

# Strategy and Function of Snow and Ice Movement on Economic Revitalization in Northeast China

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**Abstract.** This paper explores the strategic role of snow and ice sports in driving the economic revitalization of Northeast China. Leveraging the momentum from the 2022 Beijing Winter Olympics, the region's vast ice and snow resources offer new avenues for economic growth. Through a combination of literature review and case studies, the research demonstrates how snow and ice sports can advance the regional economy, stimulate rural revitalization, and refine industrial structures, thereby serving as a foundation for policy development. The study highlights that fully utilizing these natural resources and enhancing infrastructure are crucial for fostering the growth of the snow and ice industry. Additionally, it emphasizes the importance of integrating snow sports with regional economic plans, offering theoretical guidance for the development and enactment of policies. This research underscores the essential role of snow and ice sports in promoting sustainable economic progress in Northeast China and contributes valuable insights for future policy planning.

**Keywords:** Ice and Snow Sports; Sports Industry; Northeast China; Economic Revitalization; Development Strategy.

## 1. Introduction

Following the success of the 2022 Beijing Winter Olympics, China's winter sports and related industries have entered a prosperous phase, presenting significant opportunities for the economic revitalization of Northeast China. The winter sports economy has become a vital segment of the broader sports economy. Despite the region's rich ice and snow resources, its economic development lags behind that of other areas. Actively promoting winter sports can effectively stimulate the economic revitalization of Northeast China and align with the national strategy for its rejuvenation.

This paper examines the current role of winter sports in fostering local economic development in Northeast China, exploring revitalization strategies and their impact on economic growth in the region. It analyzes the positive effects and potential benefits that winter sports can bring to the economy.

Moreover, the study highlights the critical importance of winter sports in bolstering the economic landscape of Northeast China, offering fresh ideas and strategies for regional economic revitalization. It underscores the need for research focused on leveraging the area's ice and snow resources to drive economic advancement.

## 2. Literature Review

In recent years, the rapid advancement of winter sports across China, particularly following the successful hosting of the Beijing Winter Olympics, has significantly contributed to the superior economic growth in the northeastern region of the country. This paper reviews relevant literature and explores how winter sports activities can facilitate economic growth, rural revitalization, the ongoing impact of the Winter Olympics, and insights from international regional integration pertinent to the growth of the winter sports sector in Northeast China within the new developmental framework.

Firstly, within the context of the new developmental model, the influence of winter sports activities on the enhanced quality of economic growth is multifaceted. Liu Weiye examined methods for improving the high-quality development of the winter sports sector in Northeast China in Sports

Fashion [1]. Key factors affecting quality economic growth include the implementation of industrial policies and the provision of financial support. Yang Ling and Han Chaoyang highlighted the significant role of environmental and social elements in refining the spatial organization of the winter sports sector and in promoting high-quality economic advancement in the northeastern region [2]. Through effective management of natural resources and enhancement of social infrastructure, the winter sports sector can stimulate the growth of associated industrial chains and boost regional economic competitiveness.

Secondly, winter sports activities also play a crucial role in advancing rural revitalization in the northeastern region. Yang Xiangjun, Guo Xiujin, Cao Dawei, and Chai Hua explored the internal dynamics, challenges, and pathways of leveraging winter sports activities to support rural revitalization in Sports Culture Guide [3]. The mechanisms through which winter sports can rejuvenate rural areas encompass industrial, ecological, cultural, and organizational revitalization. Lv Fang emphasized that organizational revitalization is the cornerstone of rural revitalization, essential for comprehensive progress and ensuring a collaborative governance framework for rural winter sports [4]. Promoting rural tourism and related service sectors through winter sports can foster diversification and ensure sustainable development of rural economies.

Thirdly, the ongoing influence of the Beijing Winter Olympics has a significant impact on revitalizing the winter sports sector in Northeast China. Wang Zhihui analyzed this ongoing impact in the Journal of Wuhan Institute of Physical Education, investigating its theoretical foundations and practical strategies for rejuvenating the winter sports sector in Northeast China [5]. This region possesses abundant winter resources, skilled professionals, and distinct geographical advantages. The expansion of tourism experiences and products related to winter sports has emerged as a critical pathway for economic growth in Northeast China following the Winter Olympics.

Finally, the lessons drawn from international regional integration regarding the growth of the winter sports sector in Northeast China merit attention. Wang Meihong examined the role of foreign regional integration in Snow Sports, focusing on its implications for the winter sports sector across the three northeastern provinces [6]. The findings indicate that a cohesive development approach for the winter sports sector in Northeast China can invigorate economic activities and provide fresh momentum for regional revitalization. Research by Xu Xiong, Wang Kangfeng, and Ya Xinxin suggests that the governments of these provinces should establish legal frameworks to support the sustainable advancement of the winter sports sector [7]. Li Yanrong's studies advocate for increased investment in this industry, the enhancement of related sectors, and the establishment of a complete industrial ecosystem to strengthen the overall competitiveness of winter sports activities.

### **3. The Present Situation, Potential and Challenges of Ice and Snow Sports Industry Conducive to Revitalizing Northeast China**

#### **3.1. Economic Dilemma in Northeast China**

Economic structural contradictions in Northeast China, the proportion of traditional industries remains high, and the proportion of emerging industries is too low. The total value of the ice and snow sports industry with broad market prospects and growth potential is small and low, and it lacks the overall driving role for economic growth. Northeast China is the city with the earliest industrialization and urbanization in China, and its infrastructure is relatively perfect. However, the regional investment attraction is weak and the investment environment is poor. It still takes one industrial industry as the development center, lacking market vitality and innovative development ability of emerging industries. The population in Northeast China is seriously aging, the population loss is serious, and the financial pressure in Northeast China is increasing, which makes its competitiveness decline, but the prospect is still broad and the future can be expected.

### **3.2. Resource Endowment and Regional Advantage**

Northeast China boasts distinctive climatic characteristics that set it apart on a national scale. As society progresses and the economy rebounds in the wake of the pandemic, there is an increasing desire among the populace for enriching experiences. This northeastern region, abundant in snow and ice resources, has witnessed a remarkable influx of visitors, symbolized by the phenomenon of "guests flocking to experience winter's wonders." Tourists are drawn not only by the region's exceptional winter resources but also by the "golden reputation" of its snow and ice culture, which seamlessly integrates local traditions, rural customs, and intangible heritage. Numerous winter sports events take place across Northeast China, fulfilling the demands of visitors while offering the unique opportunity to witness high-caliber competitions in person, allowing spectators to closely engage with athletes on the same stage during the winter season.

### **3.3. Industrial Development Status: Market Size and Growth Potential**

Thanks to the successful organization of the 2022 Winter Olympics in Beijing and the initiative of "300 million individuals engaging in winter sports," the economic development of the winter sports sector in China has experienced explosive growth. The visibility of winter sports has transitioned into the realm of public consumption, garnering unprecedented attention for those involved in the industry. Driven by supportive policies and events related to winter sports, the market scale of China's winter sports sector has been expanding rapidly in recent years, propelling the industry into a period of accelerated growth.

On November 2, 2016, the General Administration of Sports of China conducted a press briefing to officially unveil the Development Plan for Winter Sports (2016-2025). This plan emphasizes that advancing winter sports aligns with the diverse athletic and cultural aspirations of the population, fosters a profound integration of national fitness and health initiatives, and holds significant importance for establishing a healthier China, enhancing sports prowess, stimulating economic and social progress, and achieving the ambitious goal of national rejuvenation. Adherence to the principles of "widespread promotion, optimization and enhancement, market-driven, government-supported, contextual adaptation, strategic focus, coordinated interaction, and integrated development" is essential. This framework aims to maximize market potential, encourage public involvement, diversify product and service offerings, and continuously cater to the rising demand for winter sports among the populace. By 2025, the foundation of winter sports will be significantly strengthened, its popularity will see substantial growth, competitive capabilities will be enhanced, and the industry system will approach a level of completeness.

Currently, the primary revenue streams for domestic winter sports events include national financial allocations for competition funding, the hosting of ski resorts, registration fees for competitions, ticket sales, broadcasting rights, and commercial sponsorships. Despite the positive impact of the Winter Olympics, the winter sports competition sector in Northeast China has developed swiftly; however, the market remains relatively small.

## **4. The Challenges and Causes of the Development of Ice and Snow Sports Industry**

### **4.1. Analysis of the Northeast Regional Economic Funds under the New Situation**

The economic outlook for Northeast China remains challenging, with a declining growth rate and an overall pessimistic economic aggregate. In recent years, various colloquial expressions have emerged online, including "abandoned industrial rust belt" and "investment can't pass Shanhaiguan." Despite having rich industrial resources, the economic framework in Northeast China is still heavily reliant on traditional heavy industries. Most of these are state-owned enterprises that have become entrenched over the years, often characterized by an aging workforce and operational difficulties, which restrict broader economic progress. The heavy industrial enterprises hold a predominant role

in the regional economy, which limits the integration of new sectors and presents obstacles to the growth of the Northeast's ice and snow economy along with its associated industries.

In their study titled "Northeast Economic and Industrial Adjustment and Investment and Financing Trend Analysis under the New Situation," Zhang Shiqi and Ding Yahui noted that, despite these issues, there has been a gradual upward trend in economic levels in Northeast China, aided by the joint oversight and guidance of the general populace and various levels of local government[8]. Moreover, during a recent symposium involving key leaders from several provincial party committees, General Secretary of the Communist Party of China (CPC) Central Committee Xi Jinping emphasized that the Northeast region is encountering new difficulties and challenges. He highlighted significant contradictions in the industrial structure, systems, and mechanisms that exist in Northeast China, as well as substantial issues surrounding resource allocation and economic development. Consequently, the prevailing economic conditions have led to a predicament characterized by a shortage of capital and difficulties in securing financing within the region.

#### **4.2. Ice and Snow Economy in Northeast China's Market Expansion Bottleneck**

Despite the growing demand for winter sports and recreational activities across the country, and the domestic market still having significant potential for expansion, the winter sports economy in Northeast China faces several hurdles that hinder its full development. There remains a substantial gap between the domestic winter sports industry and international standards, particularly concerning the infrastructure required to support large-scale growth. The current supply of winter sports-related industries is relatively limited, and there is a notable lack of innovation, both in terms of product offerings and business models. Furthermore, industry regulations and supporting policies remain insufficient, making it difficult for the sector to scale effectively and meet growing consumer demands.

In his research titled "Recommendations for Promoting Tourism as a Leading Industry in Northeast China by Drawing on Winter Sports Economy Development Experience," Meng Jimin emphasizes that since January 2024, Harbin has led the way in transforming its natural "cold resources" into thriving "hot industries," particularly in the realm of ice and snow tourism[9]. This strategic shift aligns with General Secretary Xi Jinping's statement that "ice and snow are also gold and silver mountains," which underscores the potential of winter resources to drive significant economic value. Harbin's success demonstrates that by focusing on enhancing winter sports markets, other regions in Northeast China can similarly unlock new opportunities, not only by expanding niche markets but also by cultivating specialized brands and developing supporting industries. These advancements can lead to the transformation and upgrading of traditional sectors, ultimately overcoming the bottlenecks that currently restrict market growth.

In addition, the case of Harbin illustrates that innovation and strategic planning are key to the region's future development. By addressing deficiencies in infrastructure, diversifying product offerings, and ensuring that regulations are aligned with industry needs, the winter sports economy in Northeast China can achieve sustainable growth. This development model can serve as a blueprint for other regions in the northeast, helping them to capitalize on their natural ice and snow resources, foster local economies, and break through the limitations currently constraining their market expansion efforts.

#### **4.3. The Plight of the Lack of Ice and Snow-Related Talents and Skills in Northeast China**

Currently, the widespread adoption of ice and snow sports in China is limited, as these sports were introduced relatively late, leading to a shortage of talent reserves in this field. At the same time, the training methods in China are overly simplistic, and there is a lack of comprehensive policy support. The country relies heavily on external talent recruitment, resulting in a limited pool of professionals and a low level of specialization. However, as China continues to advance its winter sports sector, there is an increasing gap in skilled personnel. Zhao Peihong and Li Qingwen, in their study

"Research on the Training and Recruitment Path of Talent Shortage for Winter Olympics," point out that there are several issues in talent development, such as the need to improve the follow-up training mechanisms for cross-border and cross-disciplinary selection, the administrative nature of volunteer services, the inadequate talent recruitment system, and challenges in the integration of naturalized athletes[10].

#### **4.4. Problems Related to Ice and Snow in Northeast China**

Firstly, the new development model for ice and snow sports has actively contributed to boosting the economic progress of Northeast China. With government-backed policies and financial support, the winter sports sector has made significant strides in optimizing industrial structures, improving regional competitiveness, and promoting the circulation of winter sports-related economic activities both domestically and internationally. However, in practice, there is a need to further enhance policy implementation and supervision, along with systematic training of professional winter sports instructors, to ensure efficient utilization and integration of ice and snow resources with economic development. Additionally, industrial innovation, sustainable practices, and transformation efforts under this new model require continuous attention.

Secondly, winter sports hold substantial potential for stimulating the revitalization of rural communities in Northeast China. The expansion of rural tourism and associated service industries, fueled by winter sports, has not only diversified the rural economy and urban-rural development but also promoted ecological conservation and cultural enrichment related to winter sports. However, in practical terms, there are still key challenges, such as balancing economic progress with environmental preservation, addressing imperfections in the rural winter sports industry system, managing the risks associated with green development, and overcoming the obstacles to integrating urban and rural sports organizations. The absence of a strong cultural identity related to winter sports also remains an issue. The government and relevant authorities must strengthen their planning and regulatory efforts to ensure the healthy development of the winter sports sector.

Thirdly, the long-term impact of the Beijing Winter Olympics presents a significant opportunity for revitalizing the winter sports industry in Northeast China. By capitalizing on the influence and brand value of the Winter Olympics, the region can enhance the content and offerings of its ice and snow tourism sector, optimize industry supply, and establish governance models that position winter tourism as a vital economic tool. This approach can help unlock further winter tourism resources, improve service quality, and elevate the standards of tourism products. However, while the seeds of national winter sports culture have been planted by the Olympics, the challenge remains to cultivate this foundation and release its long-term consumption potential. Sustaining the brand effect of the Olympics and avoiding stagnation after the initial surge in industrial activity requires ongoing attention and strategic planning.

Finally, the experience of regional integration in foreign countries provides valuable insights for the winter sports industry in Northeast China. By studying the successful examples of regional economic integration in areas such as Europe, the New York metropolitan region, and Tokyo, Northeast China can seize the opportunity to accelerate its own integration process. Cooperation among the three northeastern provinces is crucial for advancing the unified development of the ice and snow sector, enhancing overall competitiveness, and energizing the local industry. However, cross-regional coordination is essential for this integration. Overcoming local interest conflicts and achieving shared resources and coordinated progress remain challenges that require deeper exploration and solutions.

In conclusion, winter sports play an essential role in fostering the high-level economic development of Northeast China. With policy support, financial investment, and resource integration, the winter sports industry has made important strides in boosting regional economic competitiveness, advancing rural revitalization, and achieving economic diversification. However, current research relies too much on outdated examples, and fresh perspectives are lacking. The continued growth of the winter sports sector will require enhanced policy enforcement, a balance between economic growth and

environmental protection, sustained brand impact, and the promotion of regional integration. In the future, by focusing on new case studies and practical exploration, the role and impact of the winter sports industry in advancing the economic development of Northeast China can be further enhanced.

## **5. Coping with the Coordinated Development of Ice and Snow Sports and Economic Revitalization**

The ice and snow sector is a burgeoning industry stemming from the successful hosting of the Winter Olympics in recent years. It is a distinctive sector that has emerged from the utilization of ice and snow resources. This sector can be specifically categorized into the ice and snow tourism sector, the ice and snow athletics sector, and the ice and snow culture sector. As the aftereffects of the Beijing Winter Olympics unfold, derivative industries associated with ice and snow activities, including equipment and marketing, are gradually coming into public awareness and receiving increasing recognition, showcasing considerable growth potential.

With the ongoing implementation of favorable national policies, China's ice and snow athletics sector is poised to enter a phase of rapid expansion. The Beijing Winter Olympics period has acted as a catalyst for the swift advancement of the ice and snow economy. Currently, with the sustained growth of the ice and snow athletics market, this sector is entering a golden era, revealing vast market potential. From September 15-17, 2023, the 2023 International Winter Sports (Beijing) Expo took place in Beijing, where the annual "China Ice and Snow Industry Development Research Report" was officially launched. The report forecasts that by the end of 2023, the output value of ice and snow athletics in China will reach 890 billion yuan, and the target of "1 trillion by 2025" is on the horizon. The rapid progress of the ice and snow sector will foster favorable conditions for enhancing the high-quality growth of the sports industry in China. The promotion of ice and snow activities and associated industries has become a critical component of the long-term sustainable development strategies of various nations and regions. The ongoing support of favorable policies will undoubtedly facilitate the enduring growth of the ice and snow economy and its associated sectors.

The ice and snow market and its associated industries are transitioning toward the leisure and holiday markets, with an increasing trend toward making ice and snow activities appeal to younger tourists. China has established five major ice and snow tourism hubs: Chongli Ski Area, Jilin Ski Area, Tonghua Ski Area in Changbai Mountain, Yabuli Ski Area in Harbin, and Altay Ski Area. As ice and snow sports gain traction, the competitive advantages of these regions will further strengthen, driving economic development in an upward direction.

The demographic profile of consumers engaging in ice and snow sports is becoming increasingly youthful. In the post-Winter Olympics context, younger consumers are set to provide long-term demographic advantages to the ice and snow market in China, influencing consumption patterns, content, and future trends in the ice and snow market. The General Administration of Sport's Work Plan for Revitalizing and Expanding Sports Consumption emphasizes "tapping into the consumption potential of ice and snow" and "enhancing sports training services for youth." For instance, Italy, the host of the next Winter Olympics, boasts over 400 ski schools and around 2,000 certified ski instructors, encouraging hundreds of thousands of young people to engage in winter sports. Many nations are actively promoting the development of young ice and snow talents. Gianpaolo Bruno, the chief representative of the Italian Foreign Trade Commission (ITA) in Beijing and general coordinator for China and Mongolia, stated, "The exchange in ice and snow sports between China and Italy has a long history. Youth education in ice and snow activities is also a crucial area for future collaboration between our two countries. I believe that students traveling to Italy will gain valuable experiences on the rich foundation of winter sports there." This will further solidify the groundwork for ice and snow development across the nation and particularly in the northeast region, steadily fostering the talent pool in training, competition organization, and educational initiatives while optimizing talent attraction policies to promote the growth of the ice and snow economy across diverse scales.

To enhance the financial support mechanisms for ice and snow activities, it is essential to encourage eligible enterprises in the ice and snow sector to actively pursue investment funding, while guiding more social capital into participation and investment. It is crucial to implement various coordination methods between government and market forces to attract more enterprises and community resources to engage in the development of ice and snow sports and related sectors. Encouraging private investment to establish projects for ice and snow development funds will be vital, alongside supporting community-driven events that promote ice and snow sports and culture. Additionally, it is necessary to enhance the standardization of literary contributions to ice and snow sports, advocate for ethical business practices, foster a positive business environment, cultivate unique brand identities, and boost the competitiveness of enterprises, thereby facilitating the healthy evolution of the ice and snow sector and its marketplace.

## 6. Conclusion

As the core and focal point for the growth of China's ice and snow industry, Northeast China is currently concentrating on advancing regional economic integration. This effort not only boosts the economic dynamism of the region but also supports the broader revitalization of its economy. To address the challenges faced by the ice and snow sports economy in rejuvenating the northeast and accelerate the region's economic revival, Northeast China must fully embrace integrated regional growth. It should pursue cohesive development by closely aligning with the nation's and government's favorable policies, focusing on optimizing and transforming its market and industry. By leveraging its distinct geographical strengths and abundant natural ice and snow resources, the region should develop a well-planned spatial layout system and strengthen infrastructure related to ice and snow activities. Additionally, it is essential to emphasize the innovation of industrial characteristics within relevant enterprises, foster a positive business and market climate, and use the ice and snow sports sector as a springboard to further propel economic development.

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