer be important, and perhaps even extinction. This view is a replica of the "accounting tool theory". We should see that accounting is not a simple computational activity, machine computing power in the foreseeable future is unlikely to improve the complete abolition of accounting. After all, computers only changed the efficiency of accounting calculations or local changes in the accounting process and did not fundamentally change the basic principles of accounting and accounting recognition, measurement, and reporting standards. Therefore, this paper argues that the new quality of productivity will not change the nature of accounting and its disciplinary attributes, and will not cause the demise of accounting, on the contrary, with the new quality of productivity,

accounting should be a greater application of the stage and space for development.

(5) New quality productive forces and financial reporting. Financial reporting is the finished product of the accounting cycle and is the periodic centralized reflection of the results of accounting recognition, measurement, and recording. Financial reporting in a narrow sense refers only to financial statements, notes, and other relevant information and materials that should be disclosed, etc.; while financial reporting in a broad sense consists of financial statements and other financial reports. With the development of the times, the types and contents of financial statements have been enriched, and the boundaries of other financial reports have been expanded, even including some reports of non-financial information. In recent decades, profit forecast reports, management discussion and analysis (MD&A), human resources or intellectual capital reports, environmental reports, corporate social responsibility (CSR) reports, corporate governance reports, sustainability reports, triple bottom line (ESG) reports, and so on, have emerged endlessly, which has caused a certain degree of conceptual confusion and information overload. After the global financial crisis in 2008, the International Financial Reporting Standards Foundation (IFRS) set up the International Integrated Reporting Committee (IIRC) in July 2010 to reduce the complexity of financial reporting, encouraging companies to prepare a set of reports that can comprehensively reflect corporate strategy, sustainable development, value creation, social and environmental responsibility, corporate governance and financial performance. The IIRC encourages companies to prepare a set of "integrated reports" (or "consolidated reports") that reflect corporate strategy, sustainable development, value creation, social and environmental responsibility, corporate governance, and financial performance.

Entering the era of digital economy, green, low-carbon, environmental protection, sustainable development, corporate social responsibility, and governance are still the key buzzwords, so CSR and ESG reports are back in vogue and are being paid more attention to, but it is also important to prevent going astray. Because under the new quality productive forces perspective, scientific and technological innovation and value creation are the key, and enterprises can only better fulfill their environmental and social responsibilities and achieve high-quality development based on increasing asset strength and profitability. Therefore, there should be more room for the development of corporate integration reports that combine financial performance with the ESG triple bottom line, and they deserve in-depth research [9].

5. Initiatives to Deepen Accounting Reform in the Context of New Quality Productive Forces and Future Prospects

New-quality productivity is a new and modernized type of productivity characterized by high technology, high efficiency, and high quality. In essence, they are advanced productivity qualities in line with the new development concept, led by innovation, with the leap in the number of workers, means of labor, and objects of labor and their optimal combinations as the basic connotation, with a significant increase in total factor productivity as the core symbol, and to promote the comprehensive deepening of reforms and high-quality development, which will continue to push forward the change and development of productivity and production relations in the new journey of the new era. This paper has already detailed the new challenges that the new quality of productivity will bring to the innovation of basic accounting theory and practice from five aspects, and we are going to put forward some suggestions for deepening the accounting reform and perfecting the construction of the accounting discipline.

(1) Actively respond to the new challenges of the new quality of productivity, deepen accounting reform, and promote innovation in accounting theory and practice. At present, the new productivity mainly drives a new round of scientific and technological revolution and industrial change from the

aspects of digitization and greening, and advanced science and technology represented by the Internet of Things, quantum information, high-end communication equipment, chip technology, cloud computing, artificial intelligence, blockchain and so on are accelerating the breakthrough and application to promote the in-depth fusion of the digital economy and the real economy, and to promote the reconstruction of the transformation of industrial forms and business models, and various new concepts and new economic theories also continue to emerge, which have a great impact on the current accounting theory and practice. New economic theories are also emerging, which have a great impact on the current accounting theory and practice. According to the Marxist theory that the relations of production must be adapted to the development of productive forces, we can neither avoid these new problems nor respond to them negatively by simply applying the existing accounting theoretical framework and practices. Instead, we should deepen accounting reforms, strive to explore new paths and methods, and make innovations and breakthroughs in accounting theory and the accounting system.

(2) Improve the accounting discipline system, adjust the curriculum, and reform and innovate the teaching content. To realize the goal of training accounting talents in the new period, the current accounting discipline system in China should be reformed and adjusted. In the basic curriculum, educators can appropriately adjust the content to reduce the emphasis on Western economics and increase the coverage of Marxist political economy and productivity theory. In terms of specialized courses, consideration can be given to the addition of courses containing intelligent accounting, resource factor accounting, new quality productive forces accounting, human resource accounting, green accounting and environmental reporting, sustainable development reporting and ESG reporting, and other related content, and also the addition of general knowledge courses on modern science and technology and the business environment, so that students can have a good understanding of the current popular artificial intelligence, blockchain, smart devices, biotechnology, life sciences, data mining, big modeling and other advanced technological achievements. Professor Wang Aiguo [10] took the lead in proposing the idea of establishing "intelligent accounting", and suggested that seven major categories of courses should be added to the accounting major courses, including mathematics, statistics, computers, data science, artificial intelligence, Python or R language, and the integration of professionalism and technology, which is quite inspiring.

Looking ahead, contemporary Chinese accounting under the perspective of new quality productive forces will be guided by Marxist productivity theory, led by scientific and technological innovation, and aiming at promoting the high-quality development of China's economy and society, and through continuous deepening of reforms, it will present a brand-new outlook: the knowledge structure of accounting personnel is more diversified, the ability of business and financial integration is more prominent, the international vision is more broad, and the business innovations are more frequent. The system of accounting disciplines will be more perfect, financial accounting and management accounting will go hand in hand, internal control and auditing and forensics will develop simultaneously, finance and finance will support each other, science and technology and digital cross-combination, and theory and practice will be promoted in both directions; the means of accounting will be more advanced, the computing power will be stronger, the application of artificial intelligence will be popularized, and the productivity of labor will be improved; the function of the information of accounting will be more powerful, the ability of forecasting and decision-making will be further improved, and the ability of theory and practice will be improved. Forecasting and decision-making ability are further improved, accounting theory and standards are more perfect, and the position of accounting discipline in the digital economy and Chinese-style modernization construction will be more prominent.

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