

MINERAL RESOURCE TAXATION IN POLAND AS ENVIRONMENTAL REVENUE

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Abstract

The purpose of the article/hypothesis. The statistics on environmental taxes in Poland lack a very specific resource taxation in form of the tax on extraction of certain minerals and the exploitation levy, which is the subject of this article. This paper aims to provide a proof that these taxes should be considered environmental in nature and as such are required to be reported by the European law. Thus, the article suggests and recommends that national environmental tax revenues data should be corrected. **Methodology.** First, the law and literature overview is presented, taking view on the characteristics of environmental taxes and placing those taxes that are subject of this article into this category. Next, fiscal importance of those taxes is measured within budgets of its receivers. Additionally, the article provides the information on how much environmental tax statistics would have changed after taking into consideration the taxes discussed in this article. The research period of this study is 2012–2020. It is dictated by the introduction of tax on certain mineral extraction and the latest budget reports available. The research is limited by the accessibility of public data which does not provide separate accounts of hydrocarbon taxes (which should be excluded from environmental data) and taxes on other minerals. **Results of the research.** The overview of the literature provides some evidence that the exploitation levy should be treated as a tax and, together with the tax on certain mineral extraction, should be treated as environmental in nature. Thus, they should be implemented in national environmental tax statistics. Although majority of environmental tax revenues is made by taxes on energy, the result of this implementation would significantly change values of taxes on pollution and resources, making it second (out of three) most important category within environmental taxes in Poland.

Keywords: taxation of minerals, natural resource taxation, exploitation levy, tax on certain mineral extraction, environmental tax statistics.

JEL Class: H23, H27, H87.

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INTRODUCTION

Since the time of first economists, there has been a common belief that countries that are rich with natural resources, especially mineral ones, can use them as basis for sustained economic growth (Badeeb, Lean and Clark, 2017: 123). Thus, natural resources are an opportunity to foster the development and reduce poverty (Ing, 2020: 1). Rent, in economy, is something a company earns when the price they receive for the goods they produce is above the level needed to attract a given company into the industry, or to stop it from leaving if they are already in the market (Tilton, 2004: 145). To capture the resource rent, governments design taxation schemes that come with significant challenges (Ing, 2020: 1) that result in slower economic growth (Banda, 2021: 1).

Mining sector differs from other industries because it constitutes a combination of unique characteristics. These specifics include high capital intensity, long time between production and development, long payback period, volatile mineral commodity prices and finite mine life (Banda, 2021: 1), as well as exploitation of nonrenewable resources that companies do not own (Otto et al., 2006: 16).

The taxation on mineral resources extraction has the potential to drive away mining investments, which should flow to countries that have abundant and high-grade deposits (Banda, 2021: 1). It was noticed that, during 1990s, multinational mining corporations shifted their exploration investments into regions previously closed or considered too risky – this caused changes in mineral policies – reduced entry barriers and lowered the risk of investments (Otto, 1998: 79). Today, mining capital is highly mobile, therefore, countries are in a pressing need to design competitive mining tax codes to attract this capital (Banda, 2021: 1), which results in a vast variety of mineral resource taxation schemes.

In Poland, there are currently two mining-specific budget contributions that are the subject of this article: exploitation levy (Act of 9th June 2011: art. 134) and tax on certain mineral extraction (Act of 2nd March 2012).

The literature concerning these two taxes focuses on the tax and levy separately (except Połczyński, 2014). The literature on tax on certain mineral extraction considers mostly its construction (Duda, 2013; Pest, 2016) or fiscal efficiency (Ochot, 2021), whilst exploitation levy is described in the aspect of its nature (Borys, 2016; Ofiarski, 2017; Szamałek, 2005), as it is not clear whether it should be treated as a tax. Only Małecki (2016) considers tax on certain mineral extraction as an ecological tax and compares its revenue to other taxes described in his article as environmental. However Małecki's paper lacks other levies treated as environmental in European statistics and includes an agricultural tax and forest tax (Małecki, 2016: 231), the first of which, in the authors' opinion, does not have any ecological characteristic and the second one seems to be anti-environmental

in its nature. This shows that there is a research gap in the area concerning treating mineral extraction taxes in Poland as the environmental ones.

European regulation (No 691/2011, an. II, sec. 3) stipulates that all member states shall produce statistics on environmentally related taxes, one category being resource taxes. However, it should exclude mineral resource taxes, especially the ones understood as rent (Eurostat, 2013: 17). Both Polish mineral resource taxes are not mentioned in the national tax list, although few countries have this kind of contribution regarded as resource taxation¹. This leads to the goal of this study, which aims to show Polish mineral resource taxes as environmental revenue.

The first proposed hypothesis is as follows: taxes on mineral resource excavation in Poland should be considered as environmental revenue. The second proposed hypothesis states that taxes on mineral resource excavation have a considerable value compared to other environmental taxes.

The first section of the article treats shortly about the characteristics of mineral taxation and points to an environmental character of the levies. The second part compares the Polish tax on certain mineral extraction and exploitation levy. The study ends with the presentation of revenue from both Polish mineral resource taxes against all environmental revenue for the period of 2012–2020.

1. CHARACTERISTICS OF MINERAL TAXATION

There are three main reasons for the special taxation of mineral resources. Firstly, the wealth associated with particularly rich deposits belongs to the citizens of the host country, where the resources lay. Secondly, the state should be compensated for the use of mineral resources by companies, given the intrinsic value arising from nonrenewable nature of resources. The last reason is related to the division of wealth resulting from mining – it is not righteous, as too much of it goes to the mining companies and too little to the host country and its people (Tilton, 2004: 144). Other reasons include protection of the state's interests in the field of natural resources, referred to as economic nationalism (Kozieł, Pawłowski and Kustra, 2018: 35). The more the government taxes the mineral sector, the greater the share of wealth, created by mining, that goes to the government (Otto et al., 2006: 8).

Natural resources are frequently owned or controlled by governments, as it is in case of Poland (Act of 9th June 2011: art. 10), but they may be also owned by the people in general, by the owner of land or by the crown. The owners have interest in receiving payments for the taking of the property (Otto et al, 2006: 16). From a public finance perspective, the taxable capacity possessed by economic rents from

¹ National list of taxes (www1) used for statistical measures shows mineral resource taxation in Bulgaria (extraction of quarry minerals), Spain (exploitation of hydrocarbon and mines), Cyprus (mining tax), Latvia (natural resources tax), Romania (tax on mineral extraction activities) and Slovakia (tax on excavation areas).

natural resources is especially attractive because such rents can, in principle, be collected without introducing inefficiency in the pattern of resource use (Heaps and Helliwell, 1985: 422). Also, objectives of the governments of still developing countries can differ from those of already developed countries and are not always consistent with maximizing returns from the projects (Parsons, 1991: 99).

There are many possible ways to tax mineral resources. For instance, the Brown tax is a joint venture between the government and the private sector investors. The government contributes a pre-specified proportion of all costs of the mineral project when the costs are incurred and later receive the same proportion of all project revenues (Parmenter, Breckenridge and Gray, 2010: 281). Royalty denotes taxes on gross production value, although parts of the literature use royalty more generally to include also net profit or rent taxes. The difference between taxes and royalties has historical roots related to their justification. Royalties derive from the ownership of resources by the crown, thus, a functional distinction can be made between royalties and general tax revenues (Lund, 2009: 289).

After World War II, natural resource taxation has come to rely relatively less on royalties and more on income-based or rent forms of taxation, which brought with it economic efficiencies². This has rendered natural resource fiscal regimes to be much more vulnerable to tax avoidance, based on taxpayer exploitation of difficulty in the fair market valuation of items of income and deduction (Durst, 2016: 25). An economic rent tax base would cause smaller taxation distortions than quantity base royalties (Freebairn and Quiggin, 2010: 384). Taxing a nonrenewable resource typically shifts production through time, compresses the economically recoverable resource base and shrinks social welfare (Rowse, 1997: 221). More distortionary types of taxes can potentially have negative effects on economic growth in developing countries (Abdelwahed, 2020: 16).

This leads to numerous tax types and models that are presented in Diagram 1. *Personam* taxes are the charges against unspecified definition of net revenues less qualifying costs (Otto et al., 2006: 30–31). Tax base can be established as profit or resource rent, which is hard to implement and is rarely used (usually only in oil industry). Moreover, it can be a production sharing contract in which the only profit from excavation is divided between a company and the state (common in oil industry) (Kozieł, Pawłowski and Kustra, 2018: 36–37). Another category of taxes are *in rem* taxes that charge against assessed mineral deposit or the input and actions needed to exploit it. They can be divided into taxes that affect the variable costs of the project or taxes that affect the fixed costs of the project (Otto et al., 2006: 30–31). Tax base in those is usually based on quantity or value of extradicted mineral (Kozieł, Pawłowski and Kustra, 2018: 36–37).

² In Poland there has been an attempt to implement rent-based tax on hydrocarbon extraction (Act of 25th July 2014). The law was cancelled before the first payment was realised (Act of 11th September 2019), due to very low predicted income in the years prior to payment implementation.

The described types of taxes are all direct taxes, however, it is important to note that there are also indirect taxes that can be implied on mineral goods (Połczyński, 2014: 89).

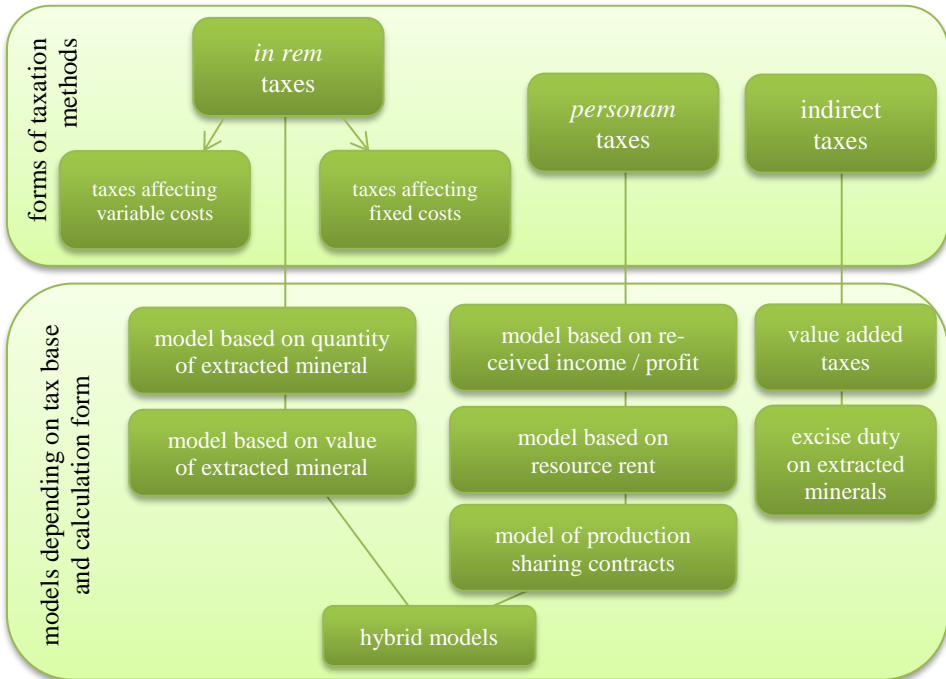


Diagram 1. Mineral resources taxation types and models

Source: own elaboration based on: Kozieł, Pawłowski and Kustra (2018: 36–37); Otto et al. (2006: 30–31); Połczyński (2014: 89).

It cannot be denied that one of the major consequences of economic growth is the increase in environment pollution. Especially mining is considered one of the most polluting anthropogenic activities (Santana et al., 2020: 1). It has resulted in large scale, extensive pollution of top-soils, sediments, aquifer, ground water and streams (Gu, 2018: 1).

One of the fiscal instruments used to directly impose environmental pollution are environmental taxes. They are defined by a tax base in physical unit, or its proxy, on something that has a proven, specifically negative impact on the environment. They should internalise the negative effects of economic activities and relieve some of the pressures on environment (Andreoni, 2019: 17). On the other hand, they are considered as prices that one pays for pollution (Małecki, 2016: 227).

Indirect environmental taxes are easier to implement and they can significantly reduce the pollution and act as a barrier to excessive energy consumption (Norouzi, Fani and Talebi, 2022: 1). The most popular form of environmental taxation is the indirect tax on gas emissions that concerns taxing energy and transport fueled mostly by burning some of mineral resources that, since the beginning of the century, contribute to 96–97% of all environmental revenue in European Union each year (www2).

As the taxes on mining sector, especially royalties, should limit the exploitation or force internalisation of negative external effect, they have a characteristic of a direct environmental tax. However, Eurostat (2013: 17) does not consider those revenues environmental because resource rent, explained as value of output less extraction costs, is treated as property income for the state. Additionally, statistics guide recommends that taxes on hydrocarbon extraction are excluded, as this approach is more useful for cross-country analysis. This suggests that exclusions should be based only on rent taxes, especially on extraction of hydrocarbons. The reasons for this are that the revenue from such taxes is important in very few EU countries and the amounts of taxes are not comparable across countries as applied taxation models differ and the revenue can be highly volatile over time.

2. POLISH MINERAL RESOURCE TAXES

Before implementing tax on extraction of certain minerals, effective tax rate on mineral industry in Poland was around 50% in 2005. Therefore, it was on a desirable level between 40–50% and after the tax implementation it should have risen to 79% (Połczyński, 2014: 96–98). However, in justification for tax implementation (2012: 7), the state calculated that previous effective tax rate on mining industry was around 20%. The entire taxation system of minerals consists of corporate tax, property tax, concessions and stamp duty related to them, individual agreement for the establishment of mining usufruct rights, exploitation levy and other related levies concerning depositing substances and waste with penalty fess (Ochot, 2021: 208).

As it is pointed by Szamałek (2005: 312), establishing taxation for the economic use of the environment results from the theoretical foundations of environmental economics, and in particular the concept of the external effects accompanying any economic activity. Exploitation levy is not considered to be a typical levy or a typical tax (Ofiarski, 2017: 318). Courts have decided that it is a non-tax claim which is a compensation for interference with the natural environment and for environmental damage caused by the exploitation of minerals (Judgment, II GSK 845/15; Judgment, II SA 526/98). Thus, there is a special price for the use of renewable and nonrenewable environmental resources (Judgment,

K 10/09), making it meet the definition of environmental tax. Ofiarski (2017: 317) says it is states revenue, which is later distributed between communities and The National Fund for Environmental Protection and Water Management (later: NFEPaWM). An argument towards it being a levy states that it has a returnable benefit – the fee rises a claim for a specific benefit to the taxpayer, usually to the entity paying the fee. NFEPaWM revenues are intended for long-term liabilities when it comes to geology and mining, and are not returnable. Furthermore, the communities that are considered ‘mining communities’, mostly do not use revenue potential from exploitation levy for future development, when the nonrenewable resources are gone (Borys, 2016: 46–48). Also, levies listed in the environment protection law are considered directly as environmental revenue (www1), but exploitation levy and levies connected to it are not, whilst the act considers it as other environmental fees and fines (Act of 27th April 2001: art. 273). Although the construction of exploitation levy clearly points to a typical form of public resource rent (Połczyński, 2014: 92), it should not be denied that it is also a form of environmental levy.

Intention for tax on copper and silver extraction was to capture the extraordinary profits of mining entities (Duda, 2013: 129). Only copper ores (from where also silver is derived) were taxed as it is third most consumed metal in the world with limited resources (Kozioł, Pawłowski and Kustra, 2018: 35), with Poland being responsible for 3% of the global copper supply and 6% of silver supply (Kozioł, Postrożny and Świdziński, 2016: 71–78). Exploitation levy is considered a tax based on extracted quantity of mineral (Duda, 2013: 129), however, the exploitation levy does not consider market prices of the extracted materials (Połczyński, 2014: 92) since 2002 – earlier the levys value was a percent of the minerals’ sale price (Szamałek, 2005: 312). Further taxation of hydrocarbons was dictated by supposed future rise of hydrocarbon extraction in Poland, however, the activity of entities operating in the field of exploration, identification and exploitation of deposits, as well as the number of potential taxpayers, fell in the coming years (Ochot, 2021: 209–210).

Despite the legislator focusing mostly on additional revenue, Małecki (2016: 232) says that tax on certain mineral extraction should be considered an environmental tax. Opposite to exploitation levy, the local government units do not receive any revenue from this tax, which makes redistribution of funds obtained from it more just. On the other hand, it does not work for neutralizing environment degradation – the externalization of environmental protection costs is apparent (Połczyński, 2014: 92). Another argument for this is that there are no mechanisms that support new investments within the tax law (Pest, 2016: 566), but it can restrain the use of resources in a longer time perspective (Duda, 2013: 126). Elements of the tax structure from both tax on certain mineral extraction and exploitation levy are summarized and compared in Table 1.

Table 1. Comparison of tax on certain mineral extraction and exploitation levy construction

Characteristic	Tax on certain mineral extraction		Exploitation levy
Subject of tax	copper and silver extraction	hydrocarbon (oil and gas) extraction	all minerals (67 listed in annex + other) extraction*
Implementation date	18 th April 2012	1 st November 2019	1 st January 2002 (new system, old system worked since 1 st September 1994)
Taxation method	<i>in rem</i> taxes affecting variable costs		
Taxation model	based on value of extracted mineral		based on quantity of extracted mineral
Taxable person	companies with concession on extracting subject of tax		companies with concession on extracting minerals or investment decision on hydrocarbon extraction, search and recognition
Number of taxpayers**	1 company: KGHM Polska Miedź SA	12 companies: mostly PGNiG SA	89 companies with concessions for solid minerals, 4 companies for levies connected to exploitation levy, 7 companies with concession on exploitation of hydrocarbons
Tax base	the amount of copper and silver contained in the produced concentrate	value of natural gas or crude oil extracted based on market price of tax subject and average currency exchange rate	extracted weight or value of mineral
Tax rate	formulas using tax base, market price of tax subject and average currency exchange rate	percent of tax base	fixed amount per tax base on each mineral
Corporate tax deductible cost	no		yes
Payment period	monthly		twice a year
Revenue receiver	the state		all local government units (mostly communities) and NFEPaWM

* Rakoczy (2016: 98–106) suggests levies connected to exploitation levy should be considered as exploitation levy *sensu largo* – in this case subject of taxation will also include concession levies and levies for underground non-reservoir storage of substances, storage of waste and CO₂.

** Number of companies based on concessions given by the state in December 2020. Under certain circumstances concession might be given by district authorities (Act of 9th June 2011: art. 22). Those are not included.

Source: own elaboration based on: Act of 11th September 2019; Act of 15th February 1992: art. 15–16; Act of 2nd March 2012; Act of 4th February 1994: art. 86; Act of 9th June 2011: art. 133–143 and an.; Szamalek, 2005: 312, www3.

Solutions mentioned in tax construction are under discussion in the literature. For instance, the use of stock market price, which points to uncertain events influencing the tax (Pest, 2016: 563) or not taking into consideration cost of copper and silver production from an ore (Duda, 2013: 125–126). Moreover, worth mentioning are also taxable persons in tax on certain mineral extraction. For copper and silver extraction, it is only KGHM Polska Miedź SA, in which the state has 31,79% of shares (www4), and for hydrocarbons the main taxpayer is PGNiG SA, in which the state has 71,88% of shares (www5). This suggests that the state assured itself yearly income that is not depending on companies financial result.

Exploitation levy is considered, both by the legislator and in the literature, as an environmental tribute. Tax on certain mineral extraction is considered more as an additional revenue to the state. However, based on a construction comparison between the two, it can be concluded that both tributes share a lot of similarities. It points to the result that tax on certain mineral extraction is in fact an environmental tax and that exploitation levy has characteristics of a tax and should be considered as such.

All those revenues, excluding the ones based on hydrocarbon extraction, should therefore be included in national environmental data. This should not be treated as an argument against the taxation being environmental in character, as it is coming only from data comparison premises (Eurostat, 2013: 17).

3. THE INFLUENCE OF MINERAL RESOURCE TAXATION ON ENVIRONMENTAL REVENUE DATA

Data concerning revenues received from the tax on certain mineral extraction and general tax income is provided by yearly reports of the state budget. Data on revenues from exploitation levy is gathered from yearly consolidated reports of the budgets of the local communities and profit and loss accounts of the NFEPaWM. Districts and voivodeships also get revenue from exploitation levy, however reason for it not to be taken into consideration is the fact that it only comes from hydrocarbons that should be excluded from environmental revenue data. Environmental tax statistics and GDP values are taken from Eurostat in national currency. Research period is limited to years 2012–2020, as 2012 marks the implementation of tax on certain mineral extraction and the last yearly budget reports are available for 2020.

3.1. Fiscal importance of Polish mineral resource taxation

Polish tax system includes eight taxes that are state revenue. Apart from standard indirect and income taxes, a special category of taxes can be created for taxes put on certain specific sectors. This category of selective taxes includes already

existing in the 1990s indirect tax that concerns hazardous games and direct tax implemented in 2016 that concerns certain financial institutions. The reason for this implementation is similar to the tax on certain mineral extraction – it is to increase share of the financial sector in budgetary expenses. The breakdown of state tax revenues is presented in Figure 1.

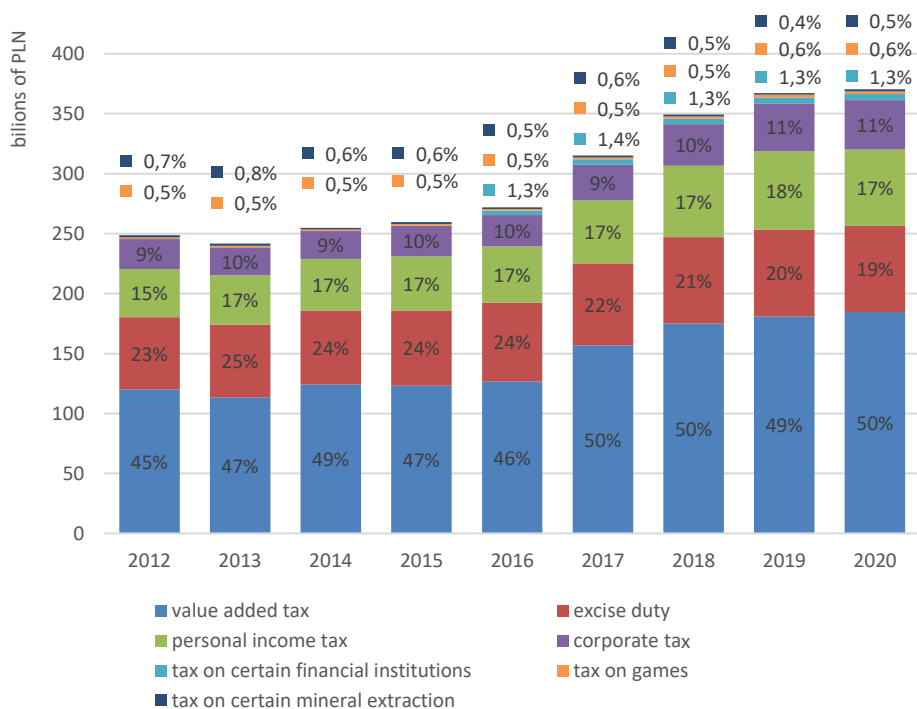


Figure 1. Structure of state tax revenues for 2012–2020

Source: own elaboration based on collected data.

The tax on certain mineral extraction has never provided more than 0,8% of tax revenue, stabilizing in recent years around 0,5%. This makes it almost equal to income received from the tax on games. What is worth mentioning is that since July 2019 the tax on copper and silver extraction has been lowered by 15% and, since November 2019, the tax on gas and oil has been implemented, but there is not much change in the received revenue. Thus, the tax on certain mineral extraction may be considered as non-efficient fiscally. This makes an argument for it being an environmental tax, of which fiscal efficiency is not the main point.

Similar comparison can be made for exploitation levy revenue within the tax income of communities. It is relatively small, as there are eight levies that are only an additional income, from which only three are separately shown in the data as only those creating sufficient revenue, beside two main tax groups. The first one contains the share of income taxes, while the second is composed of seven local taxes (Act of 13th November 2003: art. 4). Figure 2 presents these revenues both nominally and as the percent of entire own income of communities (afar from taxes, own income is also property income).

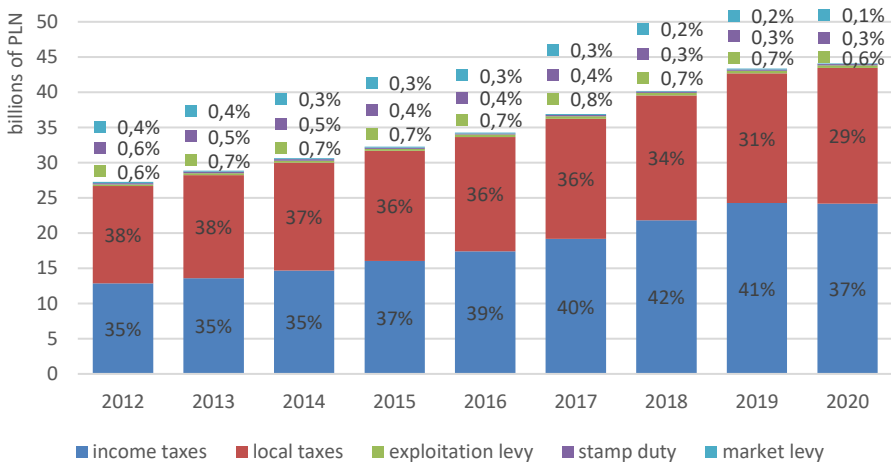


Figure 2. Structure of commuties tax revenues for 2012–2020

Source: own elaboration based on collected data.

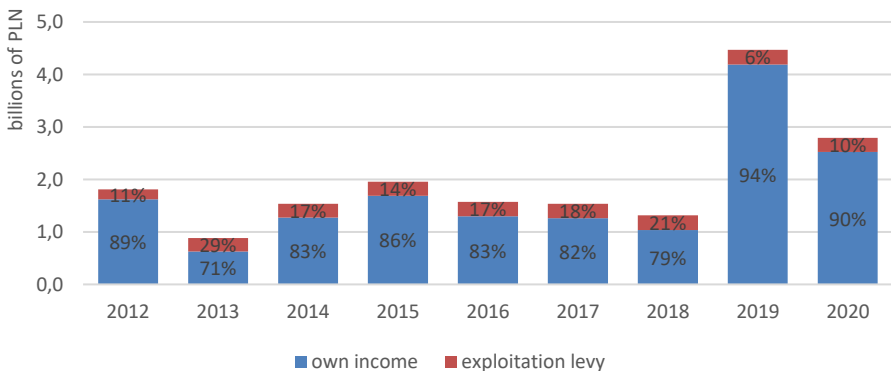


Figure 3. Exploitation levy in NFEPaWM budget for 2012–2020

Source: own elaboration based on collected data.

Although exploitation levy is fiscally marginal for the income of communities in general, it is the most efficient of local levies. It is also worth noting that only 53,3% of all communities receive revenues from it. It is, however, incomplete to only show its imprint on communities' budgets, as in general rule 40% of the revenues goes to NFEPaWM. Figure 3 presents how much of NFEPaWM's own income (excluding subsidies and other category) is exploitation levy.

NFEPaWM's own income, as depicted, consists only of pollution and resources levies and penalties, including exploitation levy which points to it being an environmental revenue. Exploitation levy makes from 6% up to 29% of own income, however, it is worth noting that income of NFEPaWM is irregular.

3.2. Mineral resource taxation as part of environmental revenue

As the revenue from levies that is going to NFEPaWM consists entirely of taxes on pollution, it can be suspected that exploitation levy and the tax on certain mineral extraction will have a strong influence on this category of environmental revenues. Figure 4 presents how inclusion of these taxes in environmental tax statistics would change the final result.

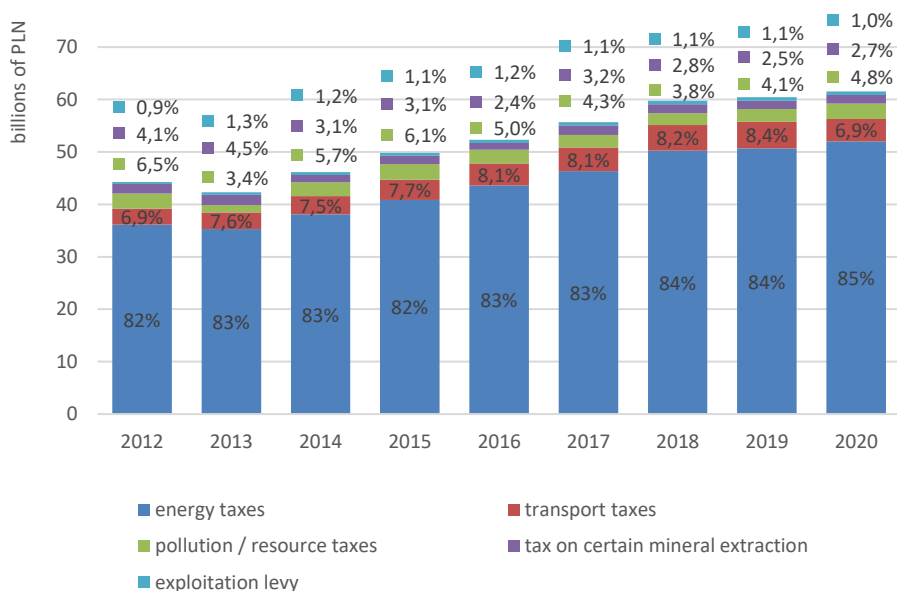


Figure 4. Environmental tax statistic after including mineral resource taxes

Source: own elaboration based on collected data.

Adding mineral resource taxation to environmental data would almost double the amount of pollution and resource taxation revenue. It is noted that in case of environmental taxes the only increase that can be perceived with justified content is their increase in all tax income, which is desired and complies with ecological tax reform (Borys, 2016: 45). Thus, Table 2 presents how values adjusted by mineral resources taxation are in relation to Poland's GDP and state tax income. It also shows how the values changed (in percentage points) compared to original values.

Table 2. Adjusted environmental tax statistics and change in relation to data without mineral resource taxation

2012	2013	2014	2015	2016	2017	2018	2019	2020
Environmental tax revenues as % of GDP								
2,73 (+0,14)	2,57 (+0,15)	2,70 (+0,12)	2,77 (+0,12)	2,81 (+0,10)	2,80 (+0,12)	2,82 (+0,11)	2,63 (+0,10)	2,65 (+0,10)
Environmental tax revenues as % of budgets tax income								
16,72 (+0,83)	17,52 (+1,01)	18,12 (+0,78)	19,19 (+0,81)	19,15 (+0,69)	17,66 (+0,77)	17,11 (+0,67)	16,45 (+0,60)	16,62 (+0,62)
Pollution and resource taxes revenues as % of environmental tax revenues								
11,48 (+4,64)	9,15 (+5,57)	9,96 (+4,04)	10,33 (+3,97)	8,56 (+3,41)	8,62 (+4,15)	7,76 (+3,77)	7,72 (+3,49)	8,55 (+3,57)

Source: own elaboration based on collected data.

Adding mineral resource taxation to environmental data shows a small increase of environmental taxes in total taxes received by the state, usually much smaller than 1 pp. Change in the environmental taxes per GDP is marginal (around 0,1 pp.). This is related to energy taxes making up the most efficient environmental taxes. The most significant change is taking place in the structure of environmental tax statistics. Adding mineral resource taxation to pollution and resource taxes would make this category higher than transport taxes³.

CONCLUSIONS

The article provides evidence that environmental revenues data gathered in Poland is incomplete because it does not include a tax on copper and silver extraction, as well as exploitation levy (apart from hydrocarbon exploitation).

There are many arguments presented on the character of exploitation levy and why it should be considered as an environmental tax. These arguments stem both

³ It would make Poland one of three EU countries with higher pollution and resources tax revenues than transport tax revenues, next to Lithuania and Estonia (www2).

from the literature and environmental law. This levy can also be considered as a tax by its construction which makes it closely related to the also introduced tax on certain mineral extraction – they bear the same traits. The main difference is the states focus on biggest companies in the sector, while exploitation levy is put on every possible mineral extraction making it more general. Additionally, both taxes are making marginal revenue, providing that their main goal is not necessarily fiscal efficiency. Thus, the first hypothesis is true, taxes on mineral resource excavation in Poland should be considered as environmental revenue.

Adding revenue from those taxes to environmental tax revenues shows that the tax on certain mineral extraction and exploitation levy would significantly influence pollution and resources tax values. Although the main part of environmental tax revenues are taxes based on energy, coming up to 85% of environmental revenues in recent years, the entire environmental revenue is only slightly adjusted. This indicates that the second hypothesis: taxes on mineral resource excavation have a considerable value compared to other environmental taxes – is only partially true.

Limitations of the presented article are based on the accessibility of public data which does not provide separate accounts of revenue from hydrocarbon exploitation and other minerals. However, it should be possible for public authorities or statistical office to gather this data, especially for the tax on certain mineral exploitation, as there are different declarations for copper and silver extraction (KOP-MS), as well as hydrocarbon extraction (KOP-RG) (Regulation of 22nd December 2015). For exploitation levy this might be possible by calculating income received by districts and voivodeships, as they only receive revenue on hydrocarbon extraction.

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