

The Exploration Path of the Insurance Model for "Specialized, Refined, Peculiar, and Innovative" Enterprises

Chen He, Yanshan Jin

Faculty of Finance, Jiangxi University of Finance and Economics, China

Abstract: Under the guidance of the strategy of strengthening the country through science and technology, the country has increased its support for "specialized, refined, peculiar, and innovative" enterprises and promoted them to become an important force in enhancing the country's innovation capabilities. The insurance industry has responded to the national strategy and explored suitable insurance innovation models around the risk protection needs of "specialized, refined, peculiar, and innovative" enterprises. The "traditional insurance + policy insurance + innovative insurance" model has initially taken shape and played a certain role in risk protection. However, has this model fully exerted its expected effects in actual operation? What challenges and obstacles does it face? How should it be optimized and improved in the future? This article focuses on the exploration process of this insurance model, reviews the background and practical process of development policies, and analyzes the key links in actual operation to provide reference for its continuous optimization and innovative development.

Keywords: Great power in science and technology; insurance models tailored for "specialized, refined, distinctive, and innovative" enterprises; trilemma.

1. Introduction

Since 2019, the selection of national - level "little giant" enterprises specializing in sophisticated, distinctive, and innovative products has officially kicked off. From the proposal of the concept of "specialized, refined, distinctive, and innovative" to the acceleration of cultivating such enterprises, "specialized, refined, distinctive, and innovative" enterprises in China have gone through a journey of more than a decade[1]. Eventually, these enterprises have come to the fore. More than 200 enterprises in the first batch successfully entered the list by virtue of their remarkable advantages in specialization, refinement, distinctiveness, and innovation. Shouldering the glorious mission of "specialization, refinement, distinctiveness, and innovation", they have been continuously contributing to the strategy of building a strong scientific and technological country. During the same period, a series of supporting policies were introduced one after another. "Specialized, refined, distinctive, and innovative" enterprises became the focus of society, frequently appeared in policy documents, triggered discussions from all walks of life, and industry leaders have seized opportunities to explore the development paths of these enterprises. Facing the unique risk protection needs of "specialized, refined, distinctive, and innovative" enterprises, the insurance industry, as a pillar of the financial sector, has actively responded to policies, exerted its functions of risk management and economic compensation, and innovated insurance products and service models. Through the efforts and exploration of major insurance companies, an insurance service model for "specialized, refined, distinctive, and innovative" enterprises has initially taken shape. However, it is still in its infancy and needs to be improved. It is too early to assert its success at present. Whether the insurance model for "specialized, refined, distinctive, and innovative" enterprises can leverage policy advantages, address market pain points, continuously optimize and upgrade for

sustainable development in the future remains to be explored and studied.

2. The Promising Situation of Insurance Development

2.1. Setting Sail with the Tailwind of Policies

Since the 21st century, the favorable policies have been continuously blowing towards the high - tech fields, helping numerous technology enterprises forge ahead. In 2006, the Central Committee of the Communist Party of China and the State Council issued the Outline of the National Innovation - Driven Development Strategy, clarifying the goal of building a world - class scientific and technological power by the middle of this century. Since then, enhancing "scientific and technological hard power" has become the key to China's development. To implement the strategy of building a strong scientific and technological country, China has attached importance to the development of "specialized, refined, characteristic, and innovative" enterprises since 2011. In recent years, policies supporting the development of such enterprises have come in abundance. In 2021, 19 departments including the Ministry of Industry and Information Technology jointly issued the 14th Five - Year Plan for the Development of Small and Medium - sized Enterprises. It is planned to cultivate 100,000 "specialized, refined, characteristic, and innovative" enterprises and 10,000 "little giant" enterprises specializing in sophisticated, distinctive, and innovative products before 2025. Moreover, from 2021 to 2025, the central government will allocate more than 10 billion yuan in reward and subsidy funds to guide local governments to improve support policies and public service systems, with a focus on supporting the high - quality development of more than 1,000 national - level "little giant" enterprises specializing in sophisticated, distinctive, and innovative products.

Fig. 1 shows since 2019, the Ministry of Industry and

Information Technology has launched the cultivation work for the first batch of "little giant" enterprises specializing in sophisticated, distinctive, and innovative products [2]. Local governments have been actively cultivating provincial - level "specialized, refined, distinctive, and innovative" small and medium - sized enterprises. The development gained momentum in 2020, with over 1,500 "little giant" enterprises

specializing in sophisticated, distinctive, and innovative products selected, showing a growth rate as high as 600%. The emerging "specialized, refined, distinctive, and innovative" enterprises are playing an increasingly important role in the strategy of building a strong scientific and technological country.

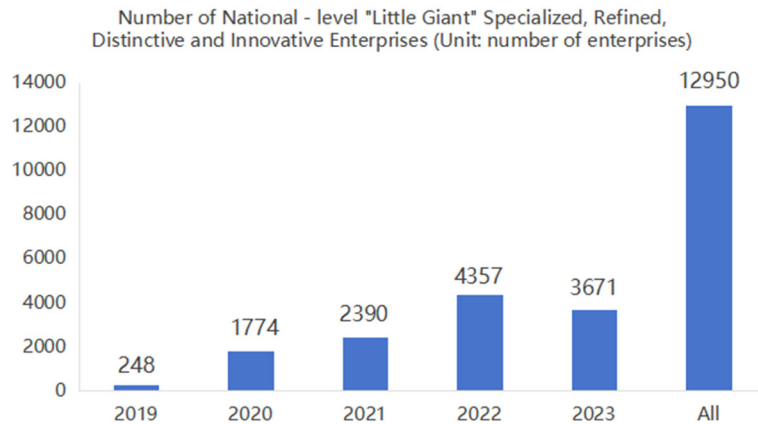


Figure 1. The Number of National "Little Giant" Specialized, Refined, Distinctive and Innovative Enterprises Nationwide from 2019 to 2023

2.2. Drawbacks of Traditional Insurance Products

After decades of development, traditional insurance products such as enterprise property insurance, employer's liability insurance, and group accident insurance [3] have become highly mature in the insurance market and are generally applicable to various types of enterprises. "Specialized, refined, characteristic, and innovative" enterprises share many common risks with ordinary enterprises. Insuring these traditional products can effectively mitigate these risks, and the application process is simple with high claim - settlement efficiency. As a result, "specialized, refined, characteristic, and innovative" enterprises show a

relatively high enthusiasm for purchasing these traditional insurance products.

Take Jiangxi Province as an example, the table 1 shows . By 2023, there were a total of 4,071 national - level "little giant" specialized, refined, characteristic, and innovative enterprises and provincial - level "specialized, refined, characteristic, and innovative" small and medium - sized enterprises in the province. Insurance companies provided coverage for nearly 2,000 enterprises (with some provincial - level enterprises not included in the statistics), and the coverage rate of traditional insurance products exceeded 47.90%. As of August 2024, the renewal rate was approximately 70%.

Table 1. Insurance Underwriting Situation of "Specialized, Refined, Distinctive and Innovative" Enterprises in Jiangxi Province

Number of "Specialized, Refined, Distinctive and Innovative" Enterprises in Jiangxi Province	4,071
Underwriting Coverage Rate	47.90%
Renewal Rate	Approximately 70%
Number of "Specialized, Refined, Distinctive and Innovative" Enterprises in Jiangxi Province	4,071

However, compared with traditional enterprises, "specialized, refined, distinctive, and innovative" enterprises face various unique risks during their three development stages, and some of these risks persist throughout, which cannot be covered by traditional insurance types. During the early - stage scientific research and development, "specialized, refined, distinctive, and innovative" enterprises rely on specialized R & D equipment and talents. However, during the R & D process, the equipment is prone to damage, difficult to maintain, and costly to repair. Small and medium - sized "specialized, refined, distinctive, and innovative" enterprises

in third - and fourth - tier cities often face difficulties in recruiting talents [4] and high staff turnover rates. The lack of protection for key equipment and the high likelihood of losing key talents [5] have become the main risks. During the mid - stage of achievement transformation, enterprises need to continuously invest capital in trial - and - error and technological optimization. The cost of maintaining scientific and technological innovation achievements is high, and financing difficulties have become the biggest obstacle [6][7]. Moreover, "specialized, refined, distinctive, and innovative" enterprises are mostly knowledge - intensive and light - asset

enterprises [8]. During the late - stage of market operation, problems are likely to occur after the first - batch of product equipment is launched into the market, endangering the personal and property safety of users and putting enterprises in a compensation dilemma. Evidently, although traditional insurance types have a relatively large influence among "specialized, refined, distinctive, and innovative" enterprises, traditional insurance (taking property insurance as an example) has seen little innovation, with aging product varieties, single - item offerings, and a common phenomenon of product similarity among property insurance companies [9]. There is a significant gap between the actual needs of "specialized, refined, distinctive, and innovative" enterprises and what traditional insurance can offer. The insurance industry urgently needs to introduce policy - based and innovative insurance products that suit the characteristics of these enterprises to cover their unique risks at different development stages.

3. Multiple Dilemmas in Actual Operation

Facing the unique operational risks and increasing demand for insurance from "specialized, refined, distinctive, and innovative" enterprises, insurance companies have been continuously exploring suitable insurance models. Currently, the insurance industry has basically formed a "traditional + policy - based" protection service pattern, and is evolving towards a "traditional + policy - based + innovative" model.

However, the exploration of the insurance model for "specialized, refined, distinctive, and innovative" enterprises is not without hitches. The underwriting of traditional insurance types lacks pertinence, and policy - based and innovative insurance also face problems such as difficult product pricing, incomplete risk coverage, and low enthusiasm of enterprises for purchasing insurance. As a result, the development of the insurance model for "specialized, refined, distinctive, and innovative" enterprises has run into difficulties.

3.1. Difficulties in Product Pricing for Insurance Companies

The insurance for "specialized, refined, distinctive, and innovative" enterprises is still in the initial stage of development. Insurance companies face difficulties in pricing insurance products due to the lack of underwriting data for reference. The relevant strategic planning in China started in 2011, and the selection of national - level "specialized, refined, distinctive, and innovative" enterprises only began in 2019. On July 30, 2021, the Political Bureau of the Central Committee first put forward the concept of "specialized, refined, distinctive, and innovative" [10]. Even if some enterprises purchased insurance independently before, insurance companies did not regard them as an exclusive group or launch exclusive products. Therefore, there is a lack of historical claim - settlement data and pricing references, making it difficult to price accurately. At the same time, "specialized, refined, distinctive, and innovative" enterprises cover a wide range of industries. The risks of different industries vary significantly at different development stages, and it is highly difficult to identify these risks. The technologies and data of enterprise technological innovation have industry - specific barriers and confidentiality requirements. The existing technologies of insurance

companies cannot cover all industries, so they can only price based on historical experience. This is likely to lead to over - pricing, which will dampen the enthusiasm of enterprises to purchase insurance, and in turn, result in a shortage of underwriting data. Currently, the insurance industry has insufficient reserves of professional capabilities for innovative insurance. There is a shortage of actuarial professionals who can reasonably price the innovative insurance products for "specialized, refined, distinctive, and innovative" enterprises. The pricing of new - type insurance products is mostly dominated by the head office, and provincial branches lack the pricing ability to adjust according to local market conditions. In addition, insurance companies have weaknesses in aspects such as risk identification in new fields, business expertise, and claim liability determination and loss assessment. They are cautious in conducting business. Even if there is strong market demand, insurance companies dare not underwrite rashly for fear that excessive claim payments will affect their underwriting capacity.

3.2. Low Willingness of Enterprises to Purchase Insurance

At present, the scope of underwriting risks for the insurance of "specialized, refined, distinctive, and innovative" enterprises is limited, the degree of risk protection is low, and enterprises themselves have weak awareness of risk protection [11], resulting in low enthusiasm among enterprises to purchase insurance. Take Jiangxi Province as an example. Most insurance companies are still exploring innovative insurance products and can only underwrite some of the unique professional risks of enterprises in a small scope, facing the problem of "dare not underwrite". During the early - stage research and development and mid - stage achievement transformation, enterprises have large R & D investments, long cycles, and uncertain results. Once they fail, all the previous investments will be in vain. Due to the lack of relevant data and experience, in order to maintain stable operations, insurance companies only assume part of the risks, causing enterprises to have to retain a large amount of risks on their own, thus reducing their willingness to purchase insurance. The complex insurance - application and review processes of policy - based and innovative insurance products are also important factors contributing to the low enthusiasm of enterprises to purchase insurance. Take the policy - based insurance for the first (set) of major technical equipment as an example. Before 2024, the "purchase - first, then - submit - for - review, and finally - get - subsidy" model was adopted. After enterprises purchase insurance and submit application materials, departments such as the Bureau of Industry and Information Technology have a long review cycle, and the requirements for the equipment catalog are strict. Slight differences in equipment names, serial numbers, etc., from the catalog may lead to failure in the review, causing enterprises to be unable to obtain subsidies and having to bear the insurance premiums themselves. If the catalog is announced late, enterprises may also fall into a dilemma where they cannot cancel the insurance policy after the contract expires and cannot claim reimbursement for the insurance premiums. In addition, due to the high industry barriers and large risks of "specialized, refined, distinctive, and innovative" enterprises, insurance companies need to evaluate various aspects of enterprises, such as their technological innovation capabilities and business operations, before underwriting. The insurance

- application process is more cumbersome than that of ordinary enterprises.

3.3. Constraints among the Three Parties Hampering Joint Progress

Although the insurance for "specialized, refined, distinctive, and innovative" enterprises meets the needs of enterprises, is supported by the government, and is promoted by insurance companies, there are differences and conflicts in the interest demands of the government, enterprises, and insurance companies, which restricts the development of the insurance model and forms an "impossible trinity".

The government hopes to accelerate the popularization of insurance for "specialized, refined, distinctive, and innovative" enterprises, build a protection network, increase the quantity and quality of enterprises, and achieve the goal of cultivating innovative small and medium - sized enterprises, "specialized, refined, distinctive, and innovative" small and medium - sized enterprises, and "little giant" enterprises. It aims to reduce the insurance - purchasing costs of enterprises through financial subsidies and increase the coverage rate.

"Specialized, refined, distinctive, and innovative" enterprises, due to their characteristics of "high - technology, high - risk, and light - asset" [3], face financing bottlenecks and high risks. They have difficulties in financing and are short of funds in the early stage, so they hope to obtain high - risk protection at a low cost to ensure stable operations.

Insurance companies aim for profit. They need to respond to the government's call, complete policy - related tasks, and at the same time, seek profit - making opportunities to achieve their own sustainable development.

The conflicts of interests among the three parties are obvious. Without increasing the financial burden, to meet the interests of the government and enterprises and ensure the profitability of insurance companies, it may be necessary to increase the premium rate or limit the scope of coverage, which is contrary to the expectations of enterprises. If the government provides fewer subsidies, taking into account the interests of both the government and enterprises and requiring insurance companies to provide high - protection and low - price products, insurance companies will face financial pressure. If the interests of both enterprises and insurance companies are to be guaranteed, meeting the enterprises' demands for high - protection and low - premium while ensuring that insurance companies do not suffer losses, the government needs to bear the risk losses, which does not meet the government's demands. Therefore, balancing the interests of the three parties is the key to promoting the healthy development of insurance for "specialized, refined, distinctive, and innovative" enterprises.

4. Breaking the Deadlock and Rebirth on the Future Path

4.1. Collaborating with Professional Institutions for Precise Pricing and Loss Assessment

Insurance companies can collaborate with local universities, third - party testing platforms, and other professional institutions to conduct risk assessments, achieving precise pricing and loss assessment. This effectively resolves issues such as difficulties in premium pricing and unclear definition of claim loss expenses.

Regarding the pricing issue, by leveraging the advanced data analysis techniques and professional capabilities of third - party institutions, detailed risk assessment plans and pricing strategies can be formulated. Third - party institutions integrate and analyze vast amounts of industry data, such as historical claim data, industry risk factors, and customer behavior patterns. They use technologies like machine learning and artificial intelligence to build precise risk assessment models, helping insurance companies identify and quantify potential risks and overcome the challenges of high industry barriers and difficult risk assessment. Additionally, insurance companies can cooperate with local science parks to create an insurance - technology industry ecological base. Insurance companies and insurance - technology industrial parks jointly price products, reducing the pricing difficulty and cost for different "specialized, refined, distinctive, and innovative" enterprises.

4.2. Optimizing the Insurance Application Process and Sharing Risks through Reinsurance

Currently, the insurance - application review process is cumbersome and information is not transparent, which reduces enterprises' trust in innovative insurance products and dampens their enthusiasm for purchasing insurance. To address these issues: Insurance companies can leverage technologies such as big data and artificial intelligence to automatically collect and intelligently verify insurance - application information, streamline the review links, and speed up the processing speed. At the same time, they should strengthen cooperation with government departments, break down data barriers, share policy information in real - time, and accurately interpret it to ensure a smooth process. In addition, relying on the empowerment of digital technologies can improve the quality and capabilities of the operation and management of small and medium - sized enterprises, and accelerate the cultivation process of "specialized, refined, distinctive, and innovative" enterprises [12]. The application of these technologies can not only reduce human errors, accurately grasp market demands, and help develop insurance products that better meet the needs of enterprises, but also set up a special department to interface with government business declaration subsidies, arrange personnel to participate in government training, improve business levels. With the power of technology, a win - win situation for both enterprises and the insurance market is expected to be achieved.

To attract more enterprises to purchase insurance, the reinsurance model can be introduced. Insurance companies cooperate with reinsurance companies to build an "enterprise + direct insurance + reinsurance" operation model [13]. By giving full play to the platform and big - data advantages of reinsurance companies, risk - sharing and complementary advantages can be realized, expanding the underwriting scope and the depth of risk protection for the insurance of "specialized, refined, distinctive, and innovative" enterprises. In addition, reinsurance companies can solve the problem of insurance companies being "reluctant to underwrite" due to unfamiliarity with emerging fields through "providing pricing data + expanding underwriting capacity", provide support in aspects such as risk pricing and underwriting capacity, and assist in business development.

5. Conclusion

General Secretary Xi Jinping once pointed out: "The world today is undergoing profound changes unseen in a century, and scientific and technological innovation is one of the key variables." With the in - depth advancement of the strategy of building a strong scientific and technological country, "specialized, refined, distinctive, and innovative" enterprises have seized development opportunities. A series of supportive policies have been introduced one after another, enabling them to stand out in China's economic development and scientific and technological innovation, showing a vigorous development trend, presenting a prosperous scene of "spring scenery can't be contained within the garden".

However, "specialized, refined, distinctive, and innovative" enterprises have the characteristics of "high - technology, high - risk, and light - asset", face special risks, and have an urgent need for insurance. The insurance industry has gradually constructed an insurance model of "traditional insurance + policy - based insurance + innovative insurance", which has achieved initial results. Nevertheless, this model faces numerous challenges in actual operation and its development has fallen into a predicament. Through in - depth analysis, it is found that due to the conflict of interests among the government, insurance companies, and "specialized, refined, distinctive, and innovative" enterprises, the development of the insurance model for "specialized, refined, distinctive, and innovative" enterprises is severely constrained. "The one who ties the bell should be the one to untie it." To enable "specialized, refined, distinctive, and innovative" enterprises to break through their cocoons and be reborn, the government, insurance companies, and enterprises need to work in harmony and adopt targeted measures. Looking to the future, it is hoped that with the joint efforts of the three parties, the insurance model for "specialized, refined, distinctive, and innovative" enterprises can break free from the limitations of short - term prosperity, achieve sustainable development, and use the power of insurance to help "specialized, refined, distinctive, and innovative" enterprises move forward steadily and far.

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