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## **TAX PREFERENCES FOR R&D ACTIVITY OF ENTERPRISES AND IMPLEMENTATION OF EUROPE 2020 STRATEGY**

### **Summary**

The growth of research and development is a major driver of innovation in economies. Because the authorities of both EU and Poland fully recognize the importance of R&D, the question of their development has been addressed in the Europe 2020 strategy, as a consequence of which also Poland adopted the “Plan for Responsible Development”. R&D can be funded not only from direct increases in public expenditures, but also through the use of tax preferences aimed at the implementation of this objective. This paper investigates the scale and method of conducting R&D activity in enterprises, identifies changes in R&D expenditures in the context of the objectives set by the Europe 2020 strategy and discusses the principle, scale and significance of the income tax credit on R&D expenditures of enterprises.

**Keywords:** Europe 2020 strategy, R&D activity, tax preferences

**JEL classification:** G32, H25, H32, 016

### **1. Introduction**

The transformations taking place in the European economy over the recent years indicate a transition from an industrial economy to a knowledge-based one. Increasing investments in fixed capital has already ceased to be a satisfactory way of ensuring stable economic growth. The factors that determine development nowadays include: R&D activity, innovation, and human capital.

Expenditures on R&D earmarked for conducting basic research, applied research and development activities, as well as the effects of the research in the form of innovations, are considered crucial for contemporary economic growth, especially in the case of enterprises. However, despite the positive signs indicating ever greater

importance attached to research and development in the activity of enterprises, Poland still remains one of those countries of the European Union which allocate relatively insignificant resources to this field. This is particularly visible in the analysis of the total expenditures on R&D in relation to GDP. In Poland, the value of this indicator in recent years has not exceeded 1.0%, which is far below the average for EU-28 (approx. 2.0%) – also not an adequate amount given the challenges of contemporary economy.

Owing to this, the growth of research and development in EU member states is included in the strategic plans of the European Union and constitutes one of the main objectives of the Europe 2020 strategy. Poland, as a member state, is also contributing to the attainment of this objective, by undertaking efforts to implement the R&D development guidelines included in the “Plan for Responsible Development”.

The development of R&D requires considerable financial expenditures, both private and public. In the case of public resources, support for R&D is possible not only by means of direct increases in public expenditures, but also through using tax credits designed to stimulate this activity.

Therefore, the aim of the paper is to study the scale of R&D activities in Polish enterprises and the manner in which they are conducted, to describe changes in the expenditures on R&D in the context of the objectives specified in the Europe 2020 strategy and, in this context, to indicate the principles, scale and significance of the income tax credit on R&D expenditures of enterprises.

This aim is achieved through theoretical reflections accompanied by analytical research. The former enable the authors to present the gist and scope of R&D activities, the objectives and implementation tools of the Europe 2020 strategy as regards research and development, and to identify the national policy priorities aimed at the development of such activities. Among the tools used to support R&D, particular attention is paid to tax preferences offered to entities which incur expenditures on this type of projects.

## 2. Research and development as an objective of Europe 2020 strategy

Research and development (R&D) is defined as creative work conducted in a methodological way and undertaken with the aim of increasing knowledge resources, including knowledge about humankind, culture, and society, and with the aim of creating new applications of the already existing knowledge. R&D is characterized by the following criteria [Działalność badawcza..., 2017, p. 15]:

- it is oriented towards new discoveries (innovative activity),
- it is founded on original, unobvious concepts and hypotheses (creative activity),
- its final outcome is not known beforehand (activity in the conditions of uncertainty),
- it is planned and budgeted (methodological activity),
- its results can be reproduced (reproducible activity).

What distinguishes R&D from other types of activity is an appreciable element of novelty and elimination of scientific and/or technical uncertainty, i.e. such a solution which does not arise in any obvious way from the current state of knowledge. Activity of this type comprises three types of research [*Nauka i technika...*, 2016, p. 14]:

- basic research, i.e. theoretical and experimental work undertaken chiefly in order to either gain or expand knowledge of the reasons for different phenomena and facts, without aiming to obtain specific practical applications,
- applied research, defined as work undertaken with the aim of gaining new knowledge with certain practical applications; it involves seeking possible practical applications for the results of basic research or arriving at new solutions which enable the achievement of predetermined practical applications,
- development work connected with using the already available knowledge to devise new, or considerably improve, existing products, processes, or services.

The main measuring tool of research and development is the GERD indicator (Gross Expenditure on Research and Development). It is a sum of R&D domestic expenditures in a given year incurred by all the entities conducting this kind of activities in a country or a sum of R&D expenditures of four institutional sectors: enterprises, government and local government, university, and private non-commercial institutions [*Podręcznik Frascati...*, 2006, p. 24]. A detailed classification of expenditures on research and development used in international statistics is presented in table 1.

TABLE 1

### Typology of expenditures on R&D

No.	Type of expenditure	Description of expenditure
1.	Budget funds	The amount of expenditures from the budget, which is a sum of all the items involving research and development work.
2.	Domestic/internal expenditures of an entity, including:	R&D expenditures during the reporting year, irrespective of source of funds; they comprise current expenditures and investment expenditures on fixed assets related to R&D activity but do not account for depreciation of these funds.
2a	Current	Personnel expenditures and costs of consumption of materials, non-durable objects and energy, costs of external services (other than R&D), costs of business trips and other current costs; they do not account for depreciation of fixed assets or VAT.
2b	Investment	Expenditures on new fixed assets related to R&D activity, purchase (acquisition) of used fixed assets and expenditures on first equipment of investment not included in fixed assets but purchased using investment funds.

No.	Type of expenditure	Description of expenditure
3.	Scientific research equipment	Sets of scientific, measuring or laboratory devices of low degree of versatility but with high technical parameters; scientific research equipment does not include computer equipment and other devices not used directly for R&D.

Source: authors' own work on the basis [Ostaszewska, Tylec, 2016, pp. 33-34].

Publications containing statistical data on research and development present analyses of the level of these expenditures in the relation to GDP of a given country (GERD/GDP = R&D intensity indicator). The levels of R&D work intensity index in the EU member states are presented in table 2.

**TABLE 2**

**R&D intensity in EU member states**

COUNTRY	2000	2005	2010	2011	2012	2013	2014	2015	2016
<b>EU-28</b>	<b>1.77</b>	<b>1.74</b>	<b>1.93</b>	<b>1.97</b>	<b>2.01</b>	<b>2.02</b>	<b>2.03</b>	<b>2.03</b>	<b>2.03</b>
Austria	1.89	2.37	2.73	2.67	2.91	2.95	3.07	3.05	3.09
Belgium	1.92	1.78	2.05	2.16	2.27	2.33	2.39	2.47	2.49
Bulgaria	0.5	0.45	0.56	0.53	0.6	0.63	0.79	0.96	0.78
Croatia	.	0.86	0.74	0.75	0.75	0.81	0.78	0.84	0.84
Cyprus	0.23	0.37	0.45	0.46	0.44	0.48	0.51	0.48	0.5
Czech Republic	1.11	1.17	1.34	1.56	1.78	1.9	1.97	1.93	1.68
Denmark	2.19	2.39	2.92	2.94	2.98	2.97	2.91	2.96	2.87
Estonia	0.6	0.92	1.58	2.31	2.12	1.72	1.45	1.49	1.28
Finland	3.25	3.33	3.73	3.64	3.42	3.29	3.17	2.9	2.75
France	2.08	2.04	2.18	2.19	2.23	2.24	2.23	2.22	.
Greece	.	0.58	0.6	0.67	0.7	0.81	0.83	0.97	0.99
Spain	0.89	1.1	1.35	1.33	1.29	1.27	1.24	1.22	1.19
Holland	1.81	1.79	1.72	1.9	1.94	1.95	2	2	2.03
Ireland	1.09	1.19	1.59	1.55	1.56	1.56	1.5	1.2	1.18
Lithuania	0.58	0.75	0.78	0.9	0.89	0.95	1.03	1.04	0.74
Luxemburg	1.58	1.57	1.5	1.46	1.27	1.3	1.26	1.27	1.24
Latvia	0.44	0.53	0.61	0.7	0.66	0.61	0.69	0.63	0.44
Malta	.	0.53	0.61	0.67	0.83	0.77	0.72	0.77	0.61
Germany	2.39	2.42	2.71	2.8	2.87	2.82	2.87	2.92	2.94
<b>Poland</b>	<b>0.64</b>	<b>0.56</b>	<b>0.72</b>	<b>0.75</b>	<b>0.88</b>	<b>0.87</b>	<b>0.94</b>	<b>1</b>	<b>0.97</b>
Portugal	0.72	0.76	1.53	1.46	1.38	1.33	1.29	1.24	1.27
Romania	0.36	0.41	0.45	0.49	0.48	0.39	0.38	0.49	0.48

COUNTRY	2000	2005	2010	2011	2012	2013	2014	2015	2016
Slovakia	0.64	0.49	0.62	0.66	0.8	0.82	0.88	1.18	0.79
Slovenia	1.36	1.41	2.06	2.42	2.57	2.58	2.37	2.2	2
Sweden	.	3.39	3.22	3.25	3.28	3.31	3.15	3.27	3.25
Hungary	0.79	0.92	1.14	1.19	1.26	1.39	1.35	1.36	1.21
Great Britain	1.63	1.56	1.67	1.67	1.6	1.65	1.67	1.67	1.69
Italy	1.01	1.05	1.22	1.21	1.27	1.31	1.34	1.34	1.29

Source: data from [GUS].

Despite the general upward trend of the GERD/GDP indicator, its level is still not satisfactory. Taking into consideration the importance of this relation for both economic growth and the development of enterprises, the European Union has been emphasizing the necessity to increase expenditure on research and development, as reflected in the Lisbon Strategy implemented in the years 2000-2010 and in its continuation – Europe 2020: A strategy for smart, sustainable and inclusive growth. The new perspective proposed by the Europe 2020 strategy contains three priorities [Piersiala, 2014, pp. 302-314]:

- intelligent development based on knowledge and innovation;
- sustainable development involving promotion of economic activity which makes efficient use of available resources, protects the natural environment, while maintaining high level of competitiveness;
- development directed at social activation, i.e. high employment rate and territorial integration.

These priorities made it possible to formulate general objectives, translated into specific objectives in particular member states. In Poland, they were specified in the National Reform Program for the Implementation of the Europe 2020 strategy. The objectives of Europe 2020 and the specific objectives undertaken by Poland are presented in table 3.

Among the above presented strategic objectives a considerable role is played by the one related to the increase in expenditures on R&D. The European Commission predicts that by 2020, the member states will have raised their expenditures on investments in research and development to the level of 3% EU's GDP. Poland has vowed to achieve the level of expenditures on R&D activity equal to 1.7% of its GDP.

TABLE 3

## Europe 2020 strategy objectives and corresponding national objectives

Europe 2020 strategy objectives	National objectives
Increase in employment rate among people aged 20-64 to the level of 75%.	Increase in employment rate among people aged 20-64 to the level of at least 71%.
Allocation of 3% of EU's GDP to investments in R&D.	Raising R&D expenditures to 1.7% of GDP.
Achievement of aims "20/20/20" in the area of climate and energy – reduction in the emission of greenhouse gases by 20% in comparison with 1990, increase in the share of renewable energy to 20% in the total consumption of energy, increase in energy effectiveness by 20%.	Reduction in the use of primary energy to the level of approx. 96 Mtoe, increase of the use of renewable sources of energy, reduction in the emission of CO <sub>2</sub>
Increase in the education level by reducing the number of people who prematurely discontinue their education to less than 10%; increase (to at least 40%) in the percentage of people aged 30-34 with higher education.	Reduction in the percentage of youth who discontinue education and increase (to 45%) in the percentage of people aged 30-34 with higher education.
Reduction of poverty by lifting at least 20 mn people out of poverty or social exclusion.	Reduction of the number of people living below the relative poverty line by 1.5 mn.

Source: authors' own work on the basis of [*Wskazniki Strategii Europa 2020*].

Statistical data published by GUS in 2017, and concerning the period until the end of 2016, show that, among other things [*Działalność badawcza i rozwojowa ...*, 2017, p. 11]:

- in 2016, 21.4 bn PLN was earmarked for scientific research and development work, of which 84.0% constituted domestic expenditures, while the indicator of R&D intensity amounted to 0.97% and was 0.03 percentage points lower in comparison with the year 2015.
- domestic expenditures in the sector of enterprises amounted to 11.8 bn PLN, which constituted 65.7% of domestic expenditures on R&D activity.
- more than half of the domestic expenditures on R&D were allocated for development tasks, of which 91.8% of the resources came from the business sector.

The indicators reflecting domestic expenditures on research and development in recent years are presented in table 4.

The business sector has the largest share in the structure of expenditures. Data illustrating the expenditures of enterprises on R&D in Poland for the years 2012-2016 are included in table 5.

**TABLE 4**

**Selected indicators of domestic expenditures on R&D in 2012-2016**

Indicator	2012	2013	2014	2015	2016
GERD (in mn PLN)	14.353	14.424	16.168	18.061	17.943
GERD/GDP (in %)	0.88	0.87	0.94	1.00	0.97

Source: [*Działalność badawcza i rozwojowa...*, 2017, p. 15].

**TABLE 5**

**Expenditures of enterprises on R&D in 2012-2016**

Year	Total expenditures	Expenditures of enterprises	
		Sum	% [3:2]
2012	14,352.9	5,341.1	37.2
2013	14,423.8	6,291.2	43.6
2014	16,168.2	7,532.1	46.6
2015	18,060.7	8,411.4	46.6
2016	17,943.0	11,782.5	65.7

Source: [*Działalność badawcza ...*, 2015, p. 2; *Działalność badawcza ...*, 2017, p. 22].

In the light of the conducted analyses, it can be said that [*Działalność badawczo-rozwojowa...*, 2013, pp. 5-7]:

- more than half (57%) of medium and large enterprises operating in Poland declare that they either conduct or outsource R&D,
- R&D tasks are undertaken far more frequently by the industrial sector than by the trade or service sectors,
- companies involved in R&D usually conduct research and development activity on an in-house basis or in clusters located in Poland (70%),
- enterprises which implement R&D activities independently usually appoint individual employees as persons in charge, while in one out of two enterprises there exist separate R&D units,
- the basic source of financing R&D are enterprises' own funds (98%), the second most common source is public aid (used by 48% of the enterprises),
- companies are willing to develop their R&D, particularly industrial enterprises intend to intensify their activity in this field,
- in recent years, 71% of the industrial enterprises and 50% of the service enterprises have been planning to either initiate R&D or enhance its scale,
- tax credits encourage enterprises to develop R&D – 90% of the enterprises declare that they would increase expenditures on this type of activities if it was possible to deduct their expenditures in the form of a tax credit,
- enterprises expect an increase in incentives from the public sector (66%) to support their research and development efforts.

### 3. Tax credit for research and development activities –expectations and implementation

In response to the expectations of entrepreneurs, a new R&D tax credit was introduced (on 1st January 2016). It replaced an unattractive credit on the acquisition of new technologies, which had been functioning until the end of 2015, without arousing much interest among entrepreneurs. Since 2009, the credit had been used only by CIT-payers to the amount only slightly exceeding PLN 250 mn [*Preferencje podatkowe...*, 2016, pp. 2, 27].

The new R&D credit makes it possible to achieve real financial benefits for all the entrepreneurs who conduct research activity, irrespective of the sector in which they operate. The principles governing the use of the tax credit are provided for in Art. 18d of the CIT Act and in Art. 26e-26g of the PIT Act. Those who take advantage of the credit are allowed to reduce the base of their income tax by deducting the costs incurred on research and development, without losing the right to treat the same R&D expenditures as tax deductible expenses.

Deduction from the tax base is possible in the case of the so-called eligible costs, i.e. ones which:

- constitute deductible expenses, i.e. were previously included in tax-deductible costs,
- were invested by a taxpayer in research and development,
- fall within the scope of allowable costs, which means that not all the expenses incurred for research and development can be subject to deduction within the framework of the new tax credit.

It should be noted, however, that the right to use the R&D tax credit on in no way depends on the final results of undertaken research and development efforts, their size or type of economic activity.

In principle, the R&D tax credit deduction is made for income earned in the year when the eligible costs were incurred. Therefore, it is impossible to reduce the tax base in a given tax year on the basis of eligible costs from a previous year. If a taxpayer suffers a loss or the income achieved by them (and consequently also the tax base) prevent them from taking full advantage of the credit, they are allowed to make deductions in tax returns for the subsequent three tax years.

By introducing the tax credit the legislator restricted the deductible expenses on research and development to several categories, and namely: personnel and material expenses with regard to the circulating capital, non-material expenses and depreciation costs. At the beginning of 2017, the catalogue of eligible expenses was expanded. The categories of eligible expenses and their description are presented in table 6.



TABLE 6

## Categories of eligible expenses on R&amp;D activity

Category	Description
<b>Categories of eligible costs in force since 2016</b>	
Personnel	Remunerations and employee social security contributions, partly financed by the payer of these contributions, provided that the amounts due and contributions are paid for employees hired to perform research and development activities. (Since 2018, the deduction is also applicable to specific-task contracts and contracts for mandate.)
Material	Expenses on the acquisition of materials and raw materials directly related to the conducted research and development activities.
	Expenses on use of scientific and research equipment strictly for the purpose of conducted research and development activity – provided that the use does not result from a contract signed with an entity related to the taxpayer in accordance with the legislation regarding group entities.
Non-material	Expenses on professional evaluations, opinions, consultancy and equivalent services and results of scientific research – all of which must be performed or provided on the basis of a contract by a scientific unit in compliance with the Act on the Principles of Financing Science. Costs of using scientific and research equipment do not qualify as eligible costs unless the equipment is used solely for research and development activities conducted by the taxpayer.
Depreciation charges	are deducted from fixed assets and intangible assets used in the conducted research and development activities;
	are deducted in a given tax year;
	are included in deductible expenses;
	do not include depreciation charges for motor cars, buildings or separately owned premises.
<b>Extension of the category of eligible costs since 2017</b>	
Related to patent procedures	Preparation and filing of applications to the Polish Patent Office or equivalent foreign institution, including costs of obligatory translation.
	Proceedings conducted by these institutions, in particular office fees and legal representation costs.
	Refutation of claims of failure to meet requisite conditions for obtaining patents, utility model protection rights or industrial design rights, both in the course of application proceedings and after their completion.
	Paying temporary fees, fees for renovation, translations and other activities necessary to be granted or retain patent validity, utility model protection rights or industrial design rights, in particular costs of validation of European patents or unitary effect registration.

Source: authors' own work [Zegarowicz, 2016, p. 131; Zieliński, 2017, p. 528].

Although the law on the R&D tax credit does not impose any upper or lower limits on expenses, in 2016 limitations on eligible costs were introduced, dependent on the size of enterprise. Those limitations were as follows:

- 30% of eligible costs related to remunerations and social insurance contributions of workers employed to carry out R&D activities,
- 20% of the remaining eligible costs if a taxpayer who makes the deduction is the owner of a micro, small or medium enterprise,
- 10% of the remaining eligible costs in the case of the other taxpayers.

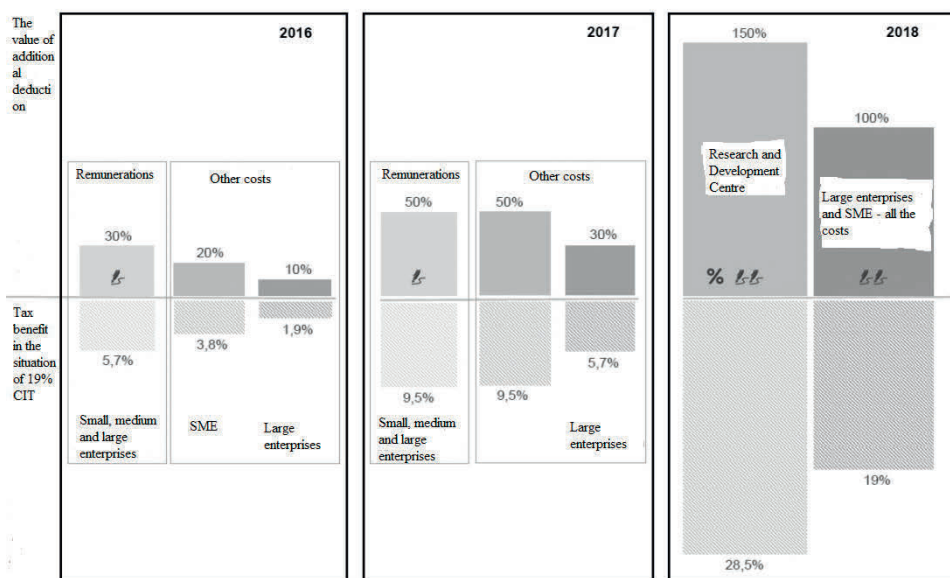
As a consequence of these limitations, small and medium entrepreneurs could deduct up to 50%, whereas the sector of large enterprises – up to 40% of the expenditures made.

At the beginning of 2017, these limitations were changed: in the case of SMEs taxpayers, the sum of eligible costs could not exceed 50% of the limit on personnel expenses and other eligible costs. As for the other entrepreneurs, the limit of deductions could not be higher than 50% of the eligible costs in the case of personnel expenses and 30% in the case of the other costs related to research and development activities.

Since 1 January 2018, all entrepreneurs may take advantage of a 100% deduction of incurred costs, whereas research and development institutions are entitled to a deduction amounting to 150%. Chart 1 presents the limits for deductions and tax benefits that can be claimed in particular years.

CHART 1

## Deduction limits and tax benefits in years 2016-2018



Source: [Ułga na Badania ..., 2017, p. 1].

Additionally, attention needs to be drawn to the special preferences which have been offered to start-ups since 1st January 2017. In accordance with the current regulations, entities which in the first year of operation either incurred a loss or had incomes lower than the sum of the deduction they are entitled to in a given tax return year may receive a cash refund of the eligible expenses not comprised in the credit. This solution can also be used in the tax year which directly follows the start-up year if the entrepreneur operates in the SMEs sector. Such taxpayers may receive refunds equal to the amount of the previously undeducted eligible costs multiplied by the income tax rate applicable in a given tax year. However, one needs to observe that they are obliged to return the obtained cash refund if within 3 years (beginning from the end of the tax year for which the tax return is filed) they become either subject to bankruptcy or liquidation proceedings.

#### 4. Tax credit on research and development according to entrepreneurs

In the light of a study conducted by consulting agencies in the years 2016-2017, it can be said that 54% of the enterprises included in the survey were aware of the introduction of the new tax credit, while the remaining 46% admitted they did not know about it. It is worth emphasizing that only 16% of the surveyed enterprises had either very good or good knowledge of its mechanism. Among the analyzed enterprises more than a half (54%) reacted positively to the introduction of the new tax credit, while 40% remained cautious in their assessment, at least as long as the credit was still a new solution. There were only a few negative reactions to its introduction – 6% of the respondents claimed that it was a bad initiative [*Ułga B+R...*, 2016, pp. 26-27; *Ułga B+R. Wyzwania...*, 2016, p. 27]. Entrepreneurs who conduct research and development activities tend to evaluate the current system of state support for R&D more positively than the law which was in force in 2015 (the percentage of enterprises which regard the Polish R&D support law as unsatisfactory has decreased from 34% to 12%, while the percentage of enterprises which deem it as rather satisfactory has risen from 39% to 49% [*Polska. Badania i rozwój...*, 2017, p. 15]). However, one needs to observe that only 17% of the analyzed companies expressed strong interest in using the new solution, whereas 52% of them declared moderate interest. Only 2% of the enterprises indicated that they were not interested in the new tax credit [*Ułga B+R...*, 2016, p. 29].

For most enterprises the largest problem related to the existing preferences lies in the uncertainty as to how fulfilment of the requisite conditions for using the preferences is evaluated. This regards in particular the assessment of the eligibility of R&D activities for the tax credit, usually made by tax authorities and other entities involved in the support process. 31% of the interviewed entrepreneurs mentioned that issue. Their doubts were aroused by unclear guidelines regarding the eligibility of costs and their calculation. This is the opinion of 22% of the entrepreneurs. Meanwhile, 30% of the entrepreneurs indicated that the tax credit brought insufficient financial benefits. Owing to this, almost half of the surveyed companies did

not intend to use it, while 37% claimed that the current state of the tax credit was not going to have any impact on the share of expenditures allocated to R&D [*Polska. Badania i rozwój ...*, 2017, pp. 15-17].

The objections voiced by the entrepreneurs do not change the fact that a well constructed tax credit (in some countries it is possible to deduct up to 300% of eligible expenditures) is a more stable and attractive solution for enterprises which are already conducting R&D activities associated with a certain risk than direct transfers of funds from the state budget [*Polska. Badania i rozwój ...*, 2017, p. 36].

In the light of the conducted research, it is also possible to identify factors that (according to entrepreneurs) may convince them to make use of the tax credit on research and development. Potential financial savings are the most important factor which encourages business persons to use tax credits (77% interviewed entrepreneurs). Another motivating factor would be the certainty that the solutions are entirely secure and compliant with the interpretations of the Ministry of Finances (69%). Still another factor is the guarantee of a renowned consulting company that would reduce the tax risk connected with using the R&D tax credit (58%). On the other hand, factors which weakened the interest of the entrepreneurs in the tax credit include: a fear of wasting time (61%) and unwillingness to face new administration and book-keeping duties (55%) [*Ułga B+R ...*, 2016, p. 31].

## 5. Conclusions

The transition from an industrial economy to a knowledge-based one, which is observed in EU countries contributes to the fact that research and development (R&D) has become a key factor which determines the direction of economic development. Despite some positive signals from the economy, Poland still remains among those EU states which allocate relatively insignificant funds to research and development. Since R&D requires considerable financial resources, tax preferences may be a strong incentive for enterprises to increase their expenditures on this purpose. The new credit on research and development (in force since 1st January 2016), which replaced the rather unattractive credit for acquiring new technologies, is supposed to be the answer of public authorities to the expectations of entrepreneurs. Modifications in legal regulations regarding this credit in subsequent years, both in the sphere of eligible costs and deduction limits, should be considered as favourable because, as the results of the presented research indicate, the most important incentive to use tax credits on R&D activity are financial savings. The indicated direction of changes in the tax law can result in an overall increase in expenses on research and development, and thus accelerate the transformation towards a knowledge-based economy in accordance with the Europe 2020 strategy.

## References

- Działalność badawcza i rozwojowa w Polsce w 2016 r.*, 2017, Główny Urząd Statystyczny, Urząd Statystyczny w Szczecinie, Warszawa, Szczecin.
- Działalność badawczo-rozwojowa przedsiębiorstw w Polsce. Perspektywa 2020*, 2013, KPMG, Warszawa.
- Działalność badawcza i rozwojowa w Polsce w 2014 r. Opracowanie sygnałne*, 2015, Główny Urząd Statystyczny, Warszawa.
- GUS, <http://stat.gov.pl/statystyka-miedzynarodowa/porownania-miedzynarodowe> [date of entry: 20.03.2018].
- Nauka i technika w 2015 r.*, 2016, Główny Urząd Statystyczny, Urząd Statystyczny w Szczecinie, Informacje i Opracowania Statystyczne, Warszawa.
- Ostraszewska Z., Tylec A., 2016, *Nakłady wewnętrzne na działalność badawczo-rozwojową w Polsce i źródła jej finansowania w sektorze przedsiębiorstw*, „Zeszyty Naukowe Politechniki Częstochowskiej. Zarządzanie”, nr 24, t. 1.
- Piersiala L., 2014, *Rozwój przedsiębiorczości kreowanej przez działalność badawczą i prace rozwojowe*, „Ekonomia i Zarządzanie”, nr 3(6).
- Podręcznik Frascati Proponowane procedury standardowe dla badań statystycznych w zakresie działalności badawczo-rozwojowej*, 2006, Ministerstwo Nauki i Szkolnictwa Wyższego, Departament Strategii, Warszawa.
- Polska. Badania i rozwój w przedsiębiorstwach 2016*, 2017, Deloitte Polska, Warszawa.
- Preferencje podatkowe w Polsce nr 6. Załącznik B: Wartość preferencji podatkowych*, 2016, Ministerstwo Finansów, Warszawa.
- Ulga B+R – korzyść na nyciągnięcie ręki. Jak zyskać dodatkowe pieniądze prowadząc działalność badawczo-rozwojową, Raport z badania EY*, 2016, EY, Warszawa.
- Ulga B+R. Wyzwania – Szanse – Rozwiązania*, 2016, Ayming Polska, Warszawa.
- Ulga na Badania i rozwój (R&D)*, 2017, PWC, Warszawa.
- Wskaźniki Strategii Europa 2020*, [stat.gov.pl/cps/rde/xbcr/gus/POZ\\_Wskazniki\\_Europa2020.pdf](http://stat.gov.pl/cps/rde/xbcr/gus/POZ_Wskazniki_Europa2020.pdf).
- Zegarowicz Ł., 2016, *Ulga na B+R – ocena zmian w zakresie podatkowego wsparcia działalności innowacyjnej w Polsce*, „Optimum. Studia Ekonomiczne”, nr 6, DOI: 10.15290/ose.2016.06.84.10.
- Zieliński R., 2017, *Ulga na działalność badawczo-rozwojową jako instrument rozwoju przedsiębiorców w Polsce*, „Oeconomia Annales Universitatis Mariae Curie-Skłodowska Lublin”, vol. 60(6), DOI: 10.17951/h.2017.51.6.525.