

Property Rights Challenges and Solutions in Industry-Education Integration for Vocational Education

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Abstract: *Industry-education integration in vocational education involves multiple property rights—economic, intellectual, and labor—characterised by diverse stakeholders, complex structures, and transactional fluidity. Current barriers include incomplete local legislation, ambiguous ownership, impaired functional integrity, and unbalanced management mechanisms. To address these, we propose a set of targeted countermeasures: issuing local policies to refine top-level design, clarifying property rights structures to protect stakeholder interests, establishing a trading market for educational property rights to facilitate rational flows, and ensuring equal protection to enable value appreciation for non-public property holders. These measures are designed to incentivise industrial participation and promote sustainable, high-quality development of vocational education.*

Keywords: Vocational education, Industry-education integration, Educational property rights, Stakeholder interests, Policy recommendations.

1. Introduction

The integration of production and education in vocational education is a major measure for building a modern vocational education system and an inevitable way to achieve high-quality development of vocational education. With the deepening reform of vocational education and the development of the social economy, many phenomena in the field of vocational education have involved property rights issues, and this is exactly where the development dilemma of the integration of production and education in vocational education lies. Therefore, the state has put forward a high-quality development strategy for vocational education of "one body and two wings", emphasizing the promotion of the whole province and building a new model for the reform and development of vocational education at the provincial level. In May 2022, the newly revised Vocational Education Law was officially implemented. The new law states that the state encourages the development of various levels and forms of vocational education, promotes diversified school running, and supports the extensive and equal participation of social forces in vocational education. However, in the process of the integration of production and education in vocational education, various property rights issues such as economic property rights, intellectual property rights, and labor property rights are faced. Due to the imperfect legal system and unclear property rights definition, the economic property rights, intellectual property rights, etc. between schools, enterprises, teachers, and students cannot be certified and protected, and the school-enterprise cooperation and the integration of production and education are also difficult to develop in depth. Therefore, it is urgent to improve the property rights protection system for the integration of production and education in vocational education.

2. Definition of Property Rights in the Integration of Industry and Education in Vocational Education

2.1 Differences and Similarities between Educational

Property Rights and Corporate Property Rights

Educational property rights refer to the rights of all stakeholders in educational activities to possess, use, dispose of, and benefit from property, which are the rights and obligation relationships formed among all stakeholders in educational activities. The concept of enterprise property rights originating from the economic field has certain similar attributes to the concept of educational property rights: First, both types of property rights concepts reflect the unity of authority and coercion. Educational property rights are the ownership rights of various educational entities in the educational field to educational property Lawfully enjoyed, which reflects the will of the state and is protected by law. Second, both types of property rights reflect the unity of integrity and divisibility. The integrity of educational property rights means that the educational property rights subject enjoys a set of powers based on ownership of educational property, and the divisibility means that there is separability between ownership and other derived powers. Third, both types of property rights reflect the unity of rights and obligations. Educational property rights are the rights that educational entities enjoy Lawfully enjoyed, and at the same time, they should also perform corresponding obligations and responsibilities.

However, the public welfare nature of education determines that there are inherent differences between the concept of property rights in the field of education and that in the economic field.

First, the purpose of educational entities exercising educational property rights is to revitalize educational resources, improve the utilization rate of educational resources, and thus provide better educational resources for talent cultivation. The profit-seeking nature of enterprises determines that the purpose of enterprise property rights is to reduce transaction costs and thus maximize enterprise profits.

Second, there are differences in the ways of restructuring property rights. Education is the largest public welfare cause

in society. The restructuring of educational property rights needs to consider the country's actual control of property rights to prevent the loss of state-owned educational assets. Currently, the main financing form is joint school running.

Third, based on the principal-agent system, state-owned educational property rights are also different from state-owned enterprise property rights. In China, the ownership of state-owned assets belongs to all the people. Based on the principal-agent system, all the people need to entrust suitable agents to exercise the various powers of state-owned assets. The property rights of state-owned enterprises can be quantified and calculated, which is conducive to the supervision and management of enterprise property by agents.

However, it is also difficult to quantify the value of the intangible asset of "educational services" in state-owned educational property rights. Therefore, it is not conducive to the supervision and management of educational property by agents.

2.2 The Property Rights in the Integration of Production and Education in Vocational Education Belong to an Educational Property Right

The property rights in the integration of production and education in vocational education refer to the various types of property rights required by the participants in the integration of production and education for cultivating skilled talents, that is, the right of possession, use, disposition and income of the property owned in the integration of production and education enjoyed by the relevant stakeholders such as vocational schools, enterprises, governments, and industry organizations in accordance with the law. The property rights involved in the integration of production and education in vocational education include both tangible economic property rights and intangible intellectual property rights and labor property rights, belonging to typical educational property rights.

The property rights in the integration of production and education in vocational education have three remarkable characteristics, namely the diversity of property rights subjects, the complexity of property rights structure, and the liquidity of property rights transactions.

First, due to the fact that the stakeholders in the integration of production and education in vocational education involve many entities such as schools, industry enterprises, governments, and social organizations, the property rights subjects in the integration of production and education are diverse. There are public schools or state-owned enterprises representing state-owned capital, as well as private schools or private enterprises representing private capital, etc., which results in the diversity characteristic of property rights subjects in the integration of production and education.

Second, in the integration of production and education, property rights have gone through multiple public-private integrations, making it difficult to distinguish the boundaries between state-owned capital and private capital and to identify public and private attributes. In addition, there are intangible assets such as intellectual property rights and labor

property rights in educational property rights, and it is difficult to specifically quantify the value of these intangible assets, which all lead to the complexity characteristic of the property rights structure in the integration of production and education.

Third, property rights transaction refers to the transfer of ownership of property right objects between property rights subjects in accordance with the rules of the property rights market. A reasonable property rights transaction can realize the preservation and appreciation of property. The property rights market follows the principle of free competition in the market competition, and property rights themselves have the attribute of liquidity.

However, the scope of the liquid part of educational property rights needs to be further defined, and the establishment of the educational property rights market cannot completely follow the rules for the establishment of the enterprise property rights market, and the public welfare attribute of education needs to be highlighted. The establishment of the property rights market in the integration of production and education requires both highlighting the public welfare attribute of education and ensuring that stakeholders can reasonably exercise their property transfer rights.

3. Problems Existing in the Property Rights System in the Integration of Production and Education in Vocational Education

3.1 Existing Local Legislation Is Deficient and the Top-Level Design Is Imperfect

The property rights in the integration of production and education in vocational education are divided into two categories. One category has obvious property rights subjects, and the other category does not have obvious property rights subjects. The content without obvious property rights subjects specifically includes institutional resources such as the subject and professional settings of educational activities and the management systems for organizational operation, as well as cultural accumulations from long-term vocational education activities and the recognition of enterprises. The property rights resources in the integration of production and education include various human, financial, material resources, and information resources, and these resources include funds for teaching activities, teachers' labor, and technical patents, etc. According to the current education legal system in China, for most teaching resources in vocational schools, their right of use belongs to the school, while their ownership belongs to the government, which leads to difficulties in the transfer of property rights in the integration of production and education.

Although the newly revised Vocational Education Law states that vocational education should adhere to the integration of production and education and school-enterprise cooperation, only principled and general provisions are made on the content and methods of integration – of – production – and – education enterprises and school-enterprise cooperation.

Combined with local legislation on vocational education, the specific policy provisions regarding support measures, rights and interests protection, organizational methods, etc. for the

integration of production and education in vocational education are not yet perfect. In reality, the value demands of stakeholders such as vocational schools, enterprises, and social organizations participating in the integration of production and education in vocational education vary, and there are even inherent contradictions in some aspects. Due to the deficiencies in existing legislation and the lack of a sound top-level design, the law cannot play its guiding, regulatory, and coercive roles, and the following risks are likely to occur among the parties participating in the integration of production and education in vocational education:

First, during the integration of production and education, due to the multiple transfers of school-running property, there are risks such as unclear property rights, unfair distribution of property rights income, inability of industrial entities to obtain profits, and inability to transfer economic property rights.

Second, after the multiple integrations of state-owned assets and non-public assets, it is difficult to identify the property attributes, resulting in the risks that state-owned assets cannot maintain and increase their value, and even face losses.

Third, in the integration of production and education, the rights, responsibilities, and interests among property right subjects are unclear, leading to risks such as unclear ownership of intellectual property rights and restricted transfer among schools, enterprises, teachers, and students.

Fourth, the school-enterprise cooperation agreements are not standardized, resulting in risks such as teachers being unable to obtain income from participating in school-enterprise cooperation and students' labor income during internships not being guaranteed.

3.2 The Unclear Property Right Subjects in the Integration of Production and Education in Vocational Education

Under the principal-agent system, the exercise of specific property right functions of educational property rights requires entrusting corresponding agents. In the activities of the integration of production and education in vocational education, as the agent, vocational schools do not have full autonomy in aspects such as property right transfer, result attribution, and profit distribution, leading to difficulties in property right protection.

In essence, the property rights in the integration of production and education in vocational education belong to educational property rights. To ensure that the country's educational resources can be utilized with maximum efficiency, vocational schools need to bear certain risks in property rights transfer and other aspects. In this context, agents are responsible for enhancing the educational value of vocational schools and are accountable for the educational achievements of vocational schools. However, since some agents are solely profit-driven and deviate from the educational goal of putting people first in education, they delegate all the property rights that originally belonged to agents to vocational schools through multiple levels, and the school principals exercise specific rights. This easily leads to the integration of production and education in vocational education becoming a mere formality. Some vocational schools, in order to fulfill

the tasks assigned by the education administrative departments, mostly choose small enterprises as their cooperative partners. These small enterprises have interests in the school, and the school also has the need to purchase goods and services. As a result, the cooperation between vocational schools and enterprises is characterized by a single form and simple content. Once property rights disputes occur, it is impossible to reasonably define the legal responsibilities of relevant property rights entities.

3.3 The Property Rights Functions in the Integration of Production and Education in Vocational Education are Incomplete

Public vocational schools are public institutions mainly engaged in public welfare undertakings and do not aim at making profits per se. In order to improve the quality of their talent cultivation, vocational schools' demand for resources will increase sharply. These resources will ultimately be transformed into the improvement of students' abilities through various forms of education. Since vocational schools have no surplus assets and resources, there will be no existence of residual claim rights. In the process of the integration of production and education in vocational education, the income of the government and schools focuses on the improvement of educational quality and social benefits caused by talent cultivation, while the property rights of educational investment focus on the ownership of the property invested.

For a long time, most of the property of public vocational schools has come from government purchases or free allocations, which has led to the "emptiness" of the property owners of the schools, making it difficult for other interest entities to generate effective motivation. Through the implementation of the integration of production and education and school-enterprise cooperation, the sources of funding for vocational schools have been expanded, which has reduced the government's investment in education funds to a certain extent and thus reduced the government's financial burden. However, this will inevitably lead to a decline in the public vocational schools' control over public educational resources and weaken the public welfare of public vocational schools. As a legal person organization, the power of the school principal comes from the legal authorization of the school or the provisions of the school charter and does not enjoy the right to profit distribution. A series of problems will occur in school management, which will inevitably lead to a decline in the effectiveness of property rights incentives in schools. Since schools do not enjoy the right to profit distribution, an incentive mechanism for vocational schools and enterprises to participate in the integration of production and education cannot be formed.

3.4 Imbalance in the Property Rights Management Mechanism in the Integration of Industry and Education in Vocational Education

For enterprises, if there are high transaction costs, it will make cooperation between enterprises more difficult and reduce the enthusiasm for cooperation. Small and medium-sized enterprises are at a disadvantage in terms of funds and technology, resulting in their lack of negotiation conditions

for participating in the integration of industry and education. Coupled with factors such as information asymmetry and lack of government supervision, the difficulty of finding a suitable cooperative school has increased significantly, which will also directly affect the transaction costs of both schools and enterprises in the early stage of cooperation. In the process of cooperation, issues such as how to supervise and motivate the integration of industry and education activities are also related to the transaction costs of property rights subjects.

For vocational schools, the internal organizational structure of the school is too complex, resulting in an increase in the transaction costs of the school in the integration of industry and education activities and causing internal consumption of the school's internal resources [6]. The cooperation between schools and enterprises also involves internal institutions such as the relevant management departments of the school. These institutions are independent of each other and often have the problem of shifting responsibilities. In addition, after the formation of a cooperative relationship between vocational schools and enterprises, the power of the property rights management institution is also restricted, hindering the in-depth development of the integration of industry and education. Since the direct participation of school leaders is lacking in the internal property rights management institution of the school, in order to effectively promote school-enterprise cooperation, it must be achieved through multiple communications and exchanges between the cooperation management institution and other functional departments and secondary colleges. The supervision and accountability work of each department involved in the school-enterprise cooperation process is also difficult to carry out, which increases the transaction costs of the integration of industry and education and school-enterprise cooperation.

4. Countermeasures and Suggestions for the Protection of Property Rights in the Integration of Industry and Education Under the Background of the Implementation of the new Vocational Education Law

4.1 Introduce Local Policies and Regulations to Improve the Top-level Design

Combined with the new regulations on the integration of industry and education and school-enterprise cooperation in the newly revised Vocational Education Law in May 2022, it is still necessary to further improve the local legislation on the protection of property rights in the integration of industry and education. Through special legislation, legally regulate the property rights risks in the integration of industry and education, improve the quality of running schools, reduce disputes over rights and interests, and ensure the stability and standardization of the integration of industry and education in vocational education.

First, plan the layout of the integration of industry and education. People's governments at or above the county level shall incorporate the integration of industry and education in vocational education into the industrial and park development plans, and form a development pattern in which local

governments, vocational schools, industry enterprises, and social organizations promote it jointly.

Second, clarify the forms and contents of the integration of industry and education. Vocational schools and vocational training institutions can cooperate through various forms such as jointly running industrial colleges, forming vocational education groups, and carrying out order-based training with industry organizations, enterprises, institutions, etc. Encourage and support vocational schools and enterprises to jointly build internship and training bases, employee training centers, and collaborative innovation platforms, and cooperate with enterprises in talent cultivation, teacher team building, curriculum and textbook development, scientific research, technical services, and achievement transformation.

Third, clarify the government's support measures for enterprises. People's governments at or above the county level and relevant departments shall give financial, tax, land and other supports to enterprises that are deeply involved in the integration of industry and education and school-enterprise cooperation in accordance with the regulations. Strengthen financial support, and focus on supporting projects such as the construction of teaching, experimental, and training rooms and the purchase and installation of equipment.

Fourth, proceeding from the reality of investment in running schools, protect the economic property rights of multiple school-running entities, implement the ownership of the investors, and establish a property rights protection system for the integration of industry and education in vocational education that is truly clear in property rights, well-defined in powers and responsibilities, equally protected, and smooth in transfer.

Fifth, proceeding from the perspective of strengthening the management of state-owned assets, strengthen supervision, prevent the loss of state-owned assets, and promote the preservation and appreciation of state-owned assets.

Sixth, strengthen the protection of various intellectual property rights, especially the ownership and transfer issues of various technical patents and inventions, provide institutional support for deepening the integration of industry and education in vocational education, and promote the high-quality development of vocational education.

4.2 Clarify Property Rights Structure and Protect the Legitimate Rights and Interests of Property Rights Holders

The initial recognition of property rights must be premised on a clear property rights structure. For public vocational schools, the initial property rights of each participating entity in the integration of industry and education can be quantified and registered. However, for private vocational schools, it is not easy to quantify the initial share of the property rights subject. It is recommended that a certain proportion equivalent to the net assets of the school be given to the organizers as the amount of capital contribution, and the proportion can be comprehensively considered by local governments according to the actual regional economic development situation. For the value of intangible assets in the integration of industry and

education, the cost-benefit method in economics can be used for evaluation and pricing, and the value of intangible assets can be determined according to the actual output cost and the profit that can be obtained when creating intangible assets. At the same time, based on the principle of equal protection of real rights in the Property Rights Section of the Civil Code of the People's Republic of China, the initial property rights owned by each property rights subject should be equally protected.

On the basis of clarifying the initial property rights enjoyed by each property rights subject, protect the legitimate rights and interests of each property rights subject. It is necessary to follow the principle of free competition in the market economy, and at the same time balance fairness and efficiency. While ensuring the public welfare of education, also take into account the maximization of the respective interests of property rights subjects. Specifically, first, actively promote vocational schools, especially public vocational schools, to carry out integration of production and education and school-enterprise cooperation with enterprises in various forms, fully absorb social capital to participate in school running, and actively promote mixed ownership school running to achieve the diversification of property rights subjects and property rights nature. Second, create a good atmosphere to support the high-quality development of vocational education and eliminate the concerns of enterprises participating in joint school running in vocational education. On the one hand, for public vocational schools, it is necessary to actively improve the marketization level of their property rights to attract enterprises, especially private enterprises, to participate in the integration of production and education activities in vocational education. On the other hand, for private vocational schools, establish a scientific and reasonable internal governance structure, reasonably allocate rights, and eliminate problems such as the hosting entity monopolizing the use right of school property rights. Third, the principle of equal protection needs to be adhered to. The report of the 20th National Congress of the Communist Party of China proposed to treat all types of market entities equally, create a fair competition market environment, and ensure equal rights. Therefore, in accordance with the requirements of the report of the 20th National Congress of the Communist Party of China, it is necessary to build market access rules for property rights protection in the integration of production and education, equally protect state-owned property rights and non-state-owned property rights, and comprehensively implement the guarantee of property rights.

4.3 Establish an Education Property Rights Trading Market to Solve the Reasonable Flow of Property Rights

The transfer of property rights in the integration of production and education in vocational education is to protect the legitimate rights and interests of property rights subjects and is also the need to promote the high-quality development of vocational education. At present, the integration of production and education in vocational education is basically a one-sided enthusiasm of schools. We need to clearly define the ownership of property rights in the integration of production and education legally to ensure the safety of state-owned assets and non-public assets. It is recommended to introduce corresponding systems to reasonably define the nature, scope,

quantity, etc. of the property rights of property rights subjects in the integration of production and education, and allow each property rights subject to legally transfer the property rights it enjoys. At the same time, it is necessary to clarify that the transfer of property rights shall not lead to the loss of state-owned assets.

Promoting the reasonable flow of property is the basic principle for the establishment of a modern property rights market. Establishing an education property rights trading market requires both following the principles for the establishment of a modern property rights market and always adhering to the educational public welfare of putting education first. Make corresponding qualification regulations for all parties participating in the integration of production and education according to the relevant provisions of the Civil Code of the People's Republic of China and the Company Law of the People's Republic of China in our country. For example, enterprises participating in the integration of production and education need to have good business conditions and commercial reputations, etc.

Draw on the relevant provisions of the Company Law of the People's Republic of China to establish an access mechanism and an exit mechanism for the property held by different property rights subjects. To ensure the sustainable development of vocational education, different capitals should be allowed to freely enter and exit. Referring to the relevant provisions of the Company Law of the People's Republic of China, there are two ways for the exit of property rights: property transfer and equity inheritance. Regulate the education property rights trading market in accordance with the law, and construct an access mechanism and an exit mechanism for each property rights subject to hold different capitals. At the same time, strengthen the supervision and management of the education property rights market transactions. Establish a third-party supervision and evaluation agency to supervise and inspect the whole process of property rights transactions in the integration of production and education, and make regular public announcements to the society to establish a transparent and open education property rights trading market.

4.4 Equal Protection to Ensure the Appreciation of Property Held by Non-public Property Rights Holders

Among the property rights subjects in the integration of production and education in vocational education, there are property rights subjects holding state-owned capital and those holding non-public capital. If only the preservation and appreciation of state-owned capital are considered and only the capital stock of non-public capital is calculated, it will dampen the enthusiasm of non-state-owned enterprises to participate in the integration of production and education in vocational education. The newly revised Vocational Education Law has repeatedly pointed out that vocational education must adhere to the integration of production and education and school-enterprise cooperation. In the practice of fully implementing the new law, it is necessary to equally protect state-owned assets and non-public assets. If there are situations that restrict the exercise of property rights by non-public property rights subjects, it will hinder enterprises from participating in vocational education. As a profit-making

organization, it is understandable for enterprises to pursue the maximization of interests. The profit-seeking nature of capital is actually a problem in the economic field, and it still needs to be solved by economic means. Since the education property rights trading market needs to follow market rules, it needs to be protected in accordance with the market rules in the economic field. That is to say, through economic means, it is ensured that non-public property rights subjects can obtain certain benefits by participating in the activities of the integration of production and education. Only by allowing non-public property rights subjects to make a profit can the endogenous motivation of enterprises to participate in the integration of production and education be truly stimulated. Of course, as mentioned above, education property rights are different from enterprise property rights in the economic field. On the basis of ensuring the appreciation of the property held by non-public property rights subjects, it is also necessary to clarify the public and private nature, scope, quantity, etc. of the property accumulated in the integration of production and education. For the appreciation part of intellectual property rights and labor property rights that cannot be directly quantified, a third-party asset appraisal agency can be entrusted to evaluate and price them. For the property of the appreciation part, it can be allowed to distribute dividends in accordance with the provisions of the Company Law of the People's Republic of China, so that the investment of non-public property rights subjects can get reasonable returns.

5. Conclusion

To sum up, the integration of production and education in vocational education is an institutional innovation for the high-quality development of vocational education. When enterprises become the main body of school running, it will effectively stimulate the school-running vitality of vocational schools, solve a series of deep-seated contradictions in vocational school running, and also have an important impact on regional economic development. Regulating the risks of the property right system in the integration of production and education by means of the rule of law, protecting the legitimate rights and interests of all parties in the integration of production and education, promoting industrial entities to participate in vocational education, realizing capital connection and right transfer, solving the contradiction between talent supply and demand, and improving the governance ability and school-running level of vocational schools. Any institutional change is a long-term systematic project. The integration of production and education in vocational education also faces a series of problems such as the lack of local policy support and the conflict between the development of the market economy and school management systems. All these urgently need to be gradually improved in continuous exploration in the future.

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