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# The Influence and Function of Industry-University-Research Cooperation (IURC) Mode on Financing of Private Colleges and Universities

**Ziyi Shang**

Surrey International Institute, Dongbei University of Finance & Economics, Dalian, Liaoning, China
zs00609@surrey.ac.uk

**Abstract:**

At present, the financing channels of private colleges and universities have attracted wide attention. Most of the studies are about the analysis of external channels such as social donations and financial means, and few analyze the financing channels of private colleges and universities from the perspective of organic unity and sustainable development of internal activities and financing. Moreover, in the field of industry-university-research, most scholars pay more attention to personnel training and other aspects, and few people look at the impact of the development path of industry-university-research on the financing of private universities from an economic perspective. This paper analyzes the influence of the development path of production, university, and research on the funding of private universities and points out the existing problems and development countermeasures. This paper analyzes and concludes that the development mode of production, university, and research has an important impact on the financing of private colleges and universities, such as expanding financing channels, improving economic income, and promoting sustainable development. Based on this, this paper puts forward the following suggestions: strengthen government policy guidance, promote the transformation of scientific research achievements, and build cooperation between industry, university, and research parks.

**Keywords:** Private university; university financing; industry-university-research cooperation

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# 1. Introduction

Since the implementation of China's reform and opening-up policy, private higher education has undergone rapid development, evolving from nascent stages to a significant scale and becoming an integral component of the country's higher education system. As of 2022, statistics indicate that there are 764 private colleges and universities, constituting 25.36% of the total higher education institutions in China. These institutions represent an important emerging force driving the high-quality development of education in the country. Private higher education institutions are characterized by their flexibility and high autonomy, which hold particular significance for innovating educational models. However, the current primary financing source for private colleges and universities in China remains tuition fees, highlighting a notable issue of limited financing diversity, which significantly hampers the development of private education in the country. Against the backdrop of the state's encouragement for social forces to establish educational institutions and promote diversified educational development, China's private colleges and universities have been presented with novel development opportunities. These institutions should harness their unique characteristics and advantages, innovate financing mechanisms, explore development pathways tailored to their features, and stimulate innovative vitality.

The model of the industry-university-research cooperation (IURC) provides a new way for the financing of private colleges and universities. On the one hand, through in-depth cooperation with enterprises, private colleges and universities can introduce corporate funds to ease the financial pressure. At the same time, with the help of the market experience and market information of enterprises, they can optimize professional Settings and improve the quality of personnel training, thus enhancing the core competitiveness of schools. On the other hand, through collaborative innovation with enterprises and research institutes, private colleges and universities can share research and development resources, promote the industrialization of scientific research results, and bring stable sources of income for schools.

However, the application of the IURC model in private university financing also faces many challenges. Balancing the interests of all parties, establishing an effective cooperation mechanism, ensuring safe and effective fund utilization, and promoting the continuous deepening of IURC are urgent issues that need addressing. Therefore, it is of great theoretical and practical significance to deeply study the impact of the integration mode of production, university, and research on the financing of private colleges and universities, and explore its application path and strategy in the financing of private colleges and universities.

This paper aims to systematically analyze the characteristics and advantages of the integration mode of production, university, and research, explore its influence mechanism on the financing of private colleges and universities, deeply analyze the current financing status and existing problems of China's private colleges and universities, and put forward targeted strategies and suggestions, to provide new ideas and enlightenment for private colleges and universities.

# 2. Financing Status and Characteristics of Private Colleges and Universities

## 2.1 The Current State of Private Higher Education Financing

Under the support and regulation of policies and laws, the financing channels of private higher education institutions are becoming increasingly diversified, but they still face certain financial pressure. Compared with public higher education institutions, Chinese private higher education institutions have a more limited financing channel and limited financial support from the government. Although the government encourages social forces to run education, governmental financial allocations often prioritize public higher education institutions, whereas private higher education institutions frequently confront challenges in securing adequate financial backing. Consequently, tuition fees continue to constitute the primary revenue stream for private higher education institutions in China, and tuition fees directly affect the survival and development of the school. However, with the continuous rise of educational costs, there is limited room for tuition fees to rise, and relying solely on tuition fees income is no longer sufficient to meet the needs of the school's development. Therefore, self-reliance and innovation in financing channels, breaking through financing and development bottlenecks, are a must for private higher education institutions.

## 2.2 Characteristics of Private Colleges' Financing

The operating entity of private colleges is not a state power institution, and they are mainly funded and established by private individuals or non-governmental organizations, which gives private colleges greater autonomy in running their schools than public colleges. They are more flexible and diverse in their management systems and operating models and can respond more quickly to market changes

and demands [1]. Unlike some countries in Europe and the United States, Chinese private colleges usually emphasize market orientation and are committed to cultivating applied professional talents who are in line with social needs. This market sensitivity makes private colleges more likely to establish deep links and cooperation with local markets and enterprises, and can more accurately align with enterprise needs in the cooperation between industry, academia, and research, thereby improving cooperation efficiency and success rate. In addition, the close connection between private colleges and local markets enables them to explore innovative development paths that are tailored to local industrial characteristics, enabling them to fully leverage local industrial advantages and characteristics, optimize resource allocation and efficient utilization, enhance the targeted and timely effectiveness of technological innovation, improve the efficiency of scientific and technological achievements transformation, reduce financing risks, and enhance economic efficiency.

## 3. The Impact of the IURC Model on the Financing of Private Universities

IURC refers to the docking of capital and technology so that academic and scientific research can be applied and translated into actual productivity and economic returns. IURC, that is, collaborative efforts among enterprises, research institutions, and universities, have emerged as a crucial pathway for fostering technological innovation, nurturing talent development, and facilitating economic transformation and upgrading. By integrating all kinds of resources, this model shortens the time of scientific research, reduces the cost of research and development, accelerates the transformation of results, directly transforms knowledge resources into productivity, and then promotes the comprehensive development of the social economy.

### 3.1 Expand Financing Channels, Improve Financing Capacity, and Attract Capital Inflows

IURC requires enterprises, universities, and research institutes to integrate superior resources, collaborate to carry out industrial technological innovation and promote the transformation of scientific and technological achievements. Through collaborative innovation, the research results of colleges and universities can be transformed into commercial value, produce certain economic and social benefits, and realize the basic function of serving society. Enterprises through the introduction of the industry's latest technology and new technology, overcome the technical innovation problems in production practice, enhance the ability of independent innovation, and enhance their underlying competitiveness. As an important bridge to promote scientific and technological innovation and industrial upgrading, the IURC model has a profound impact on university financing that cannot be ignored [2]. Through the establishment of a close cooperation platform between universities, industry, and research institutions, the cooperation mode not only accelerates the transformation process of scientific research results from the laboratory to the market but also greatly broadens the financing channels of universities and provides more abundant and stable financial support for scientific research activities of universities. In the context of deep integration of production, university, and research, colleges and universities can rely on their strong scientific research strength and intellectual resources to attract more enterprise investment and social capital injection, to effectively alleviate the problem of tight scientific research funds and to further enhance the seamless integration and harmonious progression of higher education with economic and societal development.

The integration of industry, university, and research has promoted the close cooperation between universities and external institutions such as enterprises, scientific research institutions, and government departments, making the funding sources of private colleges and universities not only the traditional tuition fees and government subsidies but also the research and development funds of enterprises, social donations, venture capital and other forms of capital injection. By co-building Research and Development (R&D) centers or laboratories and other IURC projects, colleges and universities work closely with enterprises and scientific research institutions to demonstrate their strong scientific research strength and technological innovation ability. The social influence and credibility of colleges and universities are enhanced, which makes colleges and universities more attractive when seeking external financing and helps attract more investors and partners. In the process of cooperation, universities enterprises and other external institutions have formed a close cooperative relationship through common goals and interest demands. This relationship not only helps the two sides share resources and complement each other's advantages but also promotes the improvement of trust and cooperation willingness between the two sides. With time, this interactive relationship will be further stabilized and developed, providing more stable and reliable support for university financing [3].

### 3.2 Improve the Conversion Rate of Scientific Research Achievements and Improve Economic Benefits

The integration of industry, university, and research is

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conducive to the transformation and commercialization of scientific research results in universities. The cooperation between universities and enterprises makes scientific research results more directly oriented to market demand and shortens the distance from the laboratory to the market. This efficient transformation mechanism not only enhances the social influence of colleges and universities but also brings considerable economic benefits to them. Using technology transfer, cooperative development, and patent licensing, scientific research achievements are transformed into actual productivity, which brings corresponding economic returns and benefits to colleges and universities, thus increasing the sources of financing for colleges and universities.

IURC can also promote universities, enterprises, and scientific research institutions to jointly establish joint-stock companies, R&D centers, and other entities. This cooperation mode not only provides stable financial support for universities but also promotes the in-depth development of technological innovation [4].

### 3.3 Promoting Sustainable Development

IURC facilitates universities in nurturing high-caliber individuals endowed with hands-on experience and innovative competencies, stimulates the innovation vitality and work enthusiasm of scientific researchers, and attracts more outstanding talents to join the scientific research team of universities. These talents are not only an important force for scientific research and innovation in universities but also valuable resources for the future development of universities.

IURC has facilitated the profound integration between universities and the industrial sector and promoted the optimization and adjustment of discipline construction and professional Settings. Colleges and universities can adjust the direction of disciplines and specialties according to market demand and technological development trends, strengthen cooperation with enterprises and scientific research institutions, and collaboratively cultivate high-standard talents to align with the demands of societal progress [5].

## 4. Existing Problems

IURC can undoubtedly bring a lot of economic benefits to private colleges and universities and has a far-reaching and positive impact on their financing activities. However, although the IURC model has great potential and value in theory, it is not mature and perfect at present to regard it as the main financing method of private universities. In the actual operation of this model, many problems need to be solved and optimized.

### 4.1 Lack of Cooperation Motivation between Universities and Enterprises

The two sides do not fully understand the potential economic benefits brought by industry, university, and research, and the willingness to cooperate is not strong. From the viewpoint of colleges and universities, they fail to pay sufficient attention to the capital market and do not recognize the significance of IURC for their sustainable development, especially for financing sustainable development. In addition, the existing assessment framework within colleges and universities often focuses on the output of academic achievements (such as papers, patents, etc.), and pays insufficient attention to the transformation and application of scientific research achievements, resulting in a lack of motivation for researchers to transform results [6]. From the perspective of enterprises, enterprises always pursue profit maximization as the goal, the main purpose of IURC is to foster the advancement of enterprises. But now some enterprises are reluctant to integrate with colleges and universities. This is primarily due to the following reasons: First, enterprises will first consider the costs and benefits in the process of cooperation, and have not yet felt the benefits brought by IURC. Secondly, the maturity of scientific and technological achievements from universities and research institutes is generally low, and enterprises are faced with greater uncertainty in investing in the transformation of scientific and technological achievements, so the investment willingness is not strong. At the same time, it is difficult for enterprises to accurately grasp the market demand, and the transformation effect of scientific and technological achievements is often closely related to the market demand. This uncertainty increases the investment risk of enterprises.

### 4.2 IURC Remains at a Shallow Level

There are many cases and various forms of IURC in private colleges and universities, but many cooperation methods are only superficial cooperation in form, the level of cooperation is not enough, the close combination of scientific research and market economy is not achieved, the results are not translated into economic benefits, and the lack of in-depth and lasting cooperation mechanism. Although some companies have cooperated with universities, they have not formed long-term cooperative relations and have not given full play to the advantages of scientific research in universities. Some listed companies and universities have asymmetric information, and difficult cultural integration, research is not a synchronized phenomenon. Some listed companies only establish relationships with colleges and universities such as entrusted training, teaching, and training, cooperative publication of

papers, and joint construction of practice and training bases, lack a long-term and stable cooperative management mechanism, and are not interested in long-term profitable IURC projects, and have a strong intention to "speculation concept" through IURC [7].

### 4.3 Insufficient Transformation of Scientific Research Results

Only by transforming the academic research accomplishments of universities into productive forces through the market can they realize their function of serving society. For colleges and universities with production, university, and research as the main financing mode, their scientific research achievements can only be transformed into productive forces to reap economic benefits. Relevant analysis shows that the conversion rate of science and technology achievements in China is only about 30%, which has a big gap with 80% of developed countries. There are two main problems that universities face in the transformation of scientific research achievements. First of all, scientific research results with high technical content do not necessarily have good market prospects and can achieve large-scale production, so that enterprises can obtain economic benefits. The second problem is that universities do not fully consider the market demand in the cultivation of scientific research results, resulting in a serious disconnect between the scientific research results of universities and market demand. Currently, although the number of various scientific research achievements is large, the idle rate is high, and they have not been transformed into real productive forces, resulting in poor economic benefits [8].

## 5. Future Development Path Countermeasures and Suggestions

Aiming at the application of the model of IURC in the field of university financing and the problems it faces, this paper puts forward a series of targeted and forward-looking suggestions.

### 5.1 Government Funding and Policy Guidance

At present, the financing mode of China's IURC is not mature and needs the intervention or promotion of the government to a large extent. Government departments should play a supporting and guiding role in supporting and encouraging enterprises to participate in the cooperation and innovation activities of industry, university, and research. First of all, through policy guidance and partial financial support to promote enterprises, universities research institutes, and other parties to jointly carry out IURC innovation activities, especially key technological breakthroughs and product development, as well as basic research, applied research, and experimental development, especially involving industrial common technology cooperation innovation [1]. In addition, establish and improve the market-oriented cooperation mechanism of IURC, and pay attention to cultivating the driving force of the market itself. At the same time, reform the talent evaluation and incentive system of colleges and universities, augment the rigor of project evaluations at the outset as well as bolster the effectiveness assessments conducted in the latter phases of the IURC research and development projects, establish a scientific evaluation system, and regularly evaluate the progress, results and economic benefits of the cooperation projects, to ensure the quality and effect of the cooperation. For outstanding cooperation projects, the government can give recognition and awards to encourage more private colleges and universities to engage actively in IURC. The government can further strengthen its support for universities and enterprises that have achieved good implementation results.

### 5.2 Change the Concept of Development, Establish a Collaborative Development Mechanism

The in-depth development of IURC and long-term cooperation cannot be separated from the close interest-driven mechanism of both sides. The school should change the traditional school thinking, use the market and business thinking mode, actively cooperate with enterprises, and regard production, university, and research as not only a simple teaching and talent training mode but also as a way of sustainable development, especially economic sustainable development. The market is the ultimate driving force for IURC. Only by establishing a market-oriented internal interest-driving mechanism and linking it with the economic interests of enterprises can the long-term in-depth development of school-enterprise cooperation be promoted [9]. Only when universities bring more economic benefits and more support to the development of enterprises, enterprises will have a stronger willingness to participate in cooperation. The scientific and technological work of colleges and universities should be guided by market demand and aim to solve practical problems of industries and industries. They ought to prioritize the thorough integration of scientific and technological innovation with industrial innovation, fostering novel and high-quality productivity. It is imperative to expedite the establishment of mechanisms for knowledge-driven technology transfer, while actively enhancing their inherent capabilities in technology research and development, as well as transfer. By demonstrating these capabilities to enterprises, they can attract collaborations, thereby forming a synergistic

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partnership. Break the bottleneck, promote industrial iteration and upgrading, and then obtain economic returns.

### 5.3 Create IURC Parks Based on Local Colleges and Enterprises

An industrial, university-research park refers to a park that relies on the human, intellectual, and technological resources of higher vocational colleges, and in certain areas inside and outside the campus, with colleges as the absolute main body and with the participation of schools, enterprises and research institutes to jointly implement scientific and technological research and development, enterprise incubation and achievement transformation. The IURC park integrates the characteristics of a university science park, incubation park, and industrial park. It forms an on-campus productive training base in the form of a park to meet students' demands for practical training, entrepreneurship employment, etc. Private colleges and universities can take advantage of the advantages of enterprises to finance, integrate IURC, and build an IURC consortium based on local colleges and enterprises. Private university teachers and enterprise researchers are encouraged to conduct joint research, share research results, promote the transformation and application of scientific research results, and turn academic achievements into capital [10]. In addition, the production and operation activities carried out by its internal derivative institutions can also obtain considerable income. Building a multi-form "community of interests" on the platform of enterprises, universities, and research parks can effectively appeal to the interests of all parties, and realize benefit sharing and risk sharing through the integration of resources.

## 6. Conclusions

This paper analyzes the influence of the development path of production, university, and research on the financing of private universities and points out the existing problems and development countermeasures. This paper analyzes and concludes that the development mode of production, university, and research has an important impact on the financing of private colleges and universities, such as expanding financing channels, improving economic income, and promoting sustainable development. Based on this, this paper puts forward suggestions for strengthening government policy guidance, promoting the transformation of scientific research achievements, and building cooperation platforms for IURC parks. IURC is a long-term task, and the short-term benefits may not be very significant, but in the long run, it will contribute to the sustainable development of private university financing, and contribute to the sustainable development of the entire economy and society. Implementing the integration of production, university, and research and obtaining the return of results is an urgent task for future private colleges and universities.

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