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Experience of Foreign Countries in Regulating Technology Transfer

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Abstract: The experience of regulating international technology transfer of economically developed countries is very relevant and necessary for studying the development of the national legal framework for technology transfer in Uzbekistan.

Foreign experience is dominated by the experience of the United States, which was the first to formulate legislation on technology transfer. Thus, from 1948, the United States established a system of technology transfer from science to industry. This activity intensified in the 1980s when the US Department of Commerce was given broad powers to support technology transfer.

Key words: Technology transfer, American industry, Research and Developmen,t technology brokers, scientific parks.

Also, a model agreement on cooperation in the field of scientific research and development, which is the legal basis for technology transfer, has been created in the USA. In accordance with this agreement, commercial organizations finance scientific laboratories and universities and provide them with personnel, equipment and buildings. Laboratories, universities provide entrepreneurs with their equipment and scientific personnel[1].

An efficient technology transfer system is one of the main factors behind the United States' superiority over other countries in terms of labor productivity. Recognizing this advantage, the European Union has developed a number of measures to improve the efficiency of technology transfer, including by strengthening the links between science and industry and overcoming gaps in the management of knowledge and intellectual property.[2]. One such measure is the adoption of a model code of conduct for knowledge transfer[3].

[1]On the management of intellectual property in knowledge transfer activities and Code of Practice for universities and other public research organizations: Recommendation of the Commission of the European Communities of April 10, 2008 N 1329 // Official Journal of the European Union. 2008. V. 51. L 19. P. 19–24.

[2]Creating a conducive environment for higher competitiveness and effective national innovation systems. Lessons learned from the experiences of UNECE countries. New York; Geneva: United Nations, 2007. P.24.

[3]On the management of intellectual property in knowledge transfer activities and Code of Practice for universities and other public research organizations: Recommendation of the Commission of the European Communities of April 10, 2008 N 1329 // Official Journal of the European Union. 2008. V. 51. L 19. P. 19–24.

"The goal of US technology transfer law and policy is to encourage the transfer of federally funded technology to sustain the growth of the US economy and increase the competitiveness of American industry. The laws of the United States in the field of technology transfer regulate the following relations in this field:

1. Involvement of foreign experts and organizations to solve the technological problems facing the American industry;
2. Technology transfer as an obligation;
3. Transfer of technologies developed at the expense of the federal budget funds to the American industry;
4. Transfer of technologies developed at the expense of federal budget funds to small businesses;
5. Dissemination of information in the field of technology transfer;
6. implementation of a model agreement on joint ventures for scientific research and experimental design works;
7. Creation of organizations responsible for technology transfer and ensuring their financing;
8. Ownership of inventions and payment for use of inventions."[4].

Technology transfer activities in the US are regulated by 27 laws. Below is a brief description of the legal regulation of technology transfer in chronological order[5].

Originally, in 1862, the Morrill Land Grant Act was passed to support education and innovation in science and technology by creating a system of state-supported research universities. The Bay-Dole Act of 1980 was followed by the Federal Technology Transfer Act of 1986. This was followed by the General Trade and Competitiveness Act of 1988, the National Technology Transfer and Development Act of 1995, and the Technology Transfer Commercialization Act of 2000, which limited the federal government's ability to license inventions owned by the federal government. increased by reforming the system and allowing laboratories to incorporate existing inventions[6].

The analysis of the US experience in creating technology transfer centers showed that, in general, intermediary organizations of the innovation market are created within the framework of leading universities and scientific organizations or with their participation.

One of the first industrialized countries to realize the need for state management of technology transfer was Great Britain, where in 1948 the National Research and Development Corporation (NRDC) was established. The corporation covered all stages of the innovation cycle, from research to the formation of venture capital[7].

In Great Britain, the system of bodies that choose the priorities for scientific and technical development includes the military departments, the Ministry of Education and Science, the Ministry of Industry (all of these bodies have scientific councils), as well as interagency bodies -

[4]Tkachev M.M., Pererva P.G. National and foreign transfer of objects of intellectual property. http://repository.kpi.kharkov.ua/bitstream/KhPI-Press/37879/1/Tkachev_Nats_i_zarubezh_opyt_2018.pdf

[5]The official site of the Republican Center for Technology Transfer http://ictt.by/rus/Default.aspx?tabid=178

[6]Pavlov A. Contractual use of innovative developments and ego meaning and innovative detail.Vestnik Rossiyskogo novogo universiteta. series: chelovek i obshchestvo. 2017. No. 3. S. 5-12;Viltovsky D. M., Mashonskaya E. P., Uspensky A. A. Politics and legislation in the sphere of technological transfer: domestic and national research. - Minsk: Kovcheg, 2010. - 60 p.

[7]Transfer technology and development. https://studopedia.info/3-39764.html

the General Investigation Committee, the Advisory Council for Applied Research and Development[8].

The public policy of Great Britain is based on a number of normative and programmatic documents that determine the directions and priorities of state support for science and innovation, the role of science and innovation in the development of the country's economy and the improvement of public welfare.

Let's briefly consider the main points of the most important government documents in this area. The most important of them is the policy document of the UK government "Excellence and Opportunity - A Science and Innovation Policy for the 21st Century" (July 2000).[9]. This document sets out the government's proposals aimed at creating a dynamic knowledge economy in the UK, and sets out the main directions of public policy to accelerate the pace of innovation creation and implementation. Including: investing in the development of a first-class scientific base in the UK; to encourage close links between universities and business to translate the excellence of English science and technology into market-effective innovative products and services; increasing reliance on science in the economy.

This policy document created a legal framework in which the UK government is the main investor in the field of science and technology, the promoter of scientific and innovative development and plays the role of the main regulatory link in this field. .

The principles of Great Britain's science and technology policy, its formulation and implementation policy are also described in the 2000 Guidelines and the Code of Practice for Scientific Advisory Committees (Guidelines 2000).[10], based on the key points expressed by Lord Philips in his report on the BSE Inquiry and the Government's response to the BSE Inquiry Report. Guidelines 2000[11]imposes on all ministries the obligation to plan their activities and early identification of issues that require the advice of external scientific bodies; get a broad plan of advice from the best sources; and publication of recommendations received and all related materials. The Chief Scientific Adviser prepares reports on the implementation of the Policy[12].

The Code of Practice for Scientific Advisory Committees forms the principles of the activity of committees, their councils, members and secretariats and creates a legal environment for the activity of scientific advisory committees.

The UK's technology transfer system includes the following elements:

- cooperation in the field of knowledge transfer. Their goal is to help businesses leverage knowledge and experience from other business and academic environments. Partly such partnerships are financed by state grants, partly by small and medium-sized businesses;
- Internet portals for business (Virtual support networks) (Virtual support networks), which allow businesses to exchange ideas with each other. Such portals are usually divided into science sectors;

[8]Margolina N. Upravlenie formirovaniem organizational system transfera technological. Diss. sugar economy science M., 2007.

[9]Excellence and opportunity: a science and innovation policy for the 21st century. Great Britain. Department of Trade and Industry. London: Stationery Office, 2000.

[10]The Code of practice for scientific advisory committees (CoPSAC).https://www.gov.uk/government/publications/scientific-advisory-committees-code-of-practice/code-of-practice-for-scientific-advisory-committees-and-councils-copsac-2021

[11]https://api.parliament.uk/historic-hansard/commons/2000/oct/26/bse-inquiry-report

[12]Gutnikov O. V. "Comparative analysis and estimation of law-based models of regulation of innovation activity". // Law and economics. 2006. – No. 10.http://www.center-bereg.ru/l3163.html

- The Enterprise Europe Network is a system that provides support to businesses in the European Union in terms of legislation, finding business partners, entering national innovation networks, as well as bringing together buyers and sellers of innovative technologies to promote these technologies;
- business-innovation centers - support innovative companies by presenting their experience, assisting in strategic planning, providing technological assistance, helping to find manufacturers and markets of innovative products, etc.;
- scientific parks - unite enterprises, provide them with buildings, technological expertise and various business services (including advice on intellectual property protection)[13];
- technology brokers - intermediaries between developers (sellers) and commercial companies (buyers) of innovative developments. In 1991, the different structures were merged into one - the British Technology Group (British Technology Group).[14]. The main goal of the group is state fundinglicensing and commercialization of innovative developments;
- university technology transfer centers - many British universities have their own technology transfer centers that commercialize the developments of these universities[15].

The analysis showed that special attention is being paid to the process of technology transfer and its commercialization in Great Britain. The country's government is the main investor in the field of science and technology, the promoter of scientific and innovative development, and the main regulatory link in this field. Each step of the innovation process, from technology development to commercial use, is clearly systematized. Political documents and laws adopted by the country's government aimed at forming a dynamic knowledge economy in Great Britain played an important role in this.

It is also appropriate to consider the experience of Switzerland, which is a leading country in terms of innovation capabilities and results among the EU countries.

Switzerland commercializes its scientific and technological potentialmaking great efforts to The State Commission on Technologies and Innovations (KTI) applies the following motto in practice: "application of science in the market". Acting as an innovation and development agency at the state level, KTI supports applied research and development, encourages young companies and promotes entrepreneurship in general.

Commercialization of innovative developments in Switzerland is not directly supported by public investment. Financing of scientific and technical developments in the countrylashtithe private sector plays an important role. The transfer of innovative technologies to industry is mainly carried out within the framework of existing forms of support for companies in technological parks. Since there is no direct government support for innovation in the field of entrepreneurship, innovation policy instruments are mainly focused on the delivery of applied scientific research.[16].

Swiss Technology Transfer Association - "swiTT" was established in 2003. In its activities, it carries out the exchange of scientific and technical information between national research

[13]URL: http://www.ukspa.org.uk/our-organisation/about-us.

[14]British Technology Group Act 1991.https://www.legislation.gov.uk/ukpga/1991/66/contents;https://www.bionity.com/en/encyclopedia/British_Technology_Group.html;

[15]Abdurakhimova E. N., Kolesnikova K. S., Ivashchenko N. P., Tishchenko E. B., Tishchenko S. A. Sovremennye podkhody transfera tekhnologii i kommertsializatsii innovatsiy // Ekonomicheskie nauki. 2015. T. 127, No. 6. S. 49-56. URL: https://link. msu.ru/publications/article/10642483

[16]Ilin P.V. Zarubezhnyy opyt transfera technological — and Russian practice. Economic and social changes: facts, trends, forecast. 2013. No. 1(25).

institutions and the private sector. Special centers for the commercialization of the results of scientific and technical activities operate in Swiss universities[17].

It should be noted that these methods of building the technology commercialization process are successfully used not only in Switzerland, but also in many other European countries, which confirms their effectiveness and the possibility of adaptation in Uzbekistan. This applies, first of all, to the involvement of the private sector in the process of financing technology transfer. The state is required to economically support such processes by giving privileges and preferences to the research institutes of the Academy of Sciences of the Republic of Uzbekistan.

Thus, we can observe that the transfer of technology in the Republic of Uzbekistan, USA, Great Britain and Switzerland differs due to the differences in the innovative culture of the universities and business representatives of these countries, as well as the motivation and methods of regulation of technology transfer relations.

The analysis of the legislation of foreign countries on the regulation of technology transfer allows us to distinguish the following three groups of countries[18].

The first group includes Korea, China, Greece, France, Mexico, Argentina, Brazil, Poland, etc., which have fully implemented the provisions of the International Code of Conduct in the field of technology transfer by introducing special legislation to regulate the import of technologies with a permissive procedure for concluding contracts.

According to the 1985 Technology Import Contract Management Regulations in China, technology imports are allowed if one of the following conditions are met: creating new products, improving product quality, reducing production costs, reducing energy and raw material consumption, and using local resources. The contract does not contain unreasonable restrictions, including requirements for the purchase of equipment, services not related to technology; limitations in technology improvement; claims for fees for unused or invalid patents; banning the use of technology after the end of the contract period, etc. The supplier is obliged to train the employees of the buyer. Royalties are usually limited to 2-5 percent. The term of the contract should not exceed 10 years.

The contract will enter into force after it has been reviewed and approved by the competent authority within 60 days. Similar controls apply to foreign investment in China, along with a system of tax and other incentives to attract technology-oriented investment.

The Republic of Korea, in addition to regulating technology imports, is known for its prudent foreign investment policy.

In the countries of the second group, not the technological side of the contract, but the return of foreign exchange funds, the amount of license fees and the control of compulsory registration of the contract took place in the first place. This procedure was adopted in Australia, Chile, Switzerland, Sweden, South Africa, Austria. In these countries, the transfer of license fees could only be carried out according to the permits issued after the study of the effectiveness of the contract.

In the countries of the third group - the leading developed countries with a positive currency balance - the USA, Japan, Germany, and other countries of the European Union, such regulation was not of great importance. Technology transfer is affected by cartel law. According to the rule, it is not allowed to give one of the parties the absolute right to sell products, it is forbidden to

[1]Soloveva Yu.V. Formirovanie i razvitie sistemy transfera technologiy v Rossii i za rubejom.https://institutions.com/innovations/2565-formirovanie-razvitie-sistemy-transfera-tekhnologij-rossii-za-rubezhom.html; Official information portal Switzerland. – Friendly mode:http :// www. swissworld. org/ru/nauka/nauka_i_gosudarstvo/transfer_tekhnologii/

[18]Kapitsa Yu.M. Export - import technological: pravovoe regulirovanie. -K.: Intergid.-2000 g..- 104 p.

force the buyer of technology to buy raw materials, equipment, additional technologies only from a certain seller, and the way to limit the purchase and use of competing technologies, the volume of product production, prices will not be placed.

Regulatory support for innovative activities is actively developing in England, Germany, Sweden and Japan.

"Legal provision of innovative activity in the CIS countries lags behind the requirements of the time in its development. There are significant shortcomings in the adopted legal documents that regulate the results of scientific and technical activities, the conditions for the involvement of intellectual property in economic transactions:

1. necessary conditions for stimulating innovative activity, commercialization of technologies, creation of national innovative systems, development of small innovative entrepreneurship are not provided;
2. the accounting and registration system of intellectual property objects has not been developed, statistical reports in the field of innovative activity are not sufficiently developed;
3. there are no necessary conditions for the development of venture investments in innovations;
4. there are no necessary measures for tax benefits, antimonopoly, customs, financial control and technical regulation of innovative activities;
5. there is no necessary legal framework regulating specific contractual relations related to the development and delivery of scientific and technical products (services), joint research and development (scientific and technical cooperation, scientific and production cooperation) contracts;
6. there is no legal regulation of copyright protection of scientific and technical information, including unpublished research results (research reports, scientific and technical documents), as well as scientific and technical information distributed over the Internet"[19].

Of course, foreign experience in technology transfer and innovation commercialization may not always be acceptable in the national context. However, it demonstrates good practice that can be implemented internally. Consequently, encouraging the transfer of new technologies to industrial enterprises of all forms of ownership should be one of the central tasks of the state innovation policy of the Republic of Uzbekistan. The introduction of a new chapter on the regulation of technology transfer to the Civil Code of the Republic of Uzbekistan or the adoption of a separate law, i.e. the adoption of a special Intellectual Property Law Code, can stimulate significant development in this area.

Undoubtedly, in order to solve the above task, it will be necessary to attract a large amount of direct investments in the modernization of industrial enterprises, as well as to create a special innovation infrastructure: specialized research centers and innovation firms that ensure the transformation of new promising scientific ideas into products and technological innovations; a new legal framework that encourages innovative entrepreneurship and related financial risks, guarantees the protection of intellectual property rights; scientific (innovation) parks, business incubators and other elements of innovative infrastructure are not yet sufficiently developed in our country, but have proven themselves in practice in other industrialized countries.

[19]Sotvoldieva M.M. Organizational and legal security of innovative business in the agricultural sector of the national economy. Science, new technology and innovation to Kyrgyzstan. 2015. No. 5. S. 113-115; Ermakova N.M. O kommertsializatsii teknologii i zarubejnom opyte v oblasti regulirovaniya prav na resultaty nauchno-teknicheskoy deyatelnosti. Voprosy gosudarstvennogo and municipalnogo upravleniya. 2009. No. 4.

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10. Excellence and opportunity: a science and innovation policy for the 21st century. Great Britain. Department of Trade and Industry. London: Stationery Office, 2000.
11. The Code of practice for scientific advisory committees (CoPSAC).https://www.gov.uk/government/publications/scientific-advisory-committees-code-of-practice/code-of-practice-for-scientific-advisory-committees-and-councils-copsac-2021