

Research on Preferential Tax Policies Helping Innovation Alliance Empower New Productivity

--Based on Science and Technology Innovation Enterprises in Anhui Province

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Abstract

This paper studies the supporting role of preferential tax policies on the development of new productivity empowered by innovation consortiums, taking science and technology innovation enterprises in Anhui Province as an example. New quality productivity is the key to promoting high-quality economic development, and innovation consortiums provide important support for new quality productivity through collaborative innovation. Through the implementation of policies such as additional deduction of R&D expenses and tax incentives for high-tech enterprises, Anhui Province has effectively encouraged enterprises to increase R&D investment and accelerated the transformation of scientific and technological achievements. However, in the process of development, innovation consortiums still face problems such as imperfect policy support system, obstacles to industry-university-research integration, talent shortage and insufficient capital investment. There are also challenges in the implementation of tax policies, such as regional differences, narrow policy coverage, and insufficient publicity. To this end, this paper puts forward countermeasures and suggestions such as optimizing policy coordination, strengthening the support of small and medium-sized enterprises, promoting cross-regional cooperation, and promoting the deep integration of industry, university and research, so as to improve the innovation ecology, enhance the collaborative innovation ability of innovation consortiums, and provide a solid guarantee for the development of new quality productivity.

Keywords

New quality productivity; Innovation Consortium; Preferential tax policies; Industry-university-research integration; Regional collaborative innovation.

1. Introduction

In September 2023, during an inspection in Heilongjiang, he proposed to "accelerate the formation of new productive forces." In December of the same year, the Economic Work Conference further emphasized the need for "new quality productivity." In January 2024, while presiding over the 11th collective study session of the Political Bureau, he pointed out: "High-tech needs new productivity theory to guide us, and new quality productivity has been formed in practice and has demonstrated strong driving force and support for high-tech. We need to summarize and generalize theoretically to guide new practice." From proposing "accelerating the formation of new quality productivity" in 2023 to emphasizing "new quality productivity" in 2024, this change shows that the strategic status of new quality productivity is constantly improving. Its importance is not only reflected in theoretical innovation, but also in the face of

the current critical period of economic transformation and upgrading, where new productive forces have become an important engine for promoting high economic growth.

The proposition of the new quality productivity is the enrichment and enrichment of the doctrine productivity theory. It not only regards science and technology as the core element of productivity, but also emphasizes the importance of new elements such as knowledge, information, and data. This theoretical breakthrough provides a new perspective for understanding modern productivity, and clarifies the key role of scientific and technological innovation in promoting the leap in productivity. With scientific and technological innovation as the core, through technological revolution and innovative allocation of production factors, a substantial increase in total factor productivity has been achieved with high technology, high efficiency, and high performance. This jump in productivity not only improves economic growth, but also promotes the transformation of the economy from factor-driven to innovation-driven. It has promoted the intelligent and green transformation of the industry and at the same time spawned emerging industries and future industries. For example, the application of cutting-edge technologies such as artificial intelligence, quantum information, and controllable nuclear fusion is reshaping the industrial chain and commerce. In the current context of global economic uncertainty, new quality productivity has provided new impetus and support for economic growth. Through emerging industries and enhancing industrial competitiveness, new quality productivity can help cope with fluctuations in international trade and market demand. The Innovation Alliance gives full play to the guiding and promoting role as an innovation organizer and the main position and leading role of enterprises as technological innovation. It is guided by major tasks of key core technologies, led by advantageous enterprises with outstanding innovation capabilities, and closely participated by departments to integrate industries. It is a task-oriented and systematic innovation organization that effectively organizes advantageous enterprises, scientific research institutions and universities upstream and downstream of the chain to collaboratively tackle key problems. Enterprise-led innovation alliances have stronger market-oriented advantages and can more accurately identify "blocking points", "stuck points" and "difficulties" in technological innovation, closely connect multiple innovation entities such as enterprises, universities and scientific research institutes, and promote The efficient allocation of resource elements such as information, funds, and talents promotes the in-depth integration of industry, academia, and research, improves total factor productivity, concentrates efforts on targeted research, and achieves innovative breakthroughs in original and disruptive technologies. The Innovation Alliance deploys innovation chains closely around the industrial chain and applies scientific and technological innovation results to specific industrial chains. It focuses on building innovation platforms, jointly building laboratories, technology shares, etc., focusing on innovation chain research, intermediate experiments, Industrialization and other links; by enhancing the catalytic function of the capital chain, promoting the high-level cycle of "technology-industry-finance", improving the science and technology financial service system, promoting the accumulation of various factor resources in the capital market to the innovation alliance, and building a diversified capital supply system. As an effective organizational form that gathers innovation resources and breaks through key core technologies, the Innovation Alliance is of great significance in empowering new productivity. The construction of the Innovation Alliance is inseparable from your guidance and support. Through policy support and resource investment, we will promote the formation of innovative alliances and provide guarantee for new quality productivity. As an important means of macro-control, taxation plays a basic, pillar and guarantee role in national governance. First, tax policies converge into new productive areas through a variety of guiding innovation factors. For example, the policy for super deduction of R&D expenses has been continuously optimized, gradually increasing from 50% in 2017 to 100% in 2023, and has been clearly defined as an institutional arrangement. In addition, the accelerated depreciation policy

for fixed assets allows companies to deduct newly purchased equipment from current costs and expenses in one go, further increasing the tax burden of companies. These policies not only reduce the R&D costs of enterprises, but also encourage enterprises to increase R&D investment and promote the convergence of innovation elements into new productivity areas. Secondly, tax policy also plays an important role in promoting the transformation and application of scientific and technological achievements. For example, technology transfer, technology and related technical consulting and technical services are exempt from value-added tax. Enterprise technology transfer income is exempt from corporate income tax within a certain amount, and the excess amount is halved. In addition, individual income tax can be halved on cash rewards earned by scientific researchers from the conversion of scientific and technological achievements in their posts. These preferential policies have effectively shortened the transformation cycle of scientific and technological achievements from the laboratory to the market and improved the efficiency of the transformation of scientific and technological achievements. In addition, tax policy encourages social capital to participate in new productive forces through various means. For example, tax incentives are provided to venture capital companies and social capital is encouraged to invest in innovative small and medium-sized enterprises. In addition, social capital is introduced through PPP to carry out projects such as ecological protection and restoration, and those who meet the conditions can enjoy preferential tax policies for protection, energy and water conservation, etc. in accordance with regulations. These policies not only broaden the sources of funds for new productive forces, but also provide stable policy expectations for social capital and enhance its enthusiasm for investment. In addition, tax policy supports the cultivation and innovation of new productive forces through full life cycle support. For example, start-up companies can enjoy inclusive tax incentives, established companies can enjoy super deductions for research and development expenses and other policies, and mature companies can enjoy high-tech enterprise income tax incentives. In addition, the state also provides special tax incentives to emerging industries such as integrated circuits, software, and new energy to help companies occupy high-end positions in the global industrial chain. Finally, tax policies also enhance the innovation enthusiasm of enterprises by optimizing the innovation ecology. For example, the pre-tax deduction rate for enterprise employee education funds has been increased to 8%, and personal income tax concessions have been given to high-end talents in short supply. These policies not only help companies attract and retain high-end talents, but also provide a good ecosystem for new-quality productivity. As a hot spot for scientific and technological innovation, Anhui Province has many scientific and technological innovation enterprises. It has important theoretical and practical value to study how preferential tax policies can help the innovation alliances where these enterprises are located to empower new productive forces.

2. The Current Situation and Problems of Anhui Science and Technology Innovation Federation

2.1. Current Situation of Anhui Innovation Union

The Anhui Provincial Innovation Federation has achieved remarkable results in helping new quality productivity, and the innovative practice of passing the degree has injected strong impetus into the province's economic growth.

In terms of tax policy, Anhui Province has fully implemented the super deduction policy for R&D expenses. Manufacturing enterprises and technology-based small and medium-sized enterprises can have a 100% super deduction for corporate income tax on R&D expenses. This policy has effectively encouraged enterprises to increase investment in research and development and improve their independent innovation capabilities. For example, after enjoying the policy, some technology-based small and medium-sized enterprises have invested

more funds in the research and development of new technologies and new products, which has accelerated the transformation of scientific and technological achievements and provided support for the cultivation of new quality productivity; Anhui Province allows accelerated depreciation or one-time deduction of qualified fixed assets. For scientific and technological innovation enterprises, it can quickly recover funds, improve the efficiency of capital use, help enterprises update equipment in time, introduce advanced technology, enhance the core competitiveness of enterprises, so as to better adapt to the requirements of new quality productivity; Tax incentives are given to high-tech enterprises, and "enjoy without application" and "enjoy immediately after application" are implemented. This not only reduces the tax burden of enterprises, but also simplifies the process of policy enjoyment, enabling enterprises to provide policy support more conveniently. Through this policy, many high-tech enterprises can expand their production scale and improve their technological level, thereby driving the upgrading of related industries and injecting new impetus into new quality productivity; Anhui Province exempts technology transfer, technology and related technical consultation and technical services from value-added tax, and reduces or exempts corporate income tax on technology transfer income. These preferential policies have promoted the transformation and application of scientific and technological achievements, made the cooperation between universities, scientific research institutions and enterprises in the Innovation Federation closer, accelerated the transformation process of scientific and technological achievements from laboratories to markets, and provided new quality for the formation of productivity. rich technology supply; Anhui Province postpones the payment of personal income tax for equity rewards of scientific research institutions and colleges and universities, and pays personal income tax in installments for equity rewards of technical personnel of high-tech enterprises. These policies have attracted a large number of high-end talents to devote themselves to the cause of scientific and technological innovation, provided strong intellectual support for the Innovation Federation, helped enterprises overcome key technical problems, and promoted the rapid development of new quality productivity.

In recent years, Anhui has steadily promoted the construction of innovation federations, and the number of provincial innovation federations has continued. As of 2022, the establishment of 4 provincial-level innovation federations has been approved, led by Conch Group, Amway Materials, Quanyin Hi-Tech Seed Industry and HKUST Xunfei, covering carbon dioxide capture in the cement industry, ecologically functional polyurethane composite materials, and rice seed industry technology and intelligent human-computer interaction and other fields. In addition, the "University of Science and Technology Silicon Valley" innovation alliance pilot project has also achieved remarkable results, forming a unique innovation ecology of "one building is an innovation alliance, and one building is an industrial chain", providing support for new quality productivity. Technological innovation enterprises are booming, and 12 high-tech enterprises and 26 technology-based small and medium-sized enterprises are born every day. In 2023, the province's enterprise R&D investment, R&D personnel, R&D institutions, and effective invention patents will account for more than 80% of the whole society. At the same time, Anhui Province actively supports leading technology companies to cooperate with upstream and downstream enterprises, colleges and universities to build innovation alliances such as provincial industrial research institutes, and promote the deep integration of technological innovation and industrial innovation.

2.2. Cases related to tax incentives of Anhui Innovation Union

2.2.1. Anhui Jinhaidier Information Technology Co., Ltd.

Anhui Jinhaidier Information Technology Co., Ltd. is a high-tech enterprise focusing on water conservancy, port and shipping automation control systems, information systems and smart water conservancy. Through cooperation with universities and departments such as Hefei

University of Technology, Hohai University, and Anhui Hydrological Bureau, the company has established an integrated innovation system of "water conservancy, technology, and talents". Its cooperation results have been successfully applied to many major water conservancy projects in Anhui Province, such as the Cihuai New River Management Information System. Through digital twin technology and Internet of Things applications, it has realized the intelligence of water level monitoring and equipment inspection. With the support of preferential tax policies, Jinhaidier has increased investment in research and development, and its technological innovation capabilities have been significantly improved. The Company actively responds to the national call for new quality productivity, takes scientific and technological innovation as the core driving force for transformation and upgrading, and comprehensively improves the combat effectiveness and innovation ability of the team from the aspects of system, system and talents. Through these efforts, Jinhaidier has not only promoted its own development, but also contributed an important force to the modernization of the water conservancy industry and the construction of ecological civilization.

2.2.2. Quantum Information Technology Group Limited

Zhongquan Information Technology Group Co., Ltd. was established in May 2023. It is a wholly-owned subsidiary of China Co., Ltd. with a registered capital of 3 billion yuan. With the goal of building a "world-leading quantum technology enterprise", the company is committed to building an innovative basic platform for international technological competition. At present, China Quantum Group has gathered more than 60 enterprises in the quantum technology industry chain, and has become the first batch of pilot units for the construction of future industrial science and technology parks in the country. In the field of quantum communication, China Quantum Group has formed four major business directions: "call quantum", "network quantum", "cloud quantum" and "platform quantum". On December 3, 2024, the company released the superconducting quantum computer "Tianyan 504" with the largest number of bits in the country. In addition, the company has further consolidated its leading position in the field of quantum technology by holding HKUST Guodun Quantum Technology Co., Ltd. With the support of preferential tax policies, China Quantum Information Future Industrial Science and Technology Park continues. By promoting the transformation of quantum technology from basic research to industrial application, China Quantum Group has provided a new growth point for new quality productivity. Relying on the advantages of China's cloud network resources, capabilities and service channels, the company promotes the large-scale promotion of the quantum industry across the country.

2.3. Innovation Alliance Helps New Quality Productivity

Innovation Alliance has played a key role in promoting new productivity. Anhui focuses on key areas such as new energy vehicles, integrated circuits, and artificial intelligence. Through collaborative research, it has made breakthroughs in a number of key core technologies such as computational lithography EDA software and high-temperature alloy blades, forming new momentum for full-chain and systemic breakthroughs. At the same time, Anhui actively explores the mechanism for the transformation of scientific and technological achievements and supports the University of Science and Technology of China in launching a pilot reform of "empowerment + transfer + agreed benefits" for job-related scientific and technological achievements. Since the pilot, a significant number of achievements have been converted into shares through pricing. In addition, Anhui has promoted the accelerated implementation of technological achievements by improving the "laying eggs along the way" mechanism for cutting-edge scientific and technological research and development, further enhancing industrial innovation capabilities and competitiveness. Regional collaborative innovation is also an important direction for Anhui Innovation Alliance to promote new productivity. Anhui actively participates in the construction of the Yangtze River Delta Science and Technology

Innovation Community, and has jointly established the first batch of 12 innovation alliances with Shanghai, Jiangsu and Zhejiang, and has initiated and implemented a total of 90 national and provincial-level projects. At the same time, Anhui upgraded the Yangtze River Delta scientific and technological resource sharing service platform to promote the sharing of 8,608 large scientific instruments and equipment in the province with Shanghai, Jiangsu and Zhejiang. In the construction of the G60 Science and Technology Innovation Corridor, Anhui and the "One Corridor and Nine Cities" of Shanghai, Jiangsu, Zhejiang and Anhui jointly promoted ecological construction, conducted discussions around cross-regional collaboration on scientific and technological innovation and industrial innovation, and reached a consensus. Data show that the average R&D investment intensity in the nine cities has reached 3.77%, and the number of high-tech enterprises accounts for 1/7 of the country, providing a strong impetus for regional collaborative innovation. Facing the future, Anhui will continue to play the role of the Innovation Alliance, proactively lay out future industries, accelerate technological breakthroughs and industrial applications such as quantum computing, quantum communications, and quantum precision measurement, and cultivate new growth points in the aerospace information industry such as low-altitude economy and commerce. Anhui will also start the construction of an air-ground integrated quantum precision measurement experimental facility, build a new batch of cutting-edge technology concept verification centers and pilot bases, optimize the innovation ecology, promote the deep integration of technological innovation and industrial innovation, accelerate the construction of a modern industrial system, and provide new quality productivity Wider space and a stronger foundation.

3. Challenges and Problems Faced by Anhui Innovation Federation

3.1. Challenges and problems in the operation of Anhui Innovation Alliance

Although Anhui Province has achieved a series of remarkable results in the process of innovation and federation, it still faces some problems and challenges.

3.1.1. The policy support system and establishment and operation mechanism of the Innovation Alliance need to be improved

Although the policy support system of the Anhui Provincial Innovation Federation has been initially established and certain progress has been made in the integrated collaborative innovation of the Yangtze River Delta, some innovation federations lack a clear power and responsibility allocation mechanism during the establishment process. There is still unclear division of rights, responsibilities and interests among construction units; in the construction of cross-regional innovation alliances, there are still problems of insufficient depth and breadth of collaboration. For example, the operating mechanism of the Innovation Alliance is not yet fully mature. Especially in cross-field and cross-regional cooperation, the advantages of scientific and technological resources in the Yangtze River Delta region have not yet been fully utilized, resulting in insufficient openness and sharing of innovation resources. Therefore, how to coordinate the resources of all parties and Benefits remain a burning issue. Although Anhui Province has adopted a series of policies to support the construction of innovation alliances, the systematicness and synergy of the policies still need to be strengthened. In actual operation, there are "last mile" problems in the implementation process of some policies, which results in the failure of policy dividends to be fully released, resulting in low cooperation efficiency and even conflicts of interest. In addition, the evaluation and supervision mechanism of the Innovation Alliance is not yet complete and lacks scientific and reasonable assessment indicators and dynamic mechanisms.

3.1.2. Barriers to the integration of industry, education and research and the transformation of scientific and technological achievements still

Although Anhui Province actively promotes cooperation between universities and scientific research institutes and enterprises, the problem of disconnect between scientific research results and the actual needs of enterprises still exists. The scientific research results of some universities and research institutes are difficult to find market application scenarios, resulting in the results being idle. In addition, companies also face the problem of information asymmetry when looking for scientific research teams that suit their own needs, which affects the depth and breadth of industry-university-research cooperation. At present, enterprises do not have enough leadership in industry-university-research cooperation. The research directions of some universities and scientific research institutes are more theoretical and poorly matched with the actual technical needs of enterprises. As a result, scientific research results are difficult to be directly transformed into productivity, and cooperation projects often remain inactive. On the surface, it is difficult to form deep collaborative innovation. In addition, the scientific research management system of universities and scientific research institutes is relatively rigid, making it difficult to respond quickly to the dynamic needs of enterprises. In terms of the transformation of scientific and technological achievements, there are still some problems in the implementation of policies. For example, when a university's scientific and technological achievements are converted into shares through pricing, the school's retained equity is still regarded as a state-owned asset, resulting in cumbersome supervision and a long process. In addition, the due diligence exemption mechanism for scientific and technological achievements has not yet been fully implemented, and some universities and scientific researchers still have concerns about the transformation of achievements and are "unafraid or unwilling to transfer".

3.1.3. Shortage of Talents and Insufficient Incentive Mechanism

Anhui Province still faces challenges in attracting high-end talents, especially in emerging industries and cutting-edge technology fields. Although Anhui has implemented the "Talents Prospering Anhui" project to attract talents by smoothing the "green channel" for the introduction of high-level talents and publishing a list of talent introduction needs for major projects, compared with developed regions, Anhui still has a gap in talent attraction. There is a disconnect between the professional setting of some colleges and vocational colleges and market demand, resulting in a mismatch between talent training and industry demand. To this end, Anhui has adopted a series of measures, such as establishing a mechanism for disciplines and majors to adapt to industries in advance, and vigorously developing new engineering majors and emerging interdisciplinary disciplines. In 2024, provincial colleges and universities will add 331 undergraduate and junior college professional points, of which professional points serving emerging industries will account for 82.2%. Although Anhui has attracted the return of talents through the implementation of the "Anhui Talent Return" plan, due to differences in economic levels and industrial foundations, some talents still tend to flow to economically developed areas, resulting in a prominent brain drain.

In Industry-University-Research cooperation, the enthusiasm of researchers in universities and research institutes to participate in enterprise innovation activities still needs to be improved. Part of the reason is the lack of effective incentive mechanism, which leads to the lack of motivation of scientific researchers to transform their achievements. To this end, Anhui has adopted a series of policies, such as exploring and implementing a special promotion mechanism for young scientific and technological talents who have made important contributions, and implementing flexible distribution of annual salary system and project salary for high-level talents. The autonomy of enterprises in talent evaluation still needs to be further expanded. By decentralizing the autonomy of enterprise talent evaluation and carrying

out "determining talents according to salary" in Anhui, salary is regarded as an important basis for talent level identification, but the overall mechanism still needs to be improved.

3.1.4. Capital investment and market need to be optimized

Support the construction of innovation alliances through financial guidance funds and investment funds, but the participation of social capital still needs to be improved. For example, Anhui Province proposed to focus on "patient capital" that invests in early, small, and hard technologies, and build comprehensive financial services of "investment, loan and rent supplement" to support the growth of scientific and technological innovation enterprises. On the other hand, some enterprises, especially small and medium-sized enterprises, are still facing financial pressure in R&D investment, especially enterprises lacking fixed assets are facing difficulties from time to time.

In addition, when Anhui Province promoted the construction of the Innovation Alliance, it emphasized the importance of a diversified capital investment mechanism, but there are still problems in the efficiency of capital allocation and use in actual operation. For example, Wuhu City has effectively alleviated the pressure on enterprise R&D funds through enterprise R&D investment subsidies and "Science and Technology Innovation Voucher" subsidies, but this promotion and implementation across the province still needs to be further strengthened. Anhui Province also faces some challenges in optimizing the market of Chuangxinlian. First of all, there are still certain thresholds in terms of market access and approval, especially for small, medium and micro technology-based enterprises, which limits the market vitality of Innovation Alliance to a certain extent. Secondly, the marketing and application scenario expansion of Innovation Alliance still need to be strengthened. For example, Anhui Province proposed to promote the application demonstration of new technologies, new products, and new scenarios, but it still faces difficulties in market verification and promotion in the actual implementation process. In the process of promoting the integration of "government, industry, university, research, funding and service" in Anhui Province, although a multi-relay financial service system has been established, in actual operation, how to better play the decisive role of the market in resource allocation, and how to better play The guiding role is still a problem that needs to be solved. For example, Anhui Province takes the needs of enterprises as the starting point of technological innovation through the mechanism of "revealing the list and taking command", but it still needs to be further improved in the links of demand transformation and market application.

3.2. Tax Policy Challenges and Problems Faced by Anhui Innovation Union

In the process of promoting the Innovation Alliance in Anhui Province, although the supportive role of tax policies has emerged, it still faces some specific difficulties and challenges. There are obvious differences in the tax preferential policies of different regions in Anhui Province, resulting in imbalances in the level of scientific and technological innovation and the economy between regions. For example, high-tech industrial zones in southern Anhui and the Wanjiang Economic Belt (such as Hewu Beng Independent Innovation Demonstration Zone) enjoy more tax incentives, while northern Anhui and other regions enjoy relatively few. This difference not only affects inter-regional coordination, but also restricts the overall advancement of industry-university-research integration in the province. Moreover, preferential tax policies are mainly concentrated in a few high-tech industries, such as automotive electronics, integrated circuits, and robot manufacturing, while other emerging industries and industries benefit less. In addition, the recognition threshold for high-tech enterprises is relatively high and the tax preferential policies are narrow, making it difficult for many innovative enterprises to meet the requirements and unable to enjoy tax preferential treatment. For example, the total number of high-tech enterprises recognized by Anhui Province in 2019 was 6,636, but only about 25% of the enterprises actually enjoyed preferential tax policies. The division of R&D expenses and

production and operating expenses is complex, and it is difficult for enterprises and tax authorities to accurately define them in practice. As a result, some enterprises are unable to enjoy the super deduction policy for R&D expenses and the "three exemptions and three half reductions" policy. For high-tech enterprises with long R&D cycles, In technology industries (such as integrated circuits, computer software manufacturing, etc.), the policy period is short and it is difficult to cover the entire process of enterprise R&D and industrialization.

In the integration of industry, education and research, scientific and technological talents are the key, but the preferential personal income tax policy in Anhui Province has limited incentive effect on scientific researchers. At present, the preferential income tax rate for personal scientific research income is relatively low, and the beneficiaries are mainly concentrated in universities and scientific research institutes, while enterprise scientific research personnel benefit less. In addition, the implementation of the pre-tax deduction policy for employee education funds is not effective. For example, in 2019, the pre-tax deduction ratio of employee education funds for high-tech manufacturing enterprises in a certain district of Hefei City was less than 1%, making it difficult for enterprises to meet their needs for talent training. Although Anhui Province has a series of tax policies to support the integration of industry, education and research, there are still deficiencies in policy publicity and implementation. Some enterprises have low awareness of preferential tax policies and cannot enjoy policy dividends in a timely manner. In addition, in the process of policy implementation, the tax department also faces the problem of "finding people for policies", which makes it impossible for some enterprises to reach policies in a timely manner.

4. Countermeasures and Suggestions of Anhui Innovation Federation

Anhui Province has made remarkable progress in promoting innovation alliances and promoting the integration of industry, education and research, but it still faces problems that the policy support system and operating mechanism need to be improved, and obstacles to the integration of industry, education and research and the transformation of scientific and technological achievements still exist. These problems restrict the efficient operation of the Innovation Federation and the development of new quality productivity. First of all, optimizing policy synergy is the key to improving the policy support system of the Innovation Alliance. Anhui Province should further strengthen the synergy between policies to ensure that various policies can form a joint force and jointly promote innovation. For example, through the establishment of an integrated and interactive mechanism of "government, industry, university, research, funding and service", the deep integration of innovation chain, industrial chain, capital chain, and talent chain will be promoted to form a high-level modern industrial system. At the same time, improve the science and technology financial policy, give full play to the role of guiding funds, attract social capital to support the major innovation projects of the Innovation Federation, and provide a solid financial guarantee for the operation of the Innovation Federation. Improving the benefit distribution mechanism is an important guarantee for the efficient operation of the Innovation Alliance. The Innovation Federation should clarify the benefit distribution and risk control mechanism among members, and improve the ownership of intellectual property rights and income distribution methods. For example, establish an intellectual property sharing mechanism, explore patent pools, and implement patent cross-licensing and unified foreign licensing. Through the contract, the rights and responsibilities of all parties are clarified, and the legal protection of intellectual property rights and the reasonable distribution of innovation achievements are ensured, so as to protect the legitimate rights and interests of all members and stimulate the enthusiasm of members of the Innovation Federation.

Secondly, strengthening support for small and medium-sized enterprises is an important measure to enhance the vitality of the Innovation Alliance. Increase support for small, medium and micro enterprises, and encourage them to actively participate in the Innovation Federation by setting up special funds and providing tax incentives. For example, explore the innovation of leading enterprises to empower small and medium-sized enterprises without pledge, guide financial institutions to support project research and innovation of small and medium-sized enterprises through low-interest loans and other forms, and enhance the innovation capabilities and market competitiveness of small and medium-sized enterprises. Promoting cross-regional cooperation is an important way to enhance the collaborative innovation capabilities of the Innovation Alliance. Strengthen policy coordination and resource sharing in the Yangtze River Delta region, and promote the construction of a cross-regional innovation alliance. For example, build a cross-regional innovation resource integration and allocation mechanism, promote the cooperation and implementation of cross-regional innovation projects, and improve resource utilization efficiency. At the same time, improve the cross-regional innovative talent cultivation and sharing mechanism, promote the rational flow of innovative talents, and provide talent support for the Innovation Federation. Strengthening talent protection is an important basis for stimulating the vitality of the Innovation Alliance. Do a good job in the top-level design of talents, accelerate the introduction of high-end scientific and technological talents, and improve the training and introduction policies for technology transfer talents. At the same time, establish and improve a knowledge value-oriented distribution mechanism for the rights and interests of scientific and technological achievements, and promote the reform of the empowerment of scientific and technological achievements. In addition, the Innovation Federation should provide corresponding incentives, such as reasonable salaries and benefits, training and promotion opportunities, to protect the rights and interests of talents and stimulate the efficient implementation of talents' enthusiasm for innovation.

In addition, promoting the deep integration of industry, education and research is the key to improving the transformation efficiency of scientific and technological achievements. Promote universities, scientific research institutes and enterprises to jointly build subject laboratories or technology centers, and guide university researchers to carry out stable research on enterprise technical problems. At the same time, establish a task list for basic research to be forced by applied research, and promote the integration of basic research and applied research. In addition, improve the intermediary service system and platform mechanism for the transformation of scientific and technological achievements across regions, build a unified trading center for scientific and technological achievements, and promote the rapid transformation and application of scientific and technological achievements.

Finally, strengthening policy publicity and implementation is an important link to ensure the full release of policy dividends. Use big data and other means to accurately identify and push preferential tax policies, identify thresholds for high-tech enterprises, expand the scope of beneficiary enterprises, and support industrial transformation and upgrading; Increase the preferential range of personal income tax for scientific research personnel, expand the pre-tax deduction ratio of employee education funds, encourage enterprises to increase investment in talent training, and ensure that enterprises enjoy what they deserve. Taxation departments and relevant departments should increase the publicity of preferential tax policies, and improve enterprises' awareness and understanding of policies by holding policy interpretation meetings, online training courses and other forms to ensure that enterprises can fully enjoy policy dividends; Establish a cross-regional tax policy coordination mechanism, strengthen policy communication and collaboration between different regions, solve the tax policy differences encountered by the Innovation Federation in cross-regional cooperation, and create fairer and more convenient policies for the Innovation Federation; According to the new trend and new

characteristics of new quality productivity, timely and improve the preferential tax policy system. For example, for some emerging technology fields and future industries, study more targeted preferential tax policies, and guide the Innovation Federation to increase investment and layout in these fields. At the same time, the policy declaration process is further simplified, enterprises enjoy the threshold of the policy, and the implementation effect of the policy is improved. In addition, establish a support system for the transformation of scientific and technological achievements across regions, improve mechanisms such as evaluation of scientific and technological achievements, personnel evaluation, and income distribution, stimulate the enthusiasm of scientific and technological personnel from the source, and promote the transformation of scientific and technological achievements; Establish and improve the supervision mechanism for the implementation of preferential tax policies, strengthen the follow-up and inquiry of policy implementation, timely discover and solve problems in the process of policy implementation, and ensure that various preferential policies can truly take root and play their due role.

5. Summary

The new quality of productivity is a systematic project, which requires the joint efforts of all parties, enterprises, universities and scientific research institutes. Anhui Province's practical exploration in the construction of innovation federation and new quality productivity provides a useful reference for other regions. However, in the face of intensified global economic competition and the rapid advancement of the technological revolution, we still need to face up to existing problems, continuously optimize policies, improve the innovation ecology, and enhance the operating efficiency and innovation capabilities of the Innovation Alliance. Seize the opportunity in the new round of scientific and technological revolution and industrial transformation, achieve economic growth, and win a greater voice for my country in the global economic structure. With the continuous enrichment and improvement of the new quality productivity theory, the practical exploration of the Innovation Federation will be more in-depth. We expect that with the joint efforts of all parties, new quality productivity can inject stronger impetus into my country's economy and promote my country to a higher level in global technological innovation and industrial upgrading.

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