

DEVELOPMENT OF BUSINESS INCOME TAX REVENUE (PIT AND CIT) IN THE VISEGRAD GROUP COUNTRIES (V4) AND ITS REDISTRIBUTION

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Abstract: *The paper presents the development of business income tax revenue (PIT and CIT) in the V4 countries for the analyzed period 2004 – 2021. It also provides an overview of its redistribution. The primary goal of the research is to present the development of business income tax in the Visegrad Group countries, to approach the redistribution of business income tax revenue in individual Visegrad Group countries. Defined partial goals fulfill the primary goal. Our results provide consistent findings on the development of PITent. and CITent. revenues in individual V4 countries. We identify and analyze the amount of tax revenue from natural persons – entrepreneurs, from legal entities – entrepreneurs, we examine the percentage share of PITent. revenue and CITent. to GDP and percentage redistribution of PITent. and CITent. revenue in V4 countries. The results of the research may create the basis for further research of the tax potential in V4 countries.*

Keywords: *Taxes, Entrepreneurs, Personal Income Tax (PIT), Corporate Income Tax (CIT), Tax Revenue, Visegrad Group*

JEL Classification: H25, H32, H71

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1 Introduction

The issue of taxes, tax systems, state budgets and public finance is a long-term object of interest of the professional, scientific and lay community. It is not easy to create a high-quality and safe tax system that would be able to ensure sufficient tax revenues, adequate expenses, a balanced state budget and the stability of public finances. The general requirements for tax systems, which are specified by the professional and scientific community, can be presented as follows: they are primarily “*justice, economic efficiency, clarity, legal perfection and precision, flexibility, positive impact on tax subjects, tax certainty*” (Kajanová, 2014, p. 55 – 56).

In a democratic society, legal legislation enshrines the constitutional⁴ and legal obligation⁵ of the state administrator (state power) to finance basic functions and institutions within the framework of central authority, for example: security and justice. At the same time, the state power must ensure the financing of public goods in accordance with the social agreement and historical heritage, for example: education, healthcare, sports, culture and others (IFP, 2018).

Also, local territorial self-government (municipalities, cities) and its bodies (Mayor of the city, municipal council/city council), territorial self-government – self-governing region/higher territorial unit and its bodies (president of the self-governing region, council of the self-governing region) are obliged, as part of the decentralization of decision-making competences, according to the law⁶, to fairly administer the public finance necessary for the fulfillment of the public needs of the local territorial self-government, a higher territorial unit, for example: security, education, construction, road infrastructure, waste management, public lighting, sport, culture, etc.⁷

Due to the long-term sustainability of public finance, tax revenues must sufficiently cover the public expenditures of the state, local territorial self-government, and higher territorial units.

⁴ For example, in Slovakia – Title Three, Article 55a of the Constitution of the Slovak Republic; Constitutional Act No. 493/2011 Coll. on Budgetary Responsibility;

⁵ Act No. 523/2004 Coll. on budgetary rules for the public administration bodies and on the amendment of certain laws, amended by subsequent acts; Act No. 431/2002 Coll. on Accounting as amended and on amendments of some act; etc.

⁶ Act No. 583/2004 Coll. of Acts on budget rules of the local government and on amendments and supplements to certain laws; Act No. 431/2002 Coll. on Accounting as amended and on amendments of some act; etc.

⁷ According to Act of the National Council of the Slovak Republic No. 369/1990 Coll. on Municipal Establishment; Act No. 302/2001 Coll. of Laws on the self-government of higher territorial units (Act on Self-Governing Regions); etc.

This scientific paper presents the development of income tax revenue of business entities (Natural Persons – Entrepreneurs, Legal Entities – Entrepreneurs) and its redistribution in Visegrad Group countries.

2 Methodology and Methods

The primary goal of the research is to present the development of business income tax (in absolute number) in the Visegrad Group countries (Slovak Republic, Czech Republic, Poland, Hungary), to approach the redistribution of business income tax revenue (in percentage variable) in individual Visegrad Group countries.

To fulfill the primary goal, we have defined partial goals:

- to identify and summarize the redistribution of income tax revenue (in percentage variable) of business entities in the V4 countries,
- to identify the amount of revenue (in absolute number) from the income tax of natural and legal persons - entrepreneurs in the V4 countries in the time series of 2004 - 2021,
- to calculate the percentage and absolute change in PIT (Personal Income Tax) and CIT (Corporate Income Tax) revenue,
- to calculate (ratio to GDP) the percentage share of PIT (DPFO)⁸ revenue – entrepreneurs (PITent.) on the GDP of the V4 countries (ratio to GDP),
- to calculate the percentage share of CIT (DPPO)⁹ revenue – entrepreneurs (CITent.) on the GDP of the V4 countries,
- to visualize the obtained outputs using tables and graphs,
- to state economic interpretations of the obtained outputs.

To achieve the set goal of the research, we defined the following mutually complementary scientific methods: analysis - synthesis, induction - deduction, abstraction - concretization, comparison.

⁸ In Slovakia and the Czech Republic, the abbreviation „DPFO“ is used.

⁹ In Slovakia and the Czech Republic, the abbreviation „DPPO“ is used.

We used the following research techniques: literature research, document analysis, data analysis.

We set a variable as the object of research:

- PITent. revenue in V4 countries,
- CITent. revenue in V4 countries.

The subject of the research is professional and scientific literature, Eurostat data, OECD data, government portal data of Visegrad Group countries, legislation of V4 countries.

For the sake of data comparison, we presented the output data in euro currency. In the output tables, we have also indicated the revenue values in individual national currencies.

We calculated the conversion of the national currencies Czech Koruna (CZK), Polish Złoty (PLN), and Hungarian Forint (HUF) to the Euro currency as of the last day of the calendar year (December 31) according to the exchange rate of the European Central Bank (ECBB) (ECB, 2022).

We calculated the conversion of the national currency Slovak Koruna (SKK) (until December 31, 2008) to the Euro as of the last day of the calendar year (December 31) according to the exchange rate of the National Bank of Slovakia (NBS) (NBS, 2022).

The structure of the paper is created in accordance with the requirements for scientific papers (introduction, methodology and methods, current state of the issue home and abroad, results, discussion and conclusion, references).

3 Current state of the issue home and abroad

Taxes form the basic income of public budgets (state, territorial self-government – higher territorial units, cities, and municipalities). “*They represent the material basis for the existence of the state budget*”, to quote Babčák (2019, p. 29).

The tax is one of the mandatory, legally established payments collected by the state, municipalities and other public entities, which through public budgets is used to cover the needs of the entire society (Medved’ et al. 2009; Sovová and Fiala, 2009).

The tax morale in a given country is driven by the citizenry's expectations about the state of service delivery (Ali et al., 2014; Mawejje and Sebudde, 2019).

“Taxes, therefore, represent an important contract between the government and the citizens by giving them a stronger stake in what their governments do and a stronger incentive to demand accountability” (Mawejje and Sebudde, 2019, p. 119 – 120; Paler, 2013).

The study by the authors Liapis et al. (2020) brings findings, *“that there is a high differentiation between tax regimes and tax morale in different countries. Countries with low tax morale show a negative cross-sectional intercept”*.

The main function of taxes is the collection of funds for the financing of public goods. On the one hand, taxes are an indirect economic tool for managing the fiscal policy of the state, in the intentions of the goals of its economic policy, on the other hand, they significantly affect the amount of disposable income of taxpayers (citizens/natural persons, entrepreneurs) (higher tax burden¹⁰ = lower income of the subject, lower tax burden = higher income of the subject) (Schultzová et al. 2015).

We are talking about *“transfers of funds from the private sector to the public sector”* (Kubátová and Vitek, 1997), as a result of which taxes become part of public finances.

The research by Wiśniewska-Kuźma (2019), conducted in 30 OECD countries, proves the fact that there is a relationship between the structure of tax revenues, public expenditures, the extent of their redistribution as well as the level of income inequalities.

We can also measure the wealth of a country as the volume of GDP (Gross Domestic Product) per capita, which means that the richer the country, the higher GDP per capita it can produce, the more tax revenue the state receives and the more it redistributes among its citizens. There is a correlation between GDP and tax revenues – richer countries collect a much larger share of their domestic product through taxes. The fact that more developed countries have a more sophisticated tax collection system also plays its part in this (Hapl, 2020).

¹⁰ According to the theory – “Supply-side economics” – increasing taxes in the long term also means less public tax revenue (Červená, 2018).

The essence of tax collection is contained in five basic functions: fiscal, allocation, redistribution, stimulation, stabilization (Kukalová, Moravec and Šulcová-Seidlová, 2017).

In addition to performing basic functions, it significantly participates in the tasks of the state, by influencing its various levels: “*political stability, economic growth, the quality of the business environment, the purchasing power of the population, the state budget*” (Kajanová, 2015, p. 18).

The payment of taxes established by law, respectively their lawful effective collection by the state power and their fair redistribution, is an important part of the existence and further development of the state and society as a whole.

The obligation of natural persons – entrepreneurs and legal entities – entrepreneurs to pay tax on their income is regulated by legislation at the level of the individual states of the Visegrad Group. In Slovakia, it is the legislation in accordance with the Income Tax Act of the National Council of the Slovak Republic No. 595/2003 Coll. as later amended (zákon Národnej rady Slovenskej republiky č. 595/2003 Z. z. Zákon o dani z príjmov), in the Czech Republic the Income Taxes Act No. 586/1992 Coll. as later amended of the Czech National Council (zákon č. 586/1992 Sb. Zákon České národní rady o daních z příjmů), in Poland, the Personal Income Tax Act of July 26, 1991 (USTAWA z dnia 26 lipca 1991 r. o podatku dochodowym od osób fizycznych), Corporate Income Tax Act of February 15, 1992 (USTAWA z dnia 15 lutego 1992 r. o podatku dochodowym od osób prawnych), in Hungary CXVII OF 1995. Act on Personal Income Tax (1995. ÉVI CXVII. Törvény a személyi jövedelemadóról 1995 CXVII) and LXXXI OF 1996. Act on Corporate Tax and Dividend Tax (1996. ÉVI LXXXI. Törvény a társasági adóról és az osztalékadóról 1996 LXXXI).

The tax legislation itself can positively support the volume of public finances, which can subsequently benefit all taxpayers, if the tax collection policy by the state power is implemented fairly and equitably. Therefore, the tax legislation of the state, of the community (of the European Union) should be high-quality legislation, which does not allow to avoid paying taxes, which does not accept tax evasion or tax fraud (Saxunová, Nováčková and Kajanová, 2018), at the same time it should be able to accept the basic principle of taxation stability, i.e. “*ensure long-term stable valid laws in the area of taxes*”, because frequent changes in tax legislation trigger uncertainty in the decision-making of tax

subjects, which leads to the destabilization of the business environment and the emergence of the black economy (Teplická and Kádárová, 2020).

At present, taxes in the countries of the European Union make up approximately 80-90 % of state budget revenues (Štofková, 2021).

The tax system of the Visegrad Group countries is similar in its basic features to the tax system of the developed countries of the European Union. The sources of tax revenue for the state power of the V4 countries are mainly:

- Consumption taxes,
- Value added tax (VAT),
- Social insurance taxes,
- *Personal Income Tax (PIT)*,
- *Corporate Income Tax (CIT)*,
- Property taxes (real estate tax).

A scientific study by the authors Andrašić et al. (2018) states that the growth of personal income tax revenue has a positive effect on the economic growth of OECD countries and vice versa, the growth of corporate income tax revenue does not have a statistically significant effect on the growth of the economies of OECD countries.

According to Abuselidze, (2020), Peñalosa and Turnovský (2005), in OECD economies, personal and corporate income taxation provide over 40 % of state tax revenues, while in developing countries personal and corporate taxes never account for more than 25 % of state tax revenues.

The income tax revenue of business entities, its amount and collection options “*have a direct impact on the redistribution of state budget funds, the state budget deficit, assessment of the ‘health’ of public finances, the purchasing power of the population, the choice of legal form of business, and the like*” says Kajanová (2015, p. 19).

The level of income of the population directly affects the level of income of the state budget and the budget of local governments – municipalities, cities, and higher territorial units, respectively the level of wealth of the country's inhabitants affects the financial situation of the state, local territorial governments and higher territorial units of the state, territorial self-government – municipalities, cities, and higher territorial units. Any changes in the wealth

of the population, changes in the number of residents, entrepreneurs and investors affect budget revenues (Dworakowska-Raj, 2020).

A study by Deli et al. (2018) deals with estimates of short and long-term increases in total tax revenues, as well as PIT and CIT revenues for a panel of 25 OECD countries for the period 1965 – 2015. The research conclusions also bring the findings that the CIT revenue is the best automatic stabilizer in times of crisis and proves to be the most effective fiscal policy tool in times of economic instability, i.e., the estimated amount of the CIT yield is greater in periods of economic decline, and not in period of economic expansion.

Several authors Klímovský (2019), Kaliňák et al. (2021), Horbulák (2021), Hoffman (2021), Dworakowska-Raj (2020), and others deal with the issue of financing local self-governing units in the V4 countries.

4 Results

4.1 Income tax revenue of business entities and its redistribution

Slovak Republic

In Slovakia, the state budget is the most important recipient of tax and levy revenues. It is followed by the Social Insurance Agency, health insurance, municipalities, and higher territorial units (VÚC) (IFP, 2018).

Income tax from natural persons from business (PITent.) and income tax from legal entities from business (CITent.) are parts of the state budget income (tax income), which are joint incomes paid by citizens and entrepreneurs. When redistributing income tax revenue from natural persons, it is not diversified¹¹, but it is redistributed as a whole – income tax revenue from natural persons (FS SR, 2022b).

¹¹ For income tax of natural persons from dependent activity (employment), income tax of natural persons from business, from other self-employment, from the rental and use of work and artistic performance, income from capital assets, other income (according to Act No. 595/2003 Coll. on Income Tax/ Zákon č. 595/2003 Z. z. o dani z príjmov).

Corporate income tax revenue from business (CITent.) is one of the parts of the total revenue of DPPO¹². It is used for state expenses in a given year (State Budget for 2022 Act 534/2021 Coll./ Zákon č. 534/2021 Z. z. o štátnom rozpočte na rok 2022).

The Slovak Republic and Poland are among the countries with a strongly decentralized system of territorial self-government¹³. In Slovakia, income tax revenue from natural persons is a share tax and is the most important source of financing for local territorial self-government (municipalities, cities) (Klimovský, 2019).

In Slovakia, the budgetary determination of personal income tax revenue is regulated by Act on the budget determination of income tax yields to regional self-government No. 564/2004 Coll. as later amended. The criteria and method of distribution of income tax revenue for natural persons for territorial self-government (municipalities, cities, higher territorial unit/VÚC) is governed by Government Regulation No. 668/2004 Coll. on the Distribution of Income Tax Yield to Self Government.

Income from natural persons tax is distributed and remitted to municipalities by the tax office in its local territorial scope (district) and higher territorial units (VÚC) by the regional tax office, in the territory of the region in which it is headquartered (FS, 2019).

In Slovakia, PIT (DPFO) tax revenue is the income of municipalities (2 887 municipalities) in the relevant budget year in the amount of 70 % and the income of higher territorial units (8 self-governing regions) in the amount of 30 %¹⁴, see Table 1 for details.

¹² The total income of the CIT/DPPO consists of the income of legal entities according to the Income Tax Act.

¹³ High autonomy of local governments. Territorial self-governments are delegated a large number of decision-making powers and responsibilities by the central state power.

¹⁴ According to Government Regulation No. 668/2004 Coll. on the Distribution of Income Tax Yield to Self Government.

Table 1: Percentage share of units of local territorial self-government, self-governing region and the State budget of the Slovak Republic on the revenue of PIT and CIT

Share of PIT and CIT tax revenue (%)	Municipalities	Self-governing region (VUC)	State budget of the SR
PIT (DPFO)	70 %	30 %	-
CIT (DPPO)	-	-	100 %

Source: own elaboration.

In 2021, municipalities and higher territorial units (VÚC) received a total of 3.3 billion EUR from share taxes (PIT), which is a year-on-year increase of more than 131.7 million EUR (0.132 billion EUR) (FS SR, 2022a).

Czech Republic

The Czech Republic has a relatively decentralized territorial self-government with an extreme degree of fragmentation of the municipal structure within Europe. Up to four types of taxes are used as share taxes in the Czech Republic: income tax on natural persons (PIT), income tax on legal entities (CIT), value added tax and gambling tax (Kaliňák et al., 2021).

Income tax revenue from natural persons – entrepreneurs and income tax revenue from legal entities – entrepreneurs are redistributed as a whole in the Czech Republic. Administrative districts of municipalities (6 254 municipalities in the Czech Republic) have a legal share of 25.84 % of the national gross income of PIT, and administrative districts of regions (13 regions + administrative district of the capital city of Prague) have a legal share of 9.78 %. A share of 25.84 % of the national gross CIT revenue in the Czech Republic is redistributed to the municipalities and a share of 9.78 % to the administrative districts of the regions,¹⁵ see Table 2 for details.

¹⁵ According to Act No. 243/2000 Coll. Act on the budgetary allocation of revenues from certain taxes to territorial self-governing units and certain state funds (Act on the budgetary allocation of taxes)/ Zákon č. 243/2000 Sb. o rozpočtovém určení výnosů některých daní územním samosprávným celkům a některým státním fondům (zákon o rozpočtovém určení daní).

Table 2: The percentage share of administrative districts of municipalities, regions and the state budget of the Czech Republic on the revenue of PIT and CIT

Share of PIT and CIT tax revenue (%)	Administrative districts of municipalities	Administrative districts of regions	State budget of the CR
PIT (DPFO)	25.84 %	9.78 %	64.38 %
CIT (DPPO)	25.84 %	9.78 %	64.38 %

Source: own elaboration.

Poland

Local self-government in Poland participates in the exercise of state power, while the current division of local self-government units is a result of decentralization. The system of local self-government units consists of Municipalities (gminy) (2 477 municipalities), Districts (powiat) (314 districts + 66 cities with district status) and Duchies (16 duchies)¹⁶. Table 1 shows their share of central taxes, see Table 3 for details.

Table 3: Percentage share of local government units in Poland in PIT and CIT revenue

Share of PIT and CIT revenue (%)	Municipalities (gminy)	Districts (powiat)	Duchies
PIT	39.34 %	10.25 %	1.60 %
CIT	6.71 %	1.40 %	14.75 %

Source: Dworakowska-Raj (2020).

From the central budget of Poland, PIT revenue is allocated by redistribution with the largest share to municipalities (39.34 %). The smallest share of PIT revenue belongs to duchies (1.60 %). Duchies have the largest share of CIT revenue (14.75 %), districts have the smallest share (1.40 %).

¹⁶ According to (Statistics Poland, 2022).

Hungary

Hungary was among the strongly pro-reform countries in the area of local government decentralization. After 2010, the state power gradually took away almost half of their competences from municipalities and weakened their own financial autonomy¹⁷ (Kaliňák et al., 2021).

The reform of the self-government system by the legislator was mainly conditioned by the inability of the self-governments to secure their own financing. The reform benefited especially those municipalities that could not secure enough of their own income sources (Horbulák, 2021).

Thus, the financial autonomy of the municipalities is very limited in the new Hungarian municipal system. These changes have been justified by the prevention of the local government debt and by more efficient national asset management (Hoffman, 2021).

Hungary has a different system of financing local government from the other countries of the Visegrad Group. Local self-government revenues correspond to 10 % of Hungary's GDP (2.3 % tax revenues, 6.7 % grants and subsidies, 1% other revenues) (Cools and Liouville, 2021).

Handling of state funds is controlled by an innovative element of control – the ASP (Application Service Provider) system, which allows the State Treasury of Hungary to control the management of municipalities in real-time (Hoffman, 2021).

Income tax revenue PIT – from business (income from self-employment including mainly income from business and from the business fund for dividends or from the flat tax base) and income tax revenue CIT – from business is a source of income of the central budget of Hungary. The tax revenue is not distributed to local governments (municipalities and regions).

Income tax revenue PIT – from business is intended for fulfilling the tasks of the state, by enforcing the principles of proportionality and justice, exceptionally to support the implementation of some social and economic goals of the state (1995 Act CXVII). Income tax revenue CIT – from business

¹⁷ In Hungary, after the introduction of centralization measures, it is more strictly taken into account that the municipalities primarily cover their expenses only from their own incomes and at the same time the standards determined by law (for example, state subsidies, grants and transfers are provided to municipalities for activities in the field of education, culture and social services).

is intended for fulfilling the tasks of the state and for supporting favorable operating conditions of enterprises (1996 Act LXXXI), see Table 4 for details.

All municipalities are entitled to a legal share of the revenue of *local entrepreneurs – local business tax*¹⁸ (or trade tax, local trade tax). Her maximum legal amount is 2 % of the business entity's tax base for a calendar year (Vartašová, 2021).

Table 4: The percentage share of the State budget of Hungary on PIT and CIT revenue

Share on PIT and CIT revenue	State budget of the HU
PIT	100 %
CIT	100 %

Source: own elaboration.

4.2 Development of income tax revenue on natural persons – entrepreneurs (PITent.) and income tax revenue legal entities – entrepreneurs (CITent.) in Slovak Republic

Revenue of PITent. in Slovak Republic

In Table 5, we present the detected revenues of PITent. Slovakia, calculated year-on-year values of their relative and absolute changes and the share of revenue on GDP¹⁹ in the examined period 2004 – 2021.

¹⁸ The local business tax is the main source of funding for the local government and covers up to 85 % of local tax revenue (Horbulák, 2021).

¹⁹ Ratio of revenue value PITent. on GDP in constant prices.

Table 5: Revenues of PITent. in the Slovak Republic and their share on GDP for the period 2004 – 2021.

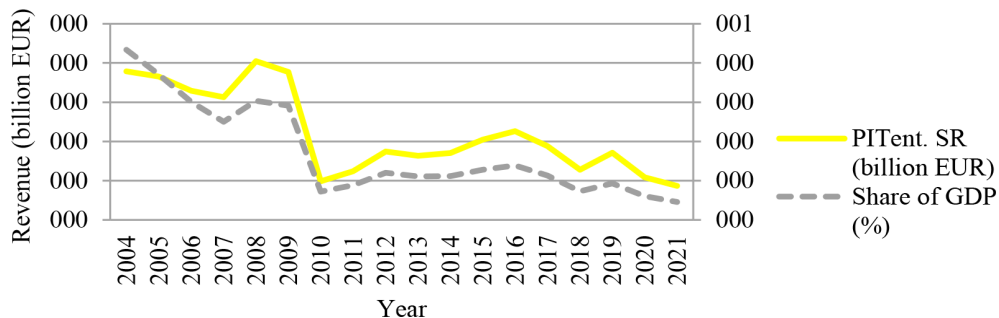
Year	PITent. SR (million EUR)	PITent. SR (billion EUR)	Relative change (%)	Absolute change (billion EUR)	Share of GDP (%)
2004	189,37	0,19	-	-	0,43
2005	182,73	0,18	-3,51	-0,01	0,37
2006	164,54	0,16	-9,95	-0,02	0,30
2007	156,28	0,16	-5,02	-0,01	0,25
2008	202,36	0,20	29,48	0,05	0,30
2009	188,65	0,19	-6,78	-0,01	0,29
2010	49,24	0,05	-73,90	-0,14	0,07
2011	61,95	0,06	25,80	0,01	0,09
2012	87,27	0,09	40,87	0,03	0,12
2013	81,82	0,08	-6,24	-0,01	0,11
2014	85,06	0,09	3,96	0,00	0,11
2015	102,24	0,10	20,20	0,02	0,13
2016	113,03	0,11	10,56	0,01	0,14
2017	94,15	0,09	-16,71	-0,02	0,11
2018	63,94	0,06	-32,09	-0,03	0,07
2019	85,69	0,09	34,03	0,02	0,09
2020	54,35	0,05	-36,58	-0,03	0,06
2021	43,37	0,04	-20,20	-0,01	0,05
Σ		2,01			

Source: Eurostat (2022); data OECD (2022); MF SR (2022), author's calculations.

Development of income tax revenue from natural persons – entrepreneurs of the Slovak Republic and development of the share of PITent. revenue on GDP is shown in Figure 1.

For the analyzed period 2004 – 2021, we observe a volatile trend in the development of tax revenue from natural persons – entrepreneurs in Slovakia (from business and other self-employment). The downward trend of PITent. (DPFOent.) is recorded already in the second year of the analyzed period, 2005 to 2007. In 2008, we record year-on-year growth in PITent. revenue (trajectory) by $\uparrow 29.48\%$ compared to 2007 in the nominal value of growth by 0.0461 billion EUR with the maximum revenue value for the analyzed period 2004 – 2021 (0.20 billion EUR / year 2008, with the share of PITent. on GDP 0.30 %). A significant decrease in the collection of revenue PITent. we observe in 2010, when we recorded a year-on-year decrease of $\downarrow 73.9\%$ from 0.19 billion EUR to 0.05 billion EUR, with the share of PITent. on GDP 0.07 %. We

Figure 1: Development of income tax revenue from natural persons – entrepreneurs of the Slovak Republic and development of the share of PITent. revenue on GDP (%).



Source: Authors' elaboration based on the Eurostat (2022); data OECD and MF SR (2022).

attribute this to the onset of recession as a result of the financial and economic crisis in the period 2008 – 2013. In 2011, we observe a year-on-year growth in the PITent. revenue by $\uparrow 25.80\%$ (with the share of PITent. on GDP 0.09%) compared to 2010 and in 2012 year-on-year growth by $\uparrow 40.87\%$ (with the share of revenue on GDP 0.12%) compared to 2011, in 2013 year-on-year decrease by $\downarrow 6.24\%$ (with the share of revenue on GDP 0.11%) of interannual income PITent. Slovak Republic in 2014 by $\uparrow 3.96\%$ (with the share of revenue on GDP 0.11%), 2015 by $\uparrow 20.20\%$ (0.13% of GDP), with the peak of annual growth in 2016 by 10.56% (0.14% of GDP). In the next period 2017 – 2018, we record a year-on-year decrease in income by $\downarrow 16.71\%$ (0.11% of GDP in 2017) compared to 2016 and a decrease by $\downarrow 32.09\%$ (0.08% of GDP in 2018) compared to 2017. In 2019, we note a slight increase in the amount of PITent. income by $\uparrow 0.02$ billion EUR from 0.06 billion EUR (2018) to 0.09 billion EUR (0.09% of GDP in 2019). With the onset of the global Covid-19 pandemic (March 2020), we note a year-on-year decrease in the income tax revenue of natural persons – entrepreneurs by $\downarrow 36.58\%$ compared to 2019, which in nominal terms is a decrease of $\downarrow 0.031$ billion EUR (more than EUR 31 million) compared to 2019 (EUR 0.09 billion) to EUR 0.05 billion EUR (with the share of PITent. on GDP 0.06%). In 2021, we record the level of the minimum revenue PITent. Slovak Republic for the analyzed period 2004 – 2021 \rightarrow PITent. min. = 0.0434 billion EUR, also with a minimum share of PITent revenue on GDP of 0.04% . Converted to the year-on-year percentage change in revenue, this is a decrease of $\downarrow 20.20\%$ compared to 2020.

Revenue of CITent. in Slovak Republic

In Table 6, we present the detected revenues of CITent. Slovakia, calculated year-on-year values of their relative and absolute changes and the share of revenue on GDP in the examined period 2004 – 2021.

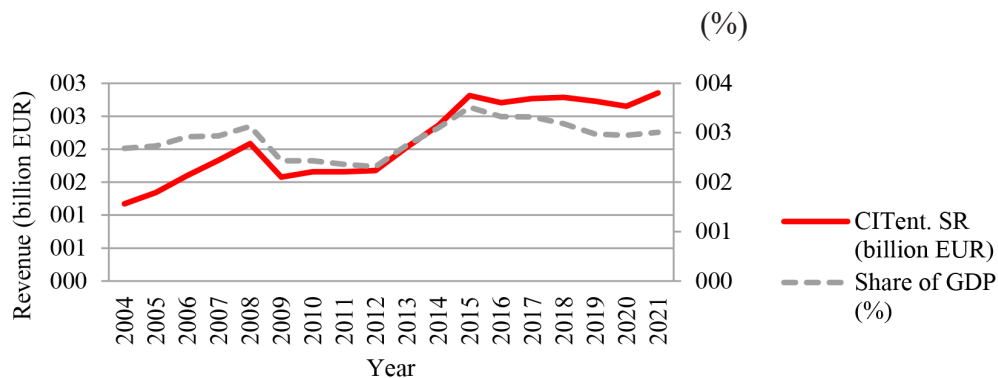
Table 6: Revenues of CITent. in the Slovak Republic and their share on GDP for the period 2004 – 2021.

Year	CITent. SR (million EUR)	CITent. SR (billion EUR)	Relative change (%)	Absolute change (billion EUR)	Share of GDP (%)
2004	1 171,95	1,17	-	-	2,68
2005	1 344,52	1,34	14,73	0,17	2,73
2006	1 599,05	1,60	18,93	0,25	2,92
2007	1 835,46	1,84	14,78	0,24	2,94
2008	2 087,47	2,09	13,73	0,25	3,13
2009	1 576,97	1,58	-24,46	-0,51	2,43
2010	1 659,23	1,66	5,22	0,08	2,44
2011	1 659,72	1,66	0,03	0,00	2,36
2012	1 676,57	1,68	1,02	0,02	2,31
2013	2 030,69	2,03	21,12	0,35	2,75
2014	2 363,59	2,36	16,39	0,33	3,10
2015	2 814,06	2,81	19,06	0,45	3,51
2016	2 706,07	2,71	-3,84	-0,11	3,32
2017	2 770,15	2,77	2,37	0,06	3,32
2018	2 787,71	2,79	0,63	0,02	3,18
2019	2 728,28	2,73	-2,13	-0,06	2,97
2020	2 652,87	2,65	-2,76	-0,08	2,95
2021	2 853,97	2,85	7,58	0,20	3,01
Σ		38,32			

Source: Eurostat (2022); data OECD (2022); MF SR (2022), author's calculations.

Development of income tax revenue from legal entities – entrepreneurs of the Slovak Republic and development of the share of CITent. revenue on GDP is shown in Figure 2.

Figure 2: Development of income tax revenue from legal entities – entrepreneurs of the Slovak Republic and development of the share of CITent. revenue on GDP.



Source: Authors' elaboration based on the Eurostat (2022); data OECD and MF SR (2022).

From Figure 2, we observe a volatile trend in the development of income tax revenue from legal entities – entrepreneurs in Slovakia during the entire analyzed period. 2004 – 2021, with the lowest (min.) revenue value in the first year analyzed in 2004 → CITent.min (DPPOent.min.) = 1.17 billion EUR, with the share of CITent. on GDP 2.68 %. Growing trend of revenue CITent. the Slovak Republic is recorded already in the second year (2005), while we observe a positive development trend until 2008 (2.73 % of GDP in 2005, 2.92 % of GDP in 2006, 2.94 % of GDP in 2007 and 3.13 % in 2008). In the following years 2010 – 2012, we observe a slight relative growth of the revenue CITent. SR, when, despite the onset of the economic crisis, in 2010 we recorded a year-on-year relative growth of revenue (trajectory) by ↑5.22 % (2.44 % of GDP) compared to 2009, in 2011 by ↑0.03 % (2.36 % of GDP) and in 2012 by ↑1.02 % (2.31 % of GDP). In 2013, we recorded an increase in revenue CITent. in an absolute year-on-year change of ↑0.35 billion EUR (2.75 % of GDP) compared to 2012, which is an annual increase of ↑21.12 %. We also observe revenue growth in 2014, 2015, when in 2014 we recorded a year-on-year increase in CITent. revenue collection by ↑0.33 billion EUR (3.10 % of GDP) compared to 2013 and in 2015 an increase of ↑0.45 billion EUR (3.51 % of GDP → maximum share of CITent. revenue Slovak Republic on GDP for the examined period 2004 – 2021). In the next year (2016), we recorded a year-on-year absolute decrease in revenue by ↓0.11 billion EUR (3.32 % of GDP) compared to 2015, which is a relative decrease of ↓3.84

%. In the following years, 2017 and 2018, we note a year-on-year relative increase in the collection of the CITent. revenue by $\uparrow 2.37\%$ in 2017 (3.32 % of GDP) and by $\uparrow 0.63\%$ in 2018 (3.18 % of GDP). In 2019, we recorded a decrease in revenue by $\downarrow 0.06$ billion EUR (2.97 % of GDP) compared to 2018. We also observe a decrease in revenue in 2020, when we record its year-on-year decrease of $\downarrow 0.08$ billion EUR (2.95 % of GDP) compared to 2019. At the time of the global Covid-19 pandemic, we observe a slight decrease in revenue CITent. in the first year of the pandemic (2020) by 2.76 % compared to 2019. In the next year 2021, we record an annual increase in revenue by $\uparrow 7.58\%$ compared to 2020, which in absolute terms is an increase of 0.20 billion EUR and the maximum value of the revenue CITent. Slovak Republic for the analyzed period of 2004 – 2021 \rightarrow CITent.max. = 2.85 billion EUR, with the share of PITent. on GDP 3.01 %.

4.3 Development of income tax revenue on natural persons – entrepreneurs (PITent.) and income tax revenue legal entities – entrepreneurs (CITent.) in Czech Republic

Revenue of PITent. in Czech Republic

In Table 7, we present the detected revenue of PITent. Czech Republic, calculated year-on-year values of their relative and absolute changes and the share of revenues on GDP in the examined period 2004 – 2021. In the last column, we present the revenue values PITent. CR in the national currency CZK.

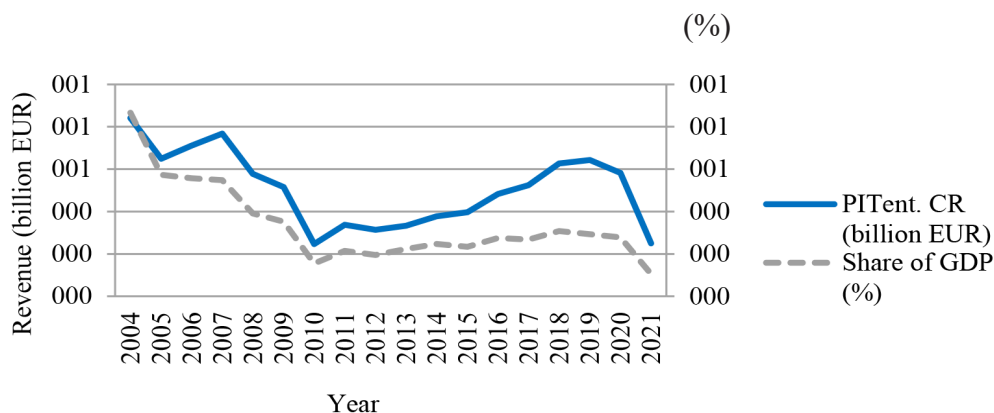
Development of income tax revenue from natural persons – entrepreneurs of the Czech Republic and development of the share of PITent. revenue on GDP is shown in Figure 3.

Table 7: Revenues of PITent. in the Czech Republic and their share on GDP for the period 2004 – 2021.

Year	PITent. CR (million EUR)	PITent. CR (billion EUR)	Relative change (%)	Absolute change (billion EUR)	Share of GDP (%)	Revenue PITent. (billion CZK)
2004	841,45	0,84			0,87	25,63
2005	649,38	0,65	-22,83	-0,19	0,57	18,83
2006	711,73	0,71	9,60	0,06	0,56	19,56
2007	767,35	0,77	7,81	0,06	0,55	20,43
2008	577,67	0,58	-24,72	-0,19	0,39	15,47
2009	514,86	0,51	-10,87	-0,06	0,35	13,63
2010	246,48	0,25	-52,13	-0,27	0,15	6,18
2011	337,15	0,34	36,79	0,09	0,21	8,69
2012	313,64	0,31	-6,97	-0,02	0,20	7,89
2013	332,88	0,33	6,13	0,02	0,22	9,13
2014	377,14	0,38	13,30	0,04	0,25	10,46
2015	397,00	0,40	5,26	0,02	0,23	10,73
2016	482,44	0,48	21,52	0,09	0,27	13,04
2017	524,22	0,52	8,66	0,04	0,27	13,39
2018	627,55	0,63	19,71	0,10	0,31	16,14
2019	642,99	0,64	2,46	0,02	0,29	16,34
2020	582,01	0,58	-9,48	-0,06	0,28	15,27
2021	250,00	0,25	-57,05	-0,33	0,11	6,20
Σ		9,18				247,01

Source: Eurostat (2022); data OECD (2022); MF ČR (2022), author’s calculations.

Figure 3: Development of income tax revenue from natural persons – entrepreneurs of the Czech Republic and development of the share of PITent. revenue on GDP.



Source: Authors’ elaboration based on the Eurostat (2022); data OECD and MF ČR (2022).

For the analyzed period of 2004 – 2021 (Figure 3), we observe a volatile trend in the development of tax collection from the income of natural persons – self-employed persons (DPFOent.) in the Czech Republic. We record the maximum value in the analyzed year 2004 with the amount of revenue PITent. max. = 0.84 billion EUR, 0.87 % of GDP → maximum share of PITent. revenue Czech Republic on GDP for the examined period 2004 – 2021. In 2005, we recorded a decrease in revenue PITent. by ↓0.19 billion EUR (0.57 % of GDP) compared to 2004. In 2006, we observe a year-on-year growth in revenue PITent. (trajectory) by ↑9.60 % (0.56 % of GDP), compared to 2005, in 2007 the increase of the collected revenue by ↑7.81 % (0.55 % of GDP) compared to 2006. The minimum value of the collected revenue PITent.min. = 0.25 billion EUR in 2010 (0.15 % of GDP), which in terms of percentage change in revenue is a decrease of ↓70.71 % compared to 2004 (PITent.max.). A decrease in PITent. revenue in the period 2008 – 2010, i attribute the onset of the global financial crisis (year 2008), the global economic crisis and its consequence – the global recession, which had a negative impact on the activity of natural persons (self-employed) in the Czech Republic. In 2011, we recorded a year-on-year increase in revenue PITent. by ↑36.79 % (0.21 % of GDP) compared to 2010. From 2012 to 2019, we record the growth of revenue PITent. with the following year-on-year percentage changes – ↑6.13 % (year 2013, 0.22 % of GDP), ↑13.30 % (year 2014, 0.25 % of GDP), ↑5.26 % (year 2015, 0.23 % of GDP), ↑21.52 % (year 2016, 0.27 % of GDP), ↑8.66 % (year 2017, 0.27 % of GDP), ↑19.71 % (year 2018, 0.31 % of GDP) and ↑2.46 % (year 2019, 0.29 % of GDP). This gradual growth of revenues PITent. we attribute to the introduction of the solidarity PIT rate²⁰ in the Czech republic, which we can call - the “regeneration” of share taxes in the post-recession period (2013 – 2015). With the onset of the global Covid-19 pandemic (March 2020), we recorded a year-on-year decrease in revenue PITent. in 2020 by ↓9.48 % (0.28 % of GDP) compared to 2019 and a significant ↓57.05 % decrease in revenue PITent. in 2021 ↓0.33 billion EUR, also with a minimum share of PITent. revenue on GDP of 0.11 %.

²⁰The solidarity tax was introduced in the amount of 7% of FO incomes above the limit to the basic rate of 15% → 7% solidarity surcharge was applied on income above the limit.

Revenue of CITent. in Czech Republic

In Table 8, we present the detected revenues of CITent. Czech Republic, calculated year-on-year values of their relative and absolute changes and the share of revenue on GDP in the examined period 2004 – 2021. In the last column, we present the revenue values CITent. CR in the national currency CZK.

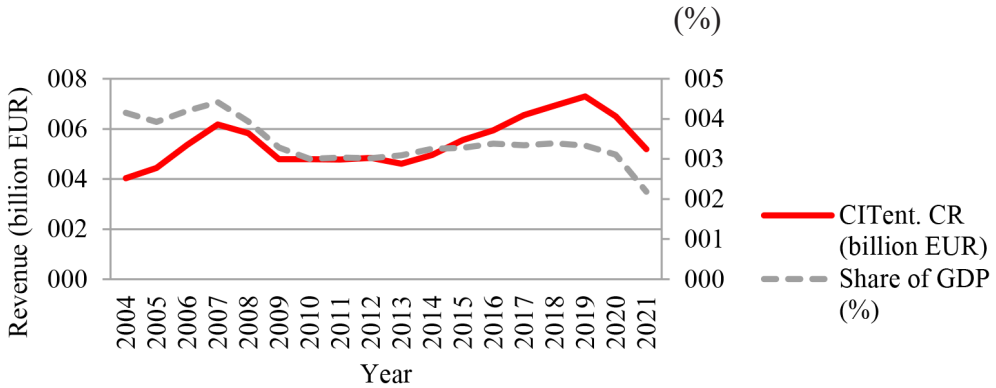
Table 8: Revenues of CITent. in the Czech Republic and their share on GDP for the period 2004 – 2021.

Year	CITent. CR (million EUR)	CITent. CR (billion EUR)	Relative change (%)	Absolute change (billion EUR)	Share of GDP (%)	Revenue CITent. (billion CZK)
2004	4 031,41	4,03	-	-	4,15	122,81
2005	4 440,97	4,44	10,16	0,41	3,92	128,79
2006	5 357,94	5,36	20,65	0,92	4,20	147,26
2007	6 181,43	6,18	15,37	0,82	4,42	164,60
2008	5 819,82	5,82	-5,85	-0,36	3,93	155,88
2009	4 789,20	4,79	-17,71	-1,03	3,28	126,52
2010	4 790,77	4,79	0,03	0,00	3,00	121,47
2011	4 779,16	4,78	-0,24	-0,01	3,04	123,40
2012	4 840,18	4,84	1,28	0,06	3,02	121,68
2013	4 607,80	4,61	-4,80	-0,23	3,09	126,46
2014	4 955,83	4,96	7,55	0,35	3,25	137,66
2015	5 555,28	5,56	12,10	0,60	3,28	150,15
2016	5 937,61	5,94	6,88	0,38	3,38	160,45
2017	6 547,92	6,55	10,28	0,61	3,34	168,61
2018	6 920,79	6,92	5,69	0,37	3,39	178,94
2019	7 294,67	7,29	5,40	0,37	3,33	185,61
2020	6 499,90	6,50	-10,90	-0,79	3,10	169,90
2021	5 193,50	5,19	-20,10	-1,31	2,18	129,10
Σ		98,54				2 619,30

Source: Eurostat (2022); data OECD (2022); MF ČR (2022).

Development of income tax revenue from legal entities – entrepreneurs of the Czech Republic and development of the share of CITent. revenue on GDP is shown in Figure 4.

Figure 4: Development of income tax revenue from legal entities – entrepreneurs of the Czech Republic and development of the share of CITent. revenue on GDP.



Source: Authors' elaboration based on the Eurostat (2022); data OECD (2022) and MF ČR (2022).

For the analyzed period of 2004 – 2021 (Figure 4), we observe a volatile trend in the development of the revenue CITent. – entrepreneurs (DPPOent.) Czech Republic. In the period of 2005 – 2007 we observe the growth of revenue CITent. with a peak in 2007, when we record an annual increase (trajectory) of $\uparrow 15.37\%$ compared to 2006, which is the annual absolute change in revenue CITent. by $\uparrow 0.82$ billion EUR and 4.42% of GDP \rightarrow maximum share of CITent. revenue Czech Republic on GDP for the examined period 2004 – 2021. In 2008, we observe the onset of a downward trend in the development of the revenue CITent. due to the onset of the global financial crisis. In 2009, we recorded a year-on-year decrease in revenue CITent. by $\downarrow 17.71\%$ (decrease in revenue by EUR 1.03 billion EUR) (3.28% of GDP) compared to 2008. In the next period of 2009 – 2012 (recession period), we note a slightly volatile trend in the development of revenue CITent. with an approximately constant curve of the amount of revenue CITent. at the level of 4.79 billion EUR (2009), 4.79 billion EUR (year 2010, 3.0% of GDP), 4.78 billion EUR (year 2011, 3.04% of GDP) with a slight year-on-year increase in revenue by $\uparrow 1.28\%$ in 2012 – to 4.84 billion EUR (3.02% of GDP). In 2013, we recorded a year-on-year decrease in revenue CITent. by $\downarrow 4.80\%$ (3.09% of GDP) compared to 2012. In the years 2014 – 2019, we observe a growing trend in the development of revenue CITent., when we record the maximum value of revenue CITent.max. = 7.29 billion EUR (year 2019, 3.33% of GDP). With the onset of the global Covid-19 pandemic (March 2020), we are noticing a year-on-year decrease in revenue CITent. by $\downarrow 10.90\%$ compared to 2019 in absolute terms 6.50 billion

EUR (year 2020). In 2021, we see a year-on-year decrease in revenue CITent. by ↓20.10 % compared to 2020, which is a decrease in revenue CITent. Czech Republic by ↓1.31 billion EUR from 6.50 billion EUR (year 2020, 3.10 % of GDP) to 5.19 billion EUR (year 2021) and 2.18 % of GDP (2021) → minimum share of CITent. revenue Czech Republic on GDP for the examined period 2004 – 2021.

4.4 Development of personal income tax – entrepreneurs (PITent.) and corporate income tax – entrepreneurs (CITent.) in Poland

Revenue of PITent. in Poland

In Table 9, we present the detected revenue of PITent. Poland, calculated year-on-year values of their relative and absolute changes and the share of revenues on GDP in the examined period 2004 – 2021. In the last column, we present the revenue values PITent. PL in the national currency PLN.

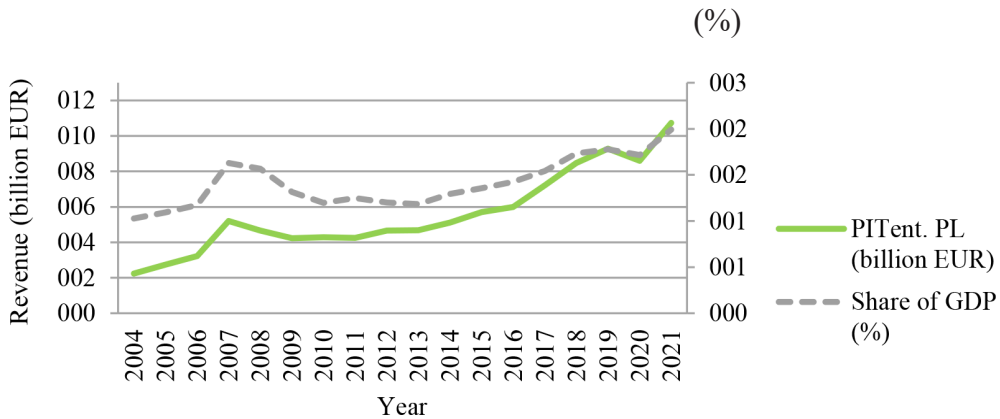
Table 9: Revenues of PITent. in Poland and their share on GDP for the period 2004 – 2021.

Year	PITent. PL (million EUR)	PITent. PL (billion EUR)	Relative change (%)	Absolute change (billion EUR)	Share of GDP (%)	Revenue PITent. (billion PLN)
2004	2 237,24	2,24			1,03	9,14
2005	2 735,49	2,74	22,27	0,50	1,09	10,56
2006	3 218,48	3,22	17,66	0,48	1,17	12,33
2007	5 196,33	5,20	61,45	1,98	1,63	18,67
2008	4 666,67	4,67	-10,19	-0,53	1,57	19,38
2009	4 239,49	4,24	-9,15	-0,43	1,32	17,40
2010	4 281,76	4,28	1,00	0,04	1,20	17,02
2011	4 242,04	4,24	-0,93	-0,04	1,25	18,91
2012	4 660,98	4,66	9,88	0,42	1,20	19,02
2013	4 686,23	4,69	0,54	0,03	1,19	19,47
2014	5 118,18	5,12	9,22	0,43	1,30	21,87
2015	5 705,34	5,71	11,47	0,59	1,36	24,33
2016	5 997,78	6,00	5,13	0,29	1,42	26,45
2017	7 216,18	7,22	20,31	1,22	1,54	30,14
2018	8 480,73	8,48	17,52	1,26	1,73	36,48
2019	9 274,34	9,27	9,36	0,79	1,78	39,48
2020	8 602,76	8,60	-7,24	-0,67	1,72	39,23
2021	10 734,63	10,73	24,78	2,13	1,99	49,35
Σ		101,29				429,23

Source: Eurostat (2022); data OECD (2022), author's calculations.

Development of income tax revenue from natural persons – entrepreneurs of Poland and development of the share of PITent. revenue on GDP is shown in Figure 5.

Figure 5: Development of income tax revenue from natural persons – entrepreneurs of Poland and development of the share of PITent. revenue on GDP.



Source: Authors' elaboration based on the Eurostat (2022); data OECD (2022).

For the analyzed period 2004 – 2021 (Figure 5), we observe a volatile trend in the development of revenue PITent. in Poland. The minimum value of revenue PITent. we observe in 2004 with an absolute value of 2.24 billion EUR, with a share of PITent.min. revenue on GDP of 1.03 %. In 2005, we observe a slight year-on-year increase of revenue PITent. in relative terms $\uparrow 22.27\%$ (year 2005, 1.09 of GDP). In 2007, we recorded a significant year-on-year increase (trajectory) in the collection of revenue PITent. by $\uparrow 61.45\%$ (compared to 2006) with an absolute value of revenue 5.20 billion EUR (year 2007, 1.63 % of GDP). In the period of 2008 – 2011 (global financial and economic crisis) we observe a rather decreasing trend of revenue PITent. in Poland with a slight year-on-year increase in 2010 by 0.99 % (1.20 % of GDP). In the period of 2012 – 2019, we note a growing trend of revenue PITent. with the absolute value of PITent. in 2019 at the level of 9.27 billion EUR, which is a change in the amount of revenue PITent. compared to 2012 by $\uparrow 98.97\%$ (share of GDP, see table 9 for more details). In 2020 (the onset of the Covid-19 pandemic), we are seeing a slight year-on-year decrease of revenue PITent. by $\downarrow 7.24\%$ (1.72 % of GDP) compared to 2019. In the next year of the pandemic (year 2021), we record an increase of revenue PITent. Poland by $\uparrow 24.78\%$ from

8.60 billion EUR (year 2020) to 10.73 billion EUR (year 2021) with a year-on-year absolute change of $\uparrow 2.13$ billion EUR compared to 2020, and 1.99 % of GDP (2021) \rightarrow maximum share of PITent. revenue Poland on GDP for the examined period 2004 – 2021.

Revenue of CITent. in Poland

In Table 10, we present the detected revenues of CITent. Poland, calculated year-on-year values of their relative and absolute changes and the share of revenue on GDP in the examined period 2004 – 2021. In the last column, we present the revenue values CITent. PL in the national currency PLN.

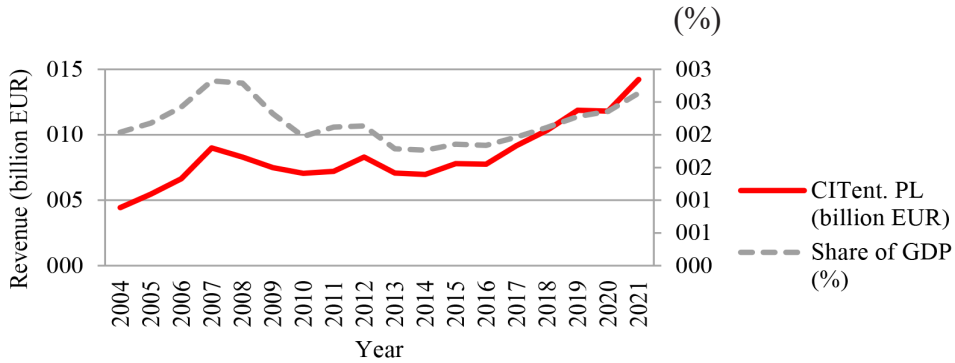
Table 10: Revenues of CITent. in Poland and their share on GDP for the period 2004 – 2021.

Year	CITent. PL (million EUR)	CITent. PL (billion EUR)	Relative change (%)	Absolute change (billion EUR)	Share of GDP (%)	Revenue CITent. (billion PLN)
2004	4 437,26	4,44			2,04	18,12
2005	5 455,18	5,46	22,94	1,02	2,18	21,06
2006	6 647,87	6,65	21,86	1,19	2,42	25,47
2007	8 995,13	9,00	35,31	2,35	2,82	32,32
2008	8 302,64	8,30	-7,70	-0,69	2,79	34,49
2009	7 480,58	7,48	-9,90	-0,82	2,32	30,72
2010	7 062,50	7,06	-5,59	-0,42	1,97	28,13
2011	7 201,63	7,20	1,97	0,14	2,12	31,65
2012	8 297,92	8,30	15,22	1,10	2,14	33,86
2013	7 069,97	7,07	-14,80	-1,23	1,79	29,35
2014	6 973,40	6,97	-1,37	-0,10	1,76	30,04
2015	7 805,34	7,81	11,93	0,83	1,86	33,10
2016	7 750,92	7,75	-0,70	-0,05	1,84	34,18
2017	9 178,13	9,18	18,41	1,43	1,96	38,36
2018	10 343,98	10,34	12,70	1,17	2,11	44,33
2019	11 881,53	11,88	14,86	1,54	2,28	50,61
2020	11 807,32	11,81	-0,62	-0,07	2,36	52,87
2021	14 221,99	14,22	20,45	2,41	2,64	65,38
Σ		150,91				634,03

Source: Eurostat (2022); data OECD (2022), author's calculations.

Development of income tax revenue from legal entities – entrepreneurs of Poland and development of the share of CITent. revenue on GDP is shown in Figure 6.

Figure 6: Development of income tax revenue from legal entities – entrepreneurs of Poland and development of the share of CITent. revenue on GDP.



Source: Authors' elaboration based on the Eurostat (2022); data OECD (2022).

For the analyzed period 2004 – 2021 (Figure 6), we observe a volatile trend in the development of revenue PITent. in Poland. From 2004 to 2007, we note the growth of revenue CITent. at the level of CITent.min. = 4.44 billion EUR in 2004 (2.04 % of GDP) up to 9.0 billion EUR in 2007 (2.82 % of GDP → maximum share of CITent. revenue Poland on GDP for the examined period 2004 – 2021). In 2008, we recorded a year-on-year decrease of revenue CITent. by ↓7.70 % compared to 2007, which is an annual absolute change of ↓0.69 billion EUR (2.79 % of GDP). Downward trend of revenue CITent. we also observe in the following years 2009, 2010 (global economic crisis), when we record an annual decrease of ↓9.90 % (2009 compared to 2008) and ↓5.59 % (2010 compared to 2009). In 2009, we recorded a CITent. revenue of 2.32 % of GDP. In 2011, we recorded a slight year-on-year increase of revenue CITent. in absolute change by ↑0.14 billion EUR from 7.20 billion EUR (year 2010, 1.97 % of GDP) to 8.30 billion EUR (year 2011, 2.12 % of GDP). We are also observing the growth of revenue CITent. in the following year 2012, when we record a year-on-year increase of revenue CITent. by ↑15.22 % compared to 2011 in an absolute change of ↑1.10 billion EUR (2.,14 % of GDP). In the following years 2013 – 2016, we note a year-on-year decrease of revenue CITent. by ↓14.80 % in 2013 (1.79 % of GDP), a slight year-on-year decrease of revenue CITent. by ↓1.37 % in 2014 (1.76 % of GDP), year-on-year growth of revenue CITent. in 2015 by ↑11.93 % (1.86 % of GDP) and a slight year-on-year decrease of revenue CITent. in 2016 by ↓0.70% (1.84 % of GDP). In the next period of 2017 – 2019 we note a growing trend of revenue CITent. percentage by ↑18.41 % (year 2017 with a share of GDP of 1.96 %), ↑12.71%

(2018 with a share of GDP of 2.11 %) and ↑14.86 % (year 2019 with a share of GDP of 2.28 %). With the onset of the Covid-19 pandemic (March 2020), we only recorded a slight year-on-year decrease of revenue CITent. in Poland (year 2020) by ↓0.62 %, which is an absolute change of ↓0.07 billion. EUR → from 11.88 billion EUR (year 2019) to 11.81 billion EUR (year 2020 with a share of GDP of 2.36 %). On the contrary, in 2021 we see a significant relative increase of revenue CITent. Poland by ↑20.45 % with a year-on-year absolute change of ↑2.41 billion EUR compared to 2020, which is the maximum value of revenue CITent.max. = 14.22 billion EUR (2.64 % of GDP) for the entire analyzed period of 2004 – 2021.

4.5 Development of personal income tax – entrepreneurs (PITent.) and corporate income tax – entrepreneurs (CITent.) in Hungary

Revenue of PITent. in Hungary

In Table 11, we present the detected revenue of PITent. Hungary, calculated year-on-year values of their relative and absolute changes and the share of revenues on GDP in the examined period 2004 – 2021. In the last column, we present the revenue values PITent. HU in the national currency HUF.

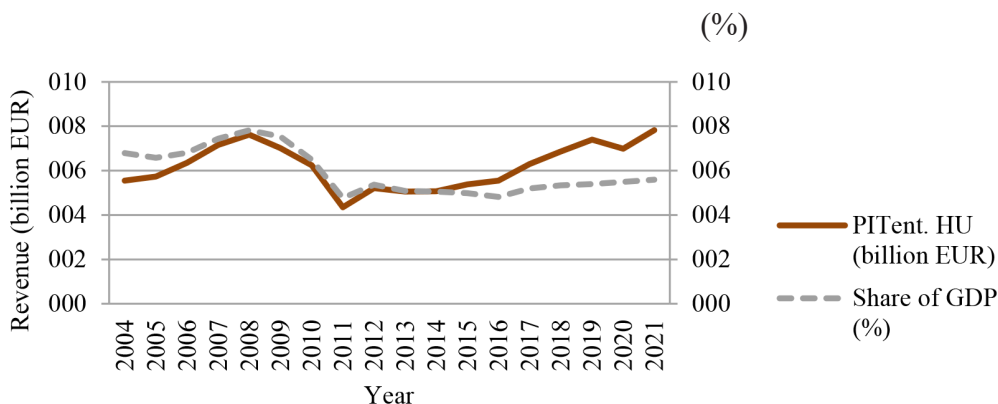
Table 11: Revenues of PITent. in the Hungary and their share on GDP for the period 2004 – 2021.

Year	PITent. HU (million EUR)	PITent. HU (billion EUR)	Relative change (%)	Absolute change (billion EUR)	Share of GDP (%)	Revenue PITent. (billion HUF)
2004	5 542,48	5,54			6,79	1 363,28
2005	5 733,08	5,73	3,44	0,19	6,58	1 449,73
2006	6 351,04	6,35	10,78	0,62	6,81	1 599,00
2007	7 159,48	7,16	12,73	0,81	7,44	1 816,57
2008	7 624,93	7,62	6,50	0,47	7,82	2 033,57
2009	7 015,64	7,02	-7,99	-0,61	7,53	1 897,17
2010	6 240,92	6,24	-11,04	-0,77	6,50	1 734,66
2011	4 348,12	4,35	-30,33	-1,89	4,77	1 367,83
2012	5 203,71	5,20	19,68	0,86	5,37	1 513,19
2013	5 054,01	5,05	-2,88	-0,15	5,09	1 501,24
2014	5 064,43	5,06	0,21	0,01	5,06	1 598,03
2015	5 375,20	5,38	6,14	0,31	4,99	1 698,46
2016	5 553,77	5,55	3,32	0,18	4,81	1 720,73
2017	6 289,67	6,29	13,25	0,74	5,19	1 951,87
2018	6 858,91	6,86	9,05	0,57	5,34	2 201,57
2019	7 398,95	7,40	7,87	0,54	5,39	2 445,58
2020	6 989,21	6,99	-5,54	-0,41	5,50	2 543,30
2021	7 824,15	7,82	11,95	0,83	5,59	2 888,60
Σ		111,63				33 324,38

Source: Eurostat (2022); data OECD (2022), author's calculations.

Development of income tax revenue from natural persons – entrepreneurs of the Hungary and development of the share of PITent. revenue on GDP is shown in Figure 7.

Figure 7: Development of income tax revenue from natural persons – entrepreneurs of the Hungary and development of the share of PITent. revenue on GDP.



Source: Authors' elaboration based on the Eurostat (2022); data OECD (2022).

The development of revenue PIT – entrepreneurs in Hungary (Figure 7) describes a volatile trend during the entire analyzed period of 2004 – 2021. In 2004 to 2008, we observe a growing trend in the development curve of the amount of the collected revenue PITent. Hungary with year-on-year growth (trajectory) of $\uparrow 3.44\%$, in 2005 (6.58 % of GDP), $\uparrow 10.78\%$, in 2006 (6.81 % of GDP) $\uparrow 12.73\%$, in 2007 (7.44 % of GDP) and $\uparrow 6.5\%$ growth in 2008 (7.82 % of GDP \rightarrow maximum share of PITent. revenue Hungary on GDP for the examined period 2004 – 2021). In 2009 to 2011 we observe a falling curve of the development of the selected revenue PITent. with an absolute decrease of $\downarrow 0.61$ billion EUR in 2009 (7.53 % of GDP), by $\downarrow 0.77$ billion EUR in 2010 (6.50 % of GDP) and the decrease of revenue PITent. to the level of its minimum value – PITent.min. = 4.35 billion EUR in 2011 (4.77 % of GDP), in relative terms – a decrease of $\downarrow 30.33\%$ compared to 2010. We attribute this trend to the global financial crisis, its transition to economic crisis and global recession. In 2012, we recorded year-on-year growth of revenue PITent. by $\uparrow 19.68\%$ compared to 2011 in absolute terms - an increase of revenue PITent. by 0.86 billion EUR (5.37 % of GDP). In the next period 2013 – 2019, we observe a growing trend of revenue PITent. with a slight year-on-year decrease of $\downarrow 5.54\%$ in 2020 (beginning of the global Covid-19 pandemic), with the

share of PITent. on GDP 5.50 % (2020). In the last analyzed year, 2021, we observe a growing trend in the development of revenue PITent. in Hungary. Despite the ongoing pandemic associated with strict government measures (restriction of business – lockdown), we are seeing an increase in the collected of revenue PITent. by $\uparrow 11.95$ % compared to 2020, which is an annual increase of $\uparrow 0.83$ billion EUR - from 6.99 billion EUR (year 2020) to 7.82 billion EUR (year 2021) – maximum value of revenue PITent. in Hungary for the analyzed period of 2004 – 2021. In 2021, we record a 5.59 % share of PITent. revenue on GDP.

Revenue of CITent. in Hungary

In Table 12, we present the detected revenues of CITent. Hungary, calculated year-on-year values of their relative and absolute changes and the share of revenue on GDP in the examined period 2004 – 2021. In the last column, we present the revenue values CITent. HU in the national currency HUF.

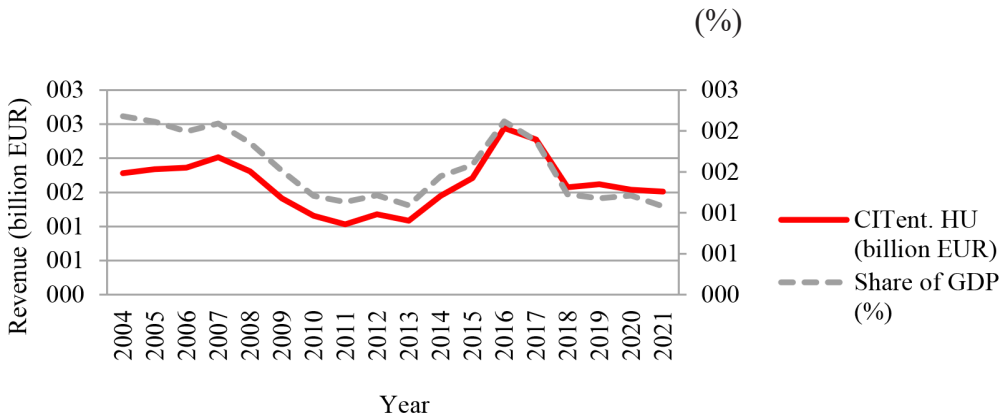
Table 12: Revenues of CITent. in the Hungary and their share on GDP for the period 2004 – 2021.

Year	CITent. HU (million EUR)	CITent. HU (billion EUR)	Relative change (%)	Absolute change (billion EUR)	Share of GDP (%)	Revenue CITent. (billion HUF)
2004	1 780,86	1,78			2,18	438,04
2005	1 841,36	1,84	3,40	0,06	2,11	465,63
2006	1 861,54	1,86	1,10	0,02	2,00	468,68
2007	2 013,09	2,01	8,14	0,15	2,09	510,78
2008	1 809,24	1,81	-10,13	-0,20	1,86	482,52
2009	1 410,70	1,41	-22,03	-0,40	1,51	385,54
2010	1 158,41	1,16	-17,88	-0,25	1,21	323,37
2011	1 031,17	1,03	-10,98	-0,13	1,13	316,62
2012	1 177,16	1,18	14,16	0,15	1,21	342,31
2013	1 084,76	1,08	-7,85	-0,09	1,09	322,47
2014	1 447,54	1,45	33,44	0,36	1,45	457,54
2015	1 708,64	1,71	18,04	0,26	1,59	539,78
2016	2 443,34	2,44	43,00	0,73	2,12	756,65
2017	2 277,18	2,28	-6,80	-0,17	1,88	710,07
2018	1 573,67	1,57	-30,89	-0,70	1,22	506,67
2019	1 617,30	1,62	2,77	0,04	1,18	534,52
2020	1 539,08	1,54	-4,84	-0,08	1,21	549,82
2021	1 511,42	1,51	-1,80	-0,03	1,08	558,00
Σ		29,29				8 669,00

Source: Eurostat (2022); data OECD (2022), author's calculations.

Development of income tax revenue from legal entities – entrepreneurs of the Hungary and development of the share of CITent. revenue on GDP is shown in Figure 8.

Figure 8: Development of income tax revenue from legal entities – entrepreneurs of the Hungary and development of the share of CITent. revenue on GDP.



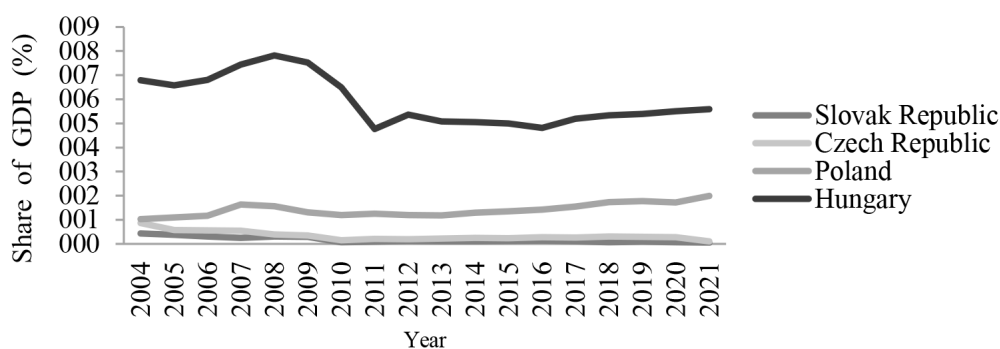
Source: Authors' elaboration based on the Eurostat (2022); data OECD (2022).

For the analyzed period of from 2004 to 2021 (Figure 8), we observe a volatile trend in the development of corporate income tax – entrepreneurs in Hungary. In 2004 to 2007, we observe a slightly increasing trend (trajectory) in the amount of revenue CITent. with a peak in 2007, when we see an increase of revenue CITent. by $\uparrow 13.04\%$ compared to 2004, with a percentage share of CIT revenue to GDP of 2.18% in 2004 (max.), 2.11 % of GDP in 2005, 2.00 % of GDP in 2006 and 2.09 % of GDP in 2007. In the next period of 2008 – 2011 (global financial and economic crisis) we observe a downward trend in the development of revenue curve CITent., with a year-on-year decrease of $\downarrow 10.13\%$ (1.86 % of GDP) in 2008 compared to 2007, a decrease of $\downarrow 22.03\%$ (1.51 % of GDP) in 2009 compared to 2008, a $\downarrow 17.88\%$ (1.21 % of GDP) in 2010 compared to 2009 and a decrease of revenue CITent. by $\downarrow 10.98\%$ (1.13 % of GDP) in 2011 compared to 2010, in the absolute amount of income under CITent. = 1.03 billion EUR, which is the minimum (min.) value of revenue CITent. recorded in the examined period of 2004 – 2021. In the next period of 2012 – 2016 we observe an increasing trend of revenue curve CITent. with a slight year-on-year decrease of $\downarrow 7.85\%$ (1.09 % of GDP) in 2013, with an absolute change of $\downarrow 0.09$ billion EUR compared to 2012.

In 2016 (trajectory), we recorded the maximum of revenue CITent.max. = 2.44 billion EUR (2.12 % of GDP), with a year-on-year increase of revenue CITent. by ↑43 % compared to 2015. In 2017 and 2018, we recorded a year-on-year decrease of revenue CITent. by ↓6.80 % (year 2017, 1.88 % of GDP) compared to 2016 and up to a ↓30.89 % (1.22 % of GDP) decrease of revenue CITent. in 2018 compared to 2017 (↓0.70 billion EUR). In 2019, we observe a slight year-on-year increase of revenue CITent. by ↑2.77 % (↑0.04 billion EUR) compared to 2018, with the share of PITent. on GDP 1.18 %. With the onset of the global Covid-19 pandemic (in March 2020), we are seeing a slight decrease of revenue CITent. in Hungary by ↓4.84 % (1.21 % of GDP), with an absolute change (decrease) of ↓0.08 billion EUR (80 million EUR) compared to 2019. Decrease of revenue CITent. we also observe in the second year of the Covid-19 pandemic (year 2021), when we record an absolute change of ↓0.03 billion EUR, in relative terms (decrease) by ↓1.80% compared to 2020. In 2021, we record the minimum percentage share of CITent.min. on GDP for the entire examined period 2004 – 2021 with a value of 1.08%.

The comparison of the percentage share of PITent. and CITent. revenue on the GDP of the V4 countries for the examined period 2004 – 2021 is visualized in Figures 9 and 10.

Figure 9: Comparison of the percentage share of PITent. revenue on the GDP of the V4 countries for the examined period 2004 – 2021.

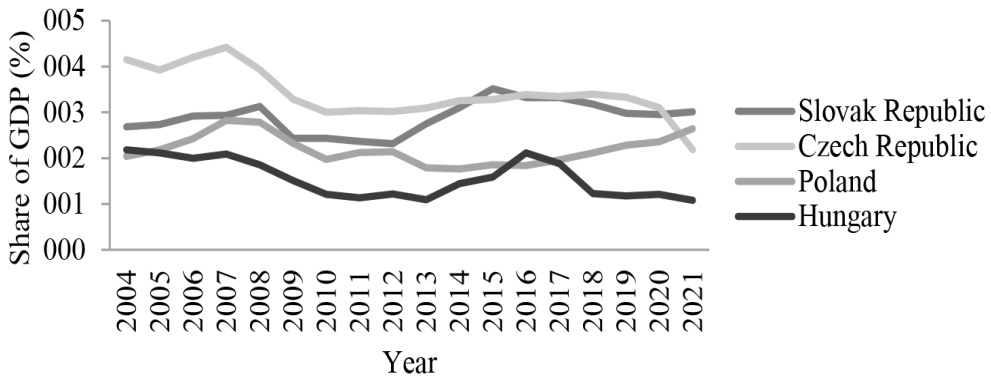


Source: Authors' elaboration based on the data OECD (2022).

In the examined period 2004 – 2021, we observe a volatile trend in the development of the percentage share of PITent revenue. for the creation of domestic wealth – the GDP of the V4 countries. The largest share of PITent.

revenue on GDP we record in Hungary with a maximum value of 7.82 % in 2008. The lowest share of PITent revenue on GDP in the Slovak Republic with a value of 0.05 % in 2021. Revenue PITent. participated in the creation of the total wealth of the Slovak Republic during the analyzed period with a share of less than 0.5 % of GDP. In the Czech Republic, this share did not exceed the value of 0.9 % of GDP during the analyzed period. During the entire analyzed period (with the exception of the 2008 – 2013 global crisis, where we observe slight decreases in values), Poland maintained an increasing trend of the percentage share of GDP in the range of 1.03 % (2004) to 1.99 % (2021). With the onset of the Covid-19 pandemic (2020 – 2021), the year-on-year share of PITent. revenue on GDP of the V4 countries slightly decreased in the Slovak Republic by $\downarrow 0.01$ percentage point (p.p.) and in the Czech Republic by $\downarrow 0.17$ p.p., with the exception of Poland and Hungary, where we record year-on-year growth in the percentage share of CITent. on GDP by $\uparrow 0.27$ p.p. (Poland) and $\uparrow 0.09$ p.p. (Hungary).

Figure 10: Comparison of the percentage share of CITent. revenue on the GDP of the V4 countries for the examined period 2004 – 2021.



Source: Authors' elaboration based on the data OECD (2022).

From Figure 10, it is evident that the percentage share of CITent. revenue on GDP of the V4 countries in the examined period 2004 – 2021 has a volatile nature of development with a level lower than 4.5 % of GDP. Highest percentage of CITent. revenue on GDP in the Czech Republic in 2007 with a value of 4.42 % of GDP. The lowest share of CITent. revenue on the creation of the country's total wealth was observed in Hungary in 2021, where we record a value of 1.08 % of GDP. Hungary recorded the lowest percentage

of CITent. revenue in the period under review on GDP from all V4 countries. Decrease in the share of CITent. on GDP can be observed at the beginning of the global crisis (year 2008) for all V4 countries, where we record the most significant year-on-year decrease of $\downarrow 0.70$ p. p. (2009) near the Slovak Republic. In the period of the Covid-19 pandemic (2020 – 2021), we note a significant year-on-year decrease in the share of CITent revenue. on GDP in the Czech Republic by $\downarrow 0.92$ p.p., for Hungary we observe a slight year-on-year decrease of $\downarrow 0.13$ p.p. On the other hand, Poland shows an increasing trend in the share of CITent during the pandemic. on GDP with year-on-year growth of $\uparrow 0.28$ p.p., as well as the Slovak Republic, where we record a year-on-year increase in CITent's share to GDP by $\uparrow 0.06$ p.p.

5 Conclusion and Discussion

The aim of the scientific paper was to present the development of business income tax in the Visegrad Group countries and to approach the redistribution of business income tax revenue in individual Visegrad Group countries. In the European Union, which also includes the informal grouping of the countries of the Central European region – the Visegrad Group, taxes represent an important source of income for state budgets. They make up approximately 80-90% of state income (Štofková, 2021, p. 194). The revenue in natural persons tax from business and the revenue in corporate income tax from business is part of the central budget. When redistributing the tax revenue natural persons – entrepreneurs, it is not diversified²¹, but it is redistributed as a whole – revenue tax from natural persons. It is a share tax paid by citizens – entrepreneurs. The corporate income tax revenue from business is one of the parts of the total revenue CIT/DPPO. It will be used for the expenditure of the state in the relevant year.

In Slovakia, the income tax revenue from natural persons is a share tax and is the most important source of financing for local territorial self-government (municipalities, cities) (Klimovský, 2019). In the relevant budget year, the income tax revenue from natural persons is the revenue of municipalities (2 887 municipalities) in the amount of 70 %, higher territorial units (8 self-governing regions) receive DPFO revenue in the amount of 30 %.

²¹ For income tax of natural persons from dependent activity (employment), income tax of natural persons from business, from other self-employment, from the rental and use of work and artistic performance, income from capital assets, other income (according to Act No. 595/2003 Z (from the Income Tax Act).

In the Czech Republic, the administrative districts of municipalities (6 254 municipalities) have a legal share of 25.84 % of the gross national income of the DPFO, and the administrative districts of regions (13 regions + administrative district of the capital city of Prague) have a legal share of 9.78 %. Municipalities in the Czech Republic are redistributed a share of 25.84 % of the gross revenue of the DPPO, and administrative districts of the regions a share of 9.78 %. From the central budget of Poland, PIT revenue is allocated by redistribution with the largest share to municipalities (39.34%). The smallest share of PIT revenue belongs to duchies (1.60%). Duchies have the largest share of CIT revenue (14.75%), districts have the smallest share (1.40%).

The revenue from PIT and CIT is a source of revenue for the central budget of Hungary (in the amount of 100%) and is intended for the fulfillment of state tasks. All municipalities in Hungary are entitled to a legal share of the income of local entrepreneurs – local business tax (maximum amount of 2 % of the positive tax base). From the analysis of the development of business entity income tax revenue in the countries of the Visegrad Group, it is clear that the development of business entity income tax revenue (PIT/DPFO, CIT/DPPO) is highly volatile with significant difference in the amount of revenue PIT/DPFO – entrepreneurs and CIT/DPPO – entrepreneurs in the individual analyzed years. The volatility of the development of income tax revenue of business entities with a downward trend in the V4 countries is mainly conditioned by changes taking place in the macroeconomic environment – global crises (global financial crisis, global economic crisis, global recession, global Covid-19 pandemic). The growing trend in the development of the income tax revenue of business entities is mainly dependent on changes in legislative measures at the level of individual states of the V4, e.g., the adoption of a progressive rate of tax on the income of business entities, the adoption of measures to improve the quality (facilitation, simplification) of financial office services for entrepreneurs and the like, the aim of which is to revive the business environment

after the crisis period. Our findings are also confirmed by the collective of authors da Silva and Vieira (2014), Abuselidze and Gogitidze (2020), who state that tax policy has become an important economic tool in dealing with the consequences of crises.

The percentage share of PITent. revenue in the creation of total domestic wealth (GDP) of the V4 countries is the largest in Hungary for the period 2004

– 2021 → in the range of 4.77 – 7.82 % of GDP. The Slovak Republic reports the smallest share of PITent. revenue on GDP in the range of 0.05 – 0.43 %. In the Czech Republic, this share did not exceed the value of 0.87 % of GDP in the examined period. During the entire analyzed period (with the exception of the 2008 – 2013 global crisis, where we observe slight decreases in values), Poland maintained an increasing trend of the percentage share PITent. on GDP in the range of 1.03 % to 1.99 % of GDP. The Covid-19 pandemic did not significantly affect PITent. revenue share on the GDP of V4 countries. We recorded only a slight decrease in the share of PITent. on GDP in the Slovak Republic by ↓0.01 p.p. and in the Czech Republic by ↓0.17 p.p. On the other hand, Poland and Hungary get year-on-year growth in the share of PITent revenue to GDP during the pandemic by ↑0.27 p.p. (Poland) and ↑0.09 p.p. (Hungary).

The percentage share of CITent. revenue to the GDP of the V4 countries is at the level of values less than 4.5 % of GDP in the examined period → the Czech Republic from 2.18 – 4.42 % of GDP, the Slovak Republic 2.31 – 3.51 % of GDP, Poland 1.76 – 2.82 % of GDP, Hungary 1.08 – 2.18 % of GDP. The Covid-19 pandemic (2020 – 2021) caused a year-on-year decrease in CITent. revenue share on GDP in the Czech Republic by ↓0.92 p.p. and in Hungary by ↓0.13 p.p. On the other hand, Poland increased the share of CITent. revenue to GDP by ↑0.28 p.p., also the Slovak Republic about ↑0.06 p.p.

We attribute the difference in the amount of tax revenue from the income of business entities to the difference in the goals of the tax policies²² of the Visegrad Group countries, the difference in tax discipline of business entities, as well as to the adoption of legislative measures to eliminate tax evasion and tax fraud.

The results of the research may create the basis for further research of the tax potential in V4 countries.

²² These are subject to the sovereign's heterogeneous planning and setting of the goals of economic policies, just as dependent on the diverse requirements of the income needs of the state budgets of the V4 countries in a given period - e.g. at the time of the country's economic growth, global crisis, economic downturn, etc.

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- [53] Act No. 534/2021 Coll. State Budget Act for 2022.
- [54] Act of July 26, 1991, the Act on Personal Income Tax.
- [55] Act of February 15, 1992, Corporate Income Tax Act.
- [56] Act of the National Council of the Slovak Republic No. 369/1990 Coll. on Municipal Establishment.
- [57] CXVII OF 1995. Act on Personal Income Tax.
- [58] LXXXI OF 1996. Act on corporate tax and dividend tax.
- [59] Government Regulation No. 668/2004 Coll. on the Distribution of Income Tax Yield to Self Government.