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Commercialization of the Results of Research Carried Out by Public University Employees Working Remotely: *de lege lata and de lege ferenda* Conclusions¹

Abstract: This study analyses the acquisition and commercialization of rights based on the results of scholarly activity carried out by employees of Polish public universities under the Act of 20 July 2018 – the Law on Higher Education and Science and their objects of commercialization. In addition, it is considered whether the institution of remote work introduced under the Act of 1 December 2022 amending the Labour Code and Some Other Acts is a tool that assists employees and universities in the process of the commercialization of knowledge in the digital age, facilitating the development of an innovative and entrepreneurial university, or, on the contrary, whether it may generate difficulties and costs for both parties to the employment relationship, i.e. the university as an employer and its employees.

Keywords: commercialization, innovative and entrepreneurial university, results of research activity carried out by employees, remote work

Introduction

One of the fundamental barriers hindering the enhancement of the process of commercialization and the transfer of research results from public universities to the economy is the so far relatively low level of experience of cooperation between

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science and businesses in Poland (Salamonowicz, 2016, p. 334). It seems that the fact that many public universities have adopted the traditional Humboldtian university model as the model for their operation, which is the opposite of an innovative, third-generation university, does not help to improve the commercialization process. The European scientific community has been debating the adoption of the optimal and most appropriate model of university operation for many years. In general, this discourse is mainly focused on two models, the traditional Humboldtian model of the university and the model of the third-generation university, referred to as the entrepreneurial and innovative corporate university (Makieła, 2017, pp. 35–36).

The concept of the university which was proposed by Wilhelm von Humboldt in the early 19th century is represented by the Humboldt University of Berlin, which he himself established. Humboldt's traditional model of the university assumes broadly defined university autonomy, freedom of learning and teaching, and public funding. This model emphasizes the importance of academic freedom and its independence from politics and the economy. Thus, the university in this model remains independent from external influences, political as well as economic, and focuses its efforts on cognition (study) and teaching. The university in the Humboldt model is considered as a source of knowledge that it shares with society, wherein the university does not need to justify its value and importance (Rutkowska-Sowa, 2019, pp. 3–4).

In contrast, the third-generation university model assumes that universities should adapt to changing social and economic conditions. This means that they should strive for the practical use of scientific research, which is to be manifested, among other things, in the transfer of research results to the economy and cooperation between universities and the business world (Makieła, 2017, p. 36). Undeniably, the adoption of exactly this model of the university contributes the most to the process of commercialization and the transfer of scientific results from the university to the economic and social environment. According to Wissema, the development of universities in the 21st century will depend on their ability to convert themselves into international centres of technology transfer. At a minimum, such a centre should consist of a traditional university research and development centre, research units of cooperating companies, independent development and research centres, facilities for technology start-up companies, a wide variety of financing institutions and a number of professional service providers (accountants, management consultants, marketing consultants, intellectual property specialists, etc.). As Wissema points out, the concept of an international centre of technology transfer is not new; examples include, among others, Stanford University and the Massachusetts Institute of Technology in the USA, as well as the Catholic University of Leuven (KU Leuven) in Belgium, with its Leuven R&D commercial branches and IT IMEC science park (Wissema, 2005, p. 40).

Under the third-generation university model, ambitious technical universities and university departments of sciences have considered technology commercialization as a third objective, alongside two previous others, i.e. scientific research and education. The adoption of this objective is connected with the creation of new scientific facilities and the establishment of a centre responsible for commercialization, which is a basic condition that must be met if a university intends to become a centre for the exchange of know-how and the transfer of knowledge to the economic environment. Third-generation universities should have centres of technology transfer, dealing with selling know-how to large corporations, small and medium-sized enterprises and start-ups (Wissema, 2005, p. 44).

The solution to the problems faced by Polish universities related to commercialization and the transfer of scientific research results from universities to the economy is not facilitated by the weak position of Poland within the European Union in terms of innovation, which is confirmed by official statistics issued by the European Commission. According to data from the European Innovation Scoreboard of 2022 and 2023 (European Commission, 2023), Poland is ranked in the weakest group of so-called emerging innovators, fourth from last, ahead of Latvia, Bulgaria and Romania. In 2022, Poland reached 60.5% of the EU average, an increase of 4.3% compared to 2021 and an increase of 11.3% compared to 2015. This innovation ranking shows that Member States fall into four groups: innovation leaders (performance above 125% of the EU average), strong innovators (performance in the range of 100–125% of the average), moderate innovators (70–100% of the average) and emerging innovators (below 70% of the average). According to this ranking, the best performer in the EU in 2023 was the Netherlands, which beat the leader of the previous few years, Sweden. It follows from this that the strongest innovators and leaders are mainly present in Northern and Western Europe, while most moderate and emerging innovators are in Southern and Eastern Europe.

The purpose of this study is to analyse the model of the acquisition and commercialization of rights based on the results of scientific activities carried out by the employees of Polish public universities under the Act of 20 July 2018 – the Law on Higher Education and Science and their object of commercialization (P.S.W.N.). In addition, the study considers the issue of whether the institution of remote work, introduced under the Act of 1 December 2022 amending the Labour Code and Some Other Acts, is a tool to facilitate the process of the commercialization of knowledge in the digital age for employees and universities and the development of an innovative and entrepreneurial university or, on the contrary, whether it may generate difficulties and costs for both parties, i.e. for the university as an employer as well as for its employees.

1. The results of research activity carried out by employees as the object of the commercialization process in public universities

The substantive scope of scientific activity is defined in Article 4(1) of the P.S.W.N.: scholarly activity includes scientific research, development work and artistic creation. For the purposes of this study, we will only deal with the first two elements, i.e. scientific research and development work. The term 'scientific research' can be defined as a special form of intellectual work which involves the search for a solution to a problem in the field of science or technology by means of a scientific method (Niewęglowski, 2019, p. 67). The legislation divides scientific research into two groups: basic research and applied research (Article 4(2) P.S.W.N.). Basic research is understood as empirical or theoretical work aimed primarily at acquiring new knowledge about the fundamentals of phenomena and observable facts, without focusing on direct commercial application. In contrast, applied research refers to work aimed at acquiring new knowledge and skills focused on developing new products, processes or services or their significant improvement.

Scientific research should address a clearly formulated research problem: original, theoretically significant and socially important. At the same time, the solution to this problem must be found with the use of research techniques that are appropriate to the nature of the problem (Szydło, 2022, p. 52 ff.). First and foremost, scientific research should be characterized by independence and originality (cf. Leszczyński, 2020, p. 25 ff.); independence means a lack of strict subordination to the instructions of superiors or others during the pursuit of the research work. Scientific research should be created as part of an inventive activity and, consequently, it should be accompanied by a smaller or larger margin of creative freedom, depending on the specifics of the subject (Niewęglowski, 2019, p. 68). The concept of creativity has not been defined, but in the doctrine of copyright law, creativity is treated as the opposite of imitation or the mechanical application of certain rules (Błęszyński, 1988, pp. 31–32; see also Machała, 2013, p. 123 ff.). Thus, it should be assumed that research work of a routine nature, based on the mechanical execution of orders and the implementation of instructions, does not bear the character of scientific research, as it is not creative. Originality is defined in the Polish language as peculiarity, uniqueness, something distinctive in its realm and unconventional (Szymczak, 1984, p. 544). Originality in relation to a work is generally recognized in copyright doctrine as a subjectively new product of intellect (see, among others, Barta & Markiewicz, 2005, pp. 67–68; Błęszyński, 1988, p. 34; Poźniak-Niedzielska, 2007, pp. 16–17). It can be assumed that originality in scientific research refers to its novelty and is the effect of the researcher's independence as a creator and his/her creative activity.

The legal definition of development work is contained in Article 4(3) of the P.S.W.N.; it is activities involving the acquisition, combination, development and use of currently available knowledge and skills, including IT tools or software,

for production planning and the design and creation of altered, improved or new products, processes or services, excluding activities involving routine and periodic changes even if such changes are improvements. Thus the purpose of development work is to plan production and design and create altered, improved or new products, processes (technologies) or services (see, among others, Judgment of the Supreme Court 1980 and Judgment of the Supreme Administrative Court 1998). Development work falls into the category of creative work, which implies the requirement of a certain level of novelty associated with the absence of routine (Balicki et al., 2021, Nb 3; Jakubowski, 2023).

The regulation contained in Articles 154–157 of the P.S.W.N. applies to the results of research activity carried out by public university employees. Pursuant to Article 153, the provisions of Articles 154–157 apply to the results of 1) scientific research being an invention, utility model, industrial design or integrated circuit topography, and a bred or discovered and developed plant variety, 2) development work created by an employee of a public university in the course of the performance of their duties resulting from the employment relationship and the know-how related to such results. Under Article 153, the above provisions apply to the results of research activity carried out by public university employees who are employed under a contract of employment for a definite or indefinite period and that have been created as a result of the performance of duties within the employment relationship. This applies to employees who are academic teachers employed in a group of research staff and to research and teaching staff within the meaning of Article 114(2–3) of the P.S.W.N. This regulation does not apply to the results of the scientific activity of persons employed under civil law contracts, for instance a contract for specific work, a contract of mandate or a contract for the provision of services similar to mandate.

An issue that needs to be resolved, which is not clearly and explicitly presented by the representatives of Polish doctrine, is the precise definition of what is included in the concept of scientific research results. Ambiguous statements on this issue are made by, among others, Czarny-Drożdziejko (2016, p. 89 ff.), Czub (2016, p. 62 ff.; 2021, p. 88 ff.) and Salamonowicz (2014, p. 1175 ff.). A literal interpretation of the provision of Article 153 of the P.S.W.N. clearly shows that the concept of scientific research results includes industrial property rights (regulated in the Act of 30 June 2000 – Industrial Property Law (P.W.P.) and is an invention, utility model, industrial design or integrated circuit topography or a bred or discovered and developed plant variety governed by the provisions of the Act of 26 June 2003 on the Legal Protection of Plant Varieties.² Thus, scientific research results refer to the industrial property rights of employees, created in a public university. Consequently, the rules for the commercialization of the employees' research results are regulated in Articles 154–157

2 The issues of intellectual property rights are related to intellectual property cases settled by common courts; see Niewęglowski (2022, p. 11 ff.).

of the P.S.W.N. Importantly, in Article 153 of the P.S.W.N., the legislator excludes from commercialization the results of scientific research that are works, including as scientific works or computer programs, and objects of related rights within the meaning of the Act of 4 February 1994 on Copyright and Related Rights (Pr.Aut).

2. The model of the acquisition and commercialization of the rights to the results of scholarly activity carried out by employees

Referring to the model of the acquisition and commercialization of the rights to the results of scientific activity carried out by employees under Articles 154–157 of the P.S.W.N., it is important to emphasize that these provisions do not apply to the results of scientific activity carried out by employees that are works or objects of related rights or rationalization projects. This means that the rules for the acquisition of derivative economic rights by the employer in employees' works are governed by the general provisions contained in Articles 12–13 of the Pr.Aut. The rights of universities with respect to scientific publications created by employees, in terms of priority of publication and rules of use, are regulated in Article 14 of the Pr.Aut. (Czarny-Drożdżejko, 2016, pp. 96–97). However, it should be noted that under this article, a university does not acquire copyright to scientific works created by an employee but only absolute and economic rights to the first edition of such works. On the other hand, the original acquisition by the employer of copyright in computer programs created by an employee is regulated in Article 74(3) of the Pr.Aut. In turn, the rules for the acquisition of the rights to employees' rationalization projects that are not patentable inventions, utility models, industrial designs or integrated circuit topographies are set forth in Article 7 of the P.W.P.

Moreover, object-related restrictions in terms of the statutory course of acquisition and commercialization are included in Article 154(5) of the P.S.W.N. This provision excludes the application of Articles 154(1–4) and 157 of the P.S.W.N. in two cases, where the research was conducted: 1) under an agreement with the party financing or co-financing such research, providing for an obligation to transfer the rights to the research results to that party or to an entity other than the contracting party; 2) with the use of financial resources that are granted or used under rules which specify a different way of using the research results and the related know-how than what appears in the Act.

With regard to the issues concerning the commercialization of the results of scientific activity in public universities, which are not regulated in Article 158, Chapter 6 of the P.S.W.N., the legislation refers to three acts regulating individual rights to intangible property which are to be applied directly, i.e. the Act on Copyright and Related Rights, the Act on Industrial Property Law and the Act on Legal Protection of Plant Varieties. The provisions of Articles 154–157 of the P.S.W.N. regulate issues

related to the remuneration of employees differently, including their share in profits from the commercialization of the results of scientific activity. The lack of a regulation referring to the above-mentioned acts would also result in their application due to the binding principle of *lex specialis derogat legi generali*. For this reason, I believe that despite the fact that the Act of 27 July 2001 on the Protection of Databases is not mentioned in Article 158 of the P.S.W.N., its provisions are applicable to databases created as a result of scientific research or development work (see Jędrzejewski, 2019, Nb 3).

The essence of the commercialization model provided for in Articles 154–157 of the P.S.W.N. is the introduction of a statutory three-month time limit, within which the university should decide about the commercialization of the results of the scientific activity after being informed by the employee about them. The time limit begins to run when an employee submits a declaration of an interest in the transfer of rights to the results of scientific research and related know-how; this follows from Article 154(2)(sentence 2) of the P.S.W.N., which stipulates that the three month time limit runs from the date in which an employee submits the declaration (otherwise see Ożegalska-Trybalska, 2015, p. 82). With regard to the legal nature of the so-called decision of the university about commercialization, it should be stated that it does not have the character of an administrative decision. It does not bear the characteristics of an official act and, consequently, the legislator rightly did not provide for an appeal procedure or other appeal measures. Therefore, the employee is not entitled to any appeal measures against this so-called decision to administrative bodies. In this regard, I share the unanimous position of doctrine representatives (Ożegalska-Trybalska, 2015, p. 82; Salamonowicz, 2014, p. 1175 ff.).

The decision about commercialization mentioned in Article 154(1) of the P.S.W.N. is not of a legal-formative nature; therefore, it is not the source of rights to the results of scientific activity of public university employees. However, the adoption of a decision on commercialization by the university within the statutory three-month period is a sort of confirmation of the university's original acquisition of the rights to the results of employees' scientific activity. Thus, as a consequence of the decision on commercialization, the university acquires the right to obtain a patent for an invention, a protection right for a utility model or the right to register an industrial design. The adopted solution does not, in principle, modify the general rules for the acquisition of industrial property rights included in Article 11(3) of the P.W.P., which provides for the original acquisition by the employer of the rights to obtain a patent for an invention, the right of protection for a utility model and the right to registration for an industrial design, unless the parties have agreed otherwise (see Ożegalska-Trybalska, du Vall, 2017, pp. 537–538).

On the other hand, if a public university decides not to commercialize, or after the ineffective expiry of the three-month time limit, the university is obliged within thirty days to make an offer to the employee of concluding an agreement

on the transfer of the rights to these results, or the know-how related to these results, together with the information, publications and ownership of the media on which these results and know-how were recorded, as well as technical experiments that the employee transferred under the obligation resulting from Article 154(6)(2) of the P.S.W.N. The offer made by the university concerns an unconditional and paid agreement, wherein the remuneration payable to the university for the transfer of the rights may not exceed 5% of the average remuneration in the national economy in the previous year, as published by the President of the Central Statistical Office. The agreement should be made in writing, as otherwise it may be null and void, and should not contain any additional conditions. Under Article 86(e)(2) of the previously binding Law on Higher Education, the remuneration for a university cannot be higher than 10% of the minimum remuneration as of the effective date of the agreement. However, it seems that *de lege ferenda* consideration could be given to not charging the employee with the obligation to pay the university for the transfer of the rights, especially since it is the employee who is faced with the many tasks connected with the implementation of the process of commercialization if the university is not interested in it.

I fully approve of the solution adopted in Article 157 of the P.S.W.N., analogous to the content of Article 86(h) of the previously binding Law on Higher Education, which is an expression of respect for the autonomy of the will of the parties in the sphere of labour law. Under this provision, a public university and an employee may, in a manner different than was statutorily envisaged, contractually determine the rights to these results or the manner of their commercialization. However, I believe that it would be encouraging *de lege ferenda* for both parties to significantly extend the scope of the autonomy of the will of a university and an employee to include, for example, issues concerning the distribution of profits from commercialization.

3. The performance of scientific activity by university employees in the course of remote work with reference to the process of the commercialization of research results

Remote work is a relatively new institution, since Chapter II(c), comprising Article 67(18)–(34), was introduced to the Labour Code (K.P.) by the Act of 1 December 2022. Amending the Labour Code and Some Other Acts, the provisions of which came into effect on 7 April 2023, while the regulations on teleworking were repealed. The legislator rightly decided to introduce regulations concerning remote work as a permanent solution to the Labor Code, and not just for the duration of the pandemic, in effect of the postulates brought thereon by both employees and employer organizations.

The provisions regulating remote work contained in the Labour Code are applicable to universities because, by virtue of Article 147(1) of the P.S.W.N., the provisions relate to matters concerning the employment relationship of university employees that are not regulated by the Act. The provisions of Article 147 apply to both public and non-public universities and apply directly, not respectively. This is further confirmed by Article 5 of the K.P., which defines the relation between the provisions of the Labour Code and other acts that specifically regulate the employment relationships of certain groups of employees. Article 5 of the K.P. indicates that the K.P. may be applied directly to the extent not regulated by pragmatic considerations, including the Act on Higher Education and Science (cf. Maniewska, 2023; Nałęcz, 2023; Resolution of the Supreme Court 2009; Sobczyk, 2023). The non-K.P. provisions take precedence over the provisions of the K.P., while the provisions of the K.P. apply to these employment relationships alternatively, i.e. to the extent not regulated by the non-K.P. provisions.

Within the context of the process of the commercialization of the results of scientific activity carried out by university employees through remote work, a fundamental question arises as to whether the regulation on remote work applicable to universities may facilitate and improve this process and whether it will enable employees to both carry out their teaching remotely and simultaneously carry out scientific activity in other Polish and foreign universities, the results of which may be commercialized and then transferred from the university to the economy and, consequently, may contribute to the development of an innovative and entrepreneurial university. The legislature introduced the concept of remote work in Article 67(18) of the K.P., defining it as work performed wholly or partly at a place designated by the employee and agreed with the employer, including the employee's place of residence, in particular by means of remote communication. It follows from the literal interpretation of this provision that a necessary element of this concept is the performance of work 'at the place indicated by the employee and agreed with the employer'. The introduction of the rule according to which the place of remote work should be indicated by the employee and agreed with the employer entails that this place will always be the subject of a mutual agreement between the parties to the employment relationship (Explanatory Memorandum). The legislation combined remote work with a designated place in the factual, real sense rather than a place in the virtual sense. This is a particularly unfavourable solution for university employees, who, while carrying out various projects related to the commercialization of knowledge, will not be able to change their place of work, which is often necessary when working with foreign partners. This is not solved by the admissibility of an agreement between the parties that remote work will be performed at different locations, about which the employee will inform the employer each time, since the employee's absolute freedom to choose the place of remote work is excluded (i.e. without agreeing this place with the employer) (Suknarowska-Drzewiecka, 2023, point 7). Performance of work

by a university employee outside the place agreed upon with the university constitutes a breach of employee duties. In particular, it hinders or prevents an employer from carrying out controls at the place of remote work, as stipulated in Article 67(28) of the K.P. For this reason, Article 108(1) may apply, which provides for a disciplinary penalty or even the possibility of termination of the employment contract without notice at the fault of the employee, under Article 52 of the K.P.

The performance of remote work by employees is associated with an extensive catalogue of obligations imposed on an employer, i.e. also on universities. Therefore, universities may possibly not be interested in the performance of remote work by employees due to the number of obligations imposed, including the duty to cover a number of related costs, except in cases where a university will be forced to consider an employee's request pursuant to Article 67(19)(6) of the K.P. Namely, the university as an employer is obliged, among other things, to determine the rules for performing remote work in the manner indicated in Article 67(20) of the K.P., and to implement the obligations referred to in Article 67(24) of the K.P., i.e. provide the employee working remotely with the materials and tools, including technical devices, necessary to work; install, service and maintain the tools, or cover necessary costs connected with their installation, service, exploitation and maintenance; cover the costs of electricity and telecommunication services necessary to work remotely; cover other costs directly related to the remote work; organize any training and technical assistance necessary to perform this work; draw up information on health and safety rules for working remotely (Article 67(31)(5)(2) of the K.P.); develop procedures for protecting personal data (Article 67(26) of the K.P.), etc. All this entails that by agreeing to the performance of remote work, the university as an employer will, in fact, face various kinds of difficulties, rather than convenience. In view of this, the questions posed in the introduction of this study should be answered in the negative, because the institution of remote work regulated in this form in the Labour Code will not contribute to the improvement and enhancement of the process of the commercialization of the results of scientific activity carried out by employees.

Conclusions

The regulation set forth in Articles 154–157 of the P.S.W.N. specifying the course and rules of commercialization applies to the results of scientific activity carried out by public university employees as a result of the performance of their duties under the employment relationship. The concept of scientific research results comprises industrial property rights, which are inventions, utility models, industrial designs or integrated circuit topographies as well as a bred or discovered and developed plant variety (an object restriction), whereas publications and objects of related rights are not covered by this concept. What is more, this regulation concerns the results

of scientific activity carried out solely by employees who are employed under a contract of employment in a public university and must be the result of the performance of duties within the employment relationship (a subject restriction).

It does not seem reasonable to extend the three-month time limit for a university to take a decision on commercialization, all the more because this is intended to 'discipline' a university as well as to improve the commercialization process. Apart from this, the time limit starts to run not from the date of the university being provided with information about the results of scientific activity, as claimed by some representatives of the doctrine, but from the date on which an employee submits a declaration of interest in the transfer of rights to these results, which he/she can submit within fourteen days of providing the university with the information about these results.

We could consider *de lege ferenda* the postulate of not burdening an employee with the obligation to pay remuneration to a university for the transfer of rights to the results of scientific activity when the university has not taken a decision on commercialization, and the amendment of Article 154(3) of the P.S.W.N. in this respect. This is even more reasonable because an employee in such a case is left on his/her own, and if he/she commercializes the results of his/her scientific activity, he/she will be obliged to share the profits from the commercialization with the university, according to the rules set forth in Article 155(2) of the P.S.W.N. I believe that it would also be reasonable *de lege ferenda* to extend the scope of the autonomy of the will of universities and employees with respect to forming not only the rights to the results or the manner of their commercialization, as provided in Article 157 of the P.S.W.N., differently from what is envisaged, but also the rules on the distribution of profits from commercialization between universities and employees.

Furthermore, it should be emphasized that the improvement and enhancement of the process of the commercialization of the results of scientific activity, and the ensuing development of third-generation universities in Poland, requires a significant increase in cooperation between the spheres of education, science and business. Innovation and competitiveness in modern economies depend more and more on the ability to build partnerships between universities and businesses (Cyran, 2015, p. 23). Cooperation between business representatives and the scientific community is also an opportunity for Polish enterprises, which frequently lag behind technologically and organizationally, particularly small and medium-sized enterprises.

I believe that for the reasons provided in this study, the institution of remote work regulated in the Labour Code will neither contribute to the enhancement and improvement of the process of the commercialization of the results of scientific activity carried out by employees, nor will it facilitate the creation of international centres of technology transfer, which are the essence of the third-generation university. It seems that as far as universities are concerned, regulations on the performance of remote work should be much more flexible, i.e. supporting greater mobility of employees and the development of international cooperation with partners from foreign

universities, within the scope of the commercialization of the results of scientific activity and their implementation into the economy. Special provisions on remote work in the course of the employment relationship between universities and their employees could be introduced into the Law on Higher Education and Science. In particular, it is important *de lege ferenda* to disconnect remote work from the place where it is performed by a university employee, without the obligation to agree on the place of work with the university each time. .

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