
Tax System in Poland – Progressive or Regressive?

Jacek Tomkiewicz¹

Submitted: 21.01.2016. Final acceptance: 08.04.2016

Abstract

Purpose: To analyse the impact of the Polish fiscal regime on the general revenue of the country, and specifically to establish whether the cumulative tax burden borne by Polish households is progressive or regressive.

Methodology: On the basis of Eurostat and OECD data, the author has analysed fiscal regimes in EU Member States and in OECD countries. The tax burden of households within different income groups has also been examined pursuant to applicable fiscal laws and data pertaining to the revenue and expenditure of households published by the Central Statistical Office (CSO).

Conclusions: The fiscal regime in Poland is regressive; that is, the relative fiscal burden decreases as the taxpayer's income increases.

Research Implications: The article contributes to the on-going discussion on social cohesion, in particular with respect to economic policy instruments aimed at the redistribution of income within the economy.

Originality: The author presents an analysis of data pertaining to fiscal policies in EU Member States and OECD countries and assesses the impact of the legal environment (fiscal regime and social security system) in Poland on income distribution within the economy. The impact of the total tax burden (direct and indirect taxes, social security contributions) on the economic situation of households from different income groups has been calculated using an original formula.

Keywords: social cohesion, fiscal regime, social insurance system, primary and secondary distribution of income

JEL: H23, H27, J31, J38

¹ Kozminski University

Correspondence address: Kozminski University, TIGER, Jagiellońska 59 St., 03-301 Warsaw, e-mail: tomkiewj@kozminski.edu.pl.

Introduction

In recent years, the question of income inequality has absorbed the attention of a growing number of economists. While the scale of inequality of income and assets has undoubtedly been ballooning for the past 30 years in the majority of the world's economies, the causes of this increasing stratification have been the subject of heated debates. On the one hand, certain authors (Mankiw, 2013; IMF, 2007) point out that this pattern of income distribution can be accounted for by the phenomena that define the present phase of globalization; technological progress and increased flows of goods and capital are responsible for the high premium on education and skills, which translates into rapidly increasing wages of a small number of economic entities, while the income of the vast majority stagnates. Piketty (2014) argues that the concentration of wealth and income is a fundamental feature of capitalism. However, numerous authors (Alvaredo, Atkinson, Piketty and Saez, 2013; Atkinson, 2015) claim that the growing income inequality observed in recent years is, above all, the consequence of specific economic policy decisions, particularly those relating to the fiscal regime. In general terms, the progressivity of personal income tax (PIT) has decreased in the majority of economies as compared to the situation observed in the 1970s. At the same time, corporate income tax (CIT) rates have been lowered, and the principle of flat-rate taxation of capital income (interest, dividends, income generated through trading in financial instruments) has been adopted in the majority of countries; consequently, the tax system's contribution to income redistribution has decreased (Tanzi, 2014). It is, therefore, hardly surprising that income inequalities continue to grow, given that the impact of objective factors shaping the distribution of income is further amplified by changes introduced into fiscal regimes.

The aim of this article is to analyse the Polish fiscal regime from the point of view of its role in the redistribution of income within the economy. Basic data and comparisons with data from other OECD countries and EU Member States provide ample evidence that the tax burden's contribution to income redistribution is limited. Neutral or regressive instruments predominate in the generation of public revenue, and this is particularly evident in the taxation model for the self-employed. The first part of the article is devoted to an overview of the basic data on the fiscal policy in Poland and in selected OECD countries. In the second part, the author presents the findings of his research on the fiscal burden of Polish households across the income distribution scale.

Fiscal policy in Poland as compared to other countries

Table 1. Primary and secondary distribution of income in selected OECD countries in 2011

Country	Gini 1*	Gini 2#	Scale of inequality reduction (%)
Estonia	0.48	0.32	33.3
Germany	0.51	0.29	43.1
Czech Republic	0.46	0.26	43.5
Poland	0.47	0.31	34.0
France	0.51	0.31	39.2
Slovakia	0.42	0.26	38.1
Slovenia	0.46	0.24	47.8
Spain	0.52	0.34	34.6
Sweden	0.43	0.27	37.2
Great Britain	0.53	0.34	35.8
United States	0.51	0.39	23.5

* Coefficient before (after #) taxes and transfers

Source: OECD.

According to the above data, Poland's expenditure and transfer policies have a moderate bearing on the distribution of income. The scale of income inequality reduction by the state is lower than in Poland only in the traditionally liberal economies of the United States and Estonia, which, along with other Baltic states, has opted for a liberal economic model, as confirmed by the consistently applied flat rate of PIT.²

In recent years, a slight decrease in income inequality has been observed in Poland. This may seem surprising if we take into consideration certain changes in the fiscal policy, which should instead increase after-tax income inequality. These include:

- PIT scale change – in January 2008, the existing three rates (19, 33 and 40 percent) were replaced by two (18 and 32 percent);

² A flat tax rate was popular among the former Communist countries, as it was expected to boost economic growth. Several years after its introduction, countries such as Slovakia, Romania and Ukraine reinstated progressive taxes in order to prevent the dangerous phenomenon of increasing income inequality.

- reduction of the disability contribution in 2008 (although this decision has since been partially withdrawn) – in the absence of tax progression, those with higher income have benefitted more from the decreased contribution (proportional to the income);
- the nominal value of the tax-free amount and tax-deductible expenses have remained unchanged since 2008, while the nominal value of income has increased; this means that the actual amount of income subject to taxation has augmented, in particular for the taxpayers whose income does not significantly exceed the tax-free amount;
- tax relief for taxpayers with children consists of a deduction from the input tax, which means that it is virtually impossible for taxpayers at the lowest income levels to fully benefit from tax relief.³

Table 2. Income inequality (Gini coefficient for disposable income, including taxes and transfers) in EU Member States

GEO/TIME	2006	2007	2008	2009	2010	2011	2012	2013	2014
European Union (28 Member States)	:	:	:	:	30.5	30.8	30.4	30.5	30.9
Belgium	27.8	26.3	27.5	26.4	26.6	26.3	26.5	25.9	25.9
Bulgaria	31.2	35.3	35.9	33.4	33.2	35.0	33.6	35.4	35.4
Czech Republic	25.3	25.3	24.7	25.1	24.9	25.2	24.9	24.6	25.1
Denmark	23.7	25.2	25.1	26.9	26.9	27.8	28.1	26.8	27.7
Germany (until 1990 the former territory of the FRG)	26.8	30.4	30.2	29.1	29.3	29.0	28.3	29.7	30.7
Estonia	33.1	33.4	30.9	31.4	31.3	31.9	32.5	32.9	35.6
Ireland	31.9	31.3	29.9	28.8	30.7	29.8	29.9	30.0	30.8
Greece	34.3	34.3	33.4	33.1	32.9	33.5	34.3	34.4	34.5
Spain	31.9	31.9	32.4	32.9	33.5	34.0	34.2	33.7	34.7
France	27.3	26.6	29.8	29.9	29.8	30.8	30.5	30.1	29.2
Croatia	:	:	:	:	31.6	31.2	30.9	30.9	30.2
Italy	32.1	32.0	31.2	31.8	31.7	32.5	32.4	32.8	32.4
Cyprus	28.8	29.8	29.0	29.5	30.1	29.2	31.0	32.4	34.8

³ This situation did not change until 2014; since then, taxpayers with children have been able to benefit from the full amount of tax relief regardless of their income (and input tax). This change may not yet be reflected in the presented data.

Latvia	38.9	35.4	37.5	37.5	35.9	35.1	35.7	35.2	35.5
Lithuania	35.0	33.8	34.5	35.9	37.0	33.0	32.0	34.6	35.0
Luxembourg	27.8	27.4	27.7	29.2	27.9	27.2	28.0	30.4	28.7
Hungary	33.3	25.6	25.2	24.7	24.1	26.9	27.2	28.3	28.6
Malta	27.1	26.3	28.1	27.4	28.6	27.2	27.1	27.9	27.7
Netherlands	26.4	27.6	27.6	27.2	25.5	25.8	25.4	25.1	26.2
Austria	25.3	26.2	27.7	27.5	28.3	27.4	27.6	27.0	27.6
Poland	33.3	32.2	32.0	31.4	31.1	31.1	30.9	30.7	30.8
Portugal	37.7	36.8	35.8	35.4	33.7	34.2	34.5	34.2	34.5
Romania	:	37.8	36.0	34.9	33.3	33.2	33.2	34.0	34.7
Slovenia	23.7	23.2	23.4	22.7	23.8	23.8	23.7	24.4	25.0
Slovakia	28.1	24.5	23.7	24.8	25.9	25.7	25.3	24.2	26.1
Finland	25.9	26.2	26.3	25.9	25.4	25.8	25.9	25.4	25.6
Sweden	24.0	23.4	24.0	24.8	24.1	24.4	24.8	24.9	25.4
United Kingdom	32.5	32.6	33.9	32.4	32.9	33.0	31.3	30.2	31.6

Source: Eurostat.

The decrease in the scale of income inequality in Poland can be accounted for by the relatively low unemployment rate, which boosts the bargaining power of low-skilled workers. Nevertheless, the accuracy of methods used for measuring the distribution of income in the Polish economy may be challenged, mainly when it comes to the reliability of data related to high-income households. Large parts of their revenue are difficult to verify, as they represent management contracts, capital gains on assets held abroad, other international cash flows and even revenue from copyright or dividends. In light of the above problem, NBP (2015) conducted a study of the distribution of income and assets in Poland, assuming a larger than actual share of high-income households in the economy.⁴ NBP data confirms that the actual level of income inequality in Poland is higher than indicated by Eurostat statistics (see Table 2): according to a study conducted by NBP, the Gini coefficient in Poland stood at 38.4 in 2014, thus greatly differing from Eurostat's assessments.

⁴ In the sample used in the study, certain entities are overrepresented, which means that any hidden income is compensated for with a higher share in the sample; as a consequence, the estimate of the inequality should reflect the actual situation more accurately. This is the standard approach used in income distribution studies.

Another aspect that deserves attention is the unusual popularity of temporary employment in Poland: a large number of workers are employed on the basis of civil law contracts (contracts of mandate or contracts of specific work).

Table 3. Percentage of workers employed on the basis of temporary contracts among all workers in the EU

GEO/TIME	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
European Union (28 Member States)	14.0	14.5	14.6	14.1	13.6	13.9	14.0	13.7	13.7	14.0
Belgium	8.8	8.7	8.6	8.3	8.2	8.1	8.9	8.1	8.1	8.6
Bulgaria	6.3	6.1	5.1	4.9	4.6	4.4	4.0	4.4	5.6	5.3
Czech Republic	7.9	8.0	7.8	7.2	7.5	8.2	8.0	8.3	9.1	9.7
Denmark	9.8	8.9	9.0	8.5	8.7	8.5	8.9	8.6	8.8	8.6
Germany (until 1990, the former territory of the FRG)	14.3	14.6	14.7	14.8	14.6	14.6	14.6	13.8	13.4	13.1
Estonia	2.7	2.6	2.2	2.4	2.4	3.7	4.5	3.5	3.5	3.1
Ireland	3.7	6.0	8.5	8.6	8.8	9.6	10.2	10.1	10.0	9.3
Greece	12.0	10.8	11.0	11.6	12.3	12.6	11.8	10.2	10.2	11.6
Spain	33.4	34.0	31.6	29.2	25.3	24.8	25.2	23.4	23.2	24.0
France	13.9	14.8	15.1	15.0	14.4	15.1	15.3	15.2	15.9	16.0
Croatia	12.3	12.9	13.2	12.3	12.0	12.8	13.5	13.3	14.5	16.9
Italy	12.2	13.1	13.2	13.3	12.4	12.7	13.3	13.8	13.2	13.6
Cyprus	14.0	13.2	13.3	14.0	13.8	14.0	14.2	15.1	17.5	19.0
Latvia	8.7	7.2	4.2	3.4	4.3	7.1	6.7	4.7	4.3	3.3
Lithuania	5.5	4.6	3.8	2.4	2.3	2.4	2.7	2.6	2.7	2.8
Luxembourg	5.3	6.1	6.8	6.2	7.2	7.1	7.1	7.6	7.0	8.1
Hungary	7.0	6.8	7.3	7.8	8.5	9.7	9.1	9.5	10.9	10.8
Malta	4.3	3.7	5.1	4.2	4.9	5.3	6.5	6.8	7.5	7.7
Netherlands	15.4	16.4	17.9	17.9	18.0	18.3	18.1	19.2	20.2	21.1
Austria	9.0	8.9	8.8	8.9	9.1	9.4	9.6	9.3	9.2	9.2
Poland	25.6	27.3	28.2	26.9	26.4	27.2	26.8	26.8	26.8	28.3
Portugal	19.4	20.4	22.3	22.8	21.9	22.8	22.0	20.5	21.4	21.4

Romania	2.4	1.8	1.6	1.3	1.0	1.0	1.4	1.5	1.4	1.5
Slovenia	17.2	17.1	18.4	17.3	16.2	17.1	18.0	17.0	16.3	16.5
Slovakia	4.9	5.0	5.0	4.5	4.3	5.6	6.5	6.7	6.8	8.8
Finland	16.5	16.3	15.9	14.9	14.5	15.4	15.5	15.5	15.3	15.4
Sweden	15.7	17.0	17.2	15.8	14.9	16.0	16.5	15.9	16.3	16.8
United Kingdom	5.7	5.7	5.7	5.3	5.5	6.0	6.0	6.2	6.1	6.3

Source: Eurostat.

Table 3 shows that Poland by far outstrips other European countries in terms of temporary employment, and the scale of this phenomenon has continued to grow, which has an important impact on the distribution of income. On the one hand, civil law contracts are less burdened with social security contributions,⁵ and therefore the disposable income of those employed on the basis of such agreements tends to be higher. If the share of those employed on the basis of civil law contracts increases in the economy and this type of employment is represented mainly by lower-income workers, then the disposable income of lower-paid workers increases at a faster pace compared to all employees, and therefore income inequality is reduced. However, we must bear in mind that the pension system in Poland is based on the principle of a defined contribution, and therefore lower contributions may increase the amount of disposable income but lower the future amount of retirement benefits, due to the fact that the individual pension account of a worker is injected with lower retirement premiums, the amount of which determines the level of future benefits. Even though the popularity of civil law contracts alleviates to a certain extent today's income inequality, it will translate into giant differences of future pension benefits; this situation should raise legitimate concern among decision makers about social cohesion in the long run.

The above data indicate that Poland stands out among OECD countries in terms of its fiscal policy. The minor contribution of personal income tax is offset by higher revenues generated through indirect taxes and social security contributions. This structure of public revenue has an impact on the distribution of income within the economy. Among the tax sources presented above, only personal income tax is progressive, while other sources are regressive; that is, the burden related to indirect taxes and social security contributions decreases in relative terms as the taxpayer's income increases,

⁵ The approach to contributions paid on civil law contracts changed as of 1 January 2016; as a result, the generation of income that is not subject to social security contributions has become considerably more difficult.

while taxes on capital gains remain neutral (i.e., the effective rate remains unchanged regardless of the taxpayer's level of income).

Table 4. Selected sources of public revenue (% of GDP) in OECD countries in 2012

Country	Indirect taxes	PIT	Social security contributions	Taxes on capital income – % of public revenue
Australia	7.7	10.7	0.0	58.1
Austria	11.5	9.5	14.2	29.2
Belgium	10.9	12.2	14.1	34.7
Canada	7.5	11.2	4.8	47.2
Chile	10.7	..	1.4	39.0
Czech Republic	11.5	3.6	14.7	20.5
Denmark	14.8	23.9	0.9	61.9
Estonia	13.6	5.3	11.3	20.9
Finland	14.2	12.6	12.7	34.2
France	10.8	7.9	16.5	23.7
Germany	10.4	9.3	13.9	30.4
Greece	12.7	7.0	10.8	24.3
Hungary	16.8	5.3	12.6	17.1
Iceland	12.4	13.2	3.7	45.2
Ireland	9.5	9.1	4.2	41.7
Israel	11.6	5.5	5.1	30.8
Italy	10.9	11.6	13.0	32.8
Japan	5.3	5.5	12.3	31.1
Korea	7.7	3.7	6.1	29.9
Luxembourg	10.8	8.4	11.3	35.3
Mexico	10.7	..	2.9	26.3
Netherlands	10.7	7.3	15.0	25.3
New Zealand	12.6	12.4	0.0	55.5
Norway	11.1	9.9	9.6	48.2
Poland	11.6	4.5	12.1	20.6

Portugal	12.4	5.8	8.8	27.2
Slovak Republic	9.9	2.6	12.3	18.4
Slovenia	13.9	5.7	14.9	19.0
Spain	8.5	7.2	11.5	29.9
Sweden	12.3	11.9	10.0	34.3
Switzerland	6.2	8.5	6.7	45.6
Turkey	12.4	4.0	7.5	21.8
United Kingdom	10.9	9.1	6.3	35.6
United States	4.4	9.2	5.4	47.9
Unweighted average				
OECD Average	10.8	8.6	9.0	33.6

Source: OECD.

In the case of indirect taxes, regressivity is due to taxpayers' diminishing marginal propensity to consume. The part of income spent on consumption decreases in reverse proportion to the level of income; therefore, the higher the income, the lower the amount spent on consumption and indirect taxes. The amount of VAT and excise duty calculated as a percentage of the taxpayer's revenue diminishes as the income increases.

The regressive system of social security contributions stems from two solutions adopted in Poland. First, a threshold for the income generated through employment and subject to these contributions has been established and has been set at thirty times the average monthly salary in the national economy in a given year (PLN 121,650.00 in 2016). Any amount exceeding this threshold is not subject to social security contributions; therefore, the amount of social security contributions paid by the taxpayer is lower than it would be if it were proportional to the amount of his or her salary. By adopting this rule, the state protects itself against the obligation to pay inflated pension benefits in the future, which could threaten the financial stability of the Social Insurance Fund. In a system based on defined contributions, the amount of future allowances depends on the sum of contributions paid; therefore, by giving up some of the revenue generated through high-income contributions, the system is safeguarded against the obligation to pay exorbitant future benefits. That feature of system is of utmost importance, particularly given the adverse demographic trends that affect the balance of the PAYG pension scheme.

Second, the adopted model of social security contributions paid by the self-employed (sole traders) is also regressive. Unlike employees, their social security contributions

are not calculated as a percentage of their income but rather represent a fixed monthly amount (at least 60 percent of the average wage⁶ in a given year).⁷ Thus, the effective rate of social security contributions decreases as the income increases.

In the light of the above discussion, it is clear that the only progressive tax in Poland is personal income tax, as it encompasses a tax-free amount, two tax rates and tax reliefs. Incidentally, the impact of progression in PIT is significantly diminished by the fact that entrepreneurs can choose to pay a flat-rate tax of 19 percent.

It should also be noted that, in comparison with other OECD countries, the Polish system of public revenue is based to a lesser extent on revenue generated through capital income tax. The sum of revenue generated through CIT, taxes on dividends and capital gains (income from trading in securities and interests) is among the lowest in OECD countries. Importantly, there is no progression, as a flat rate of tax applies to all capital gains. Lack of progressivity in taxing capital income has an impact on the structure of income in society: capital gains benefit households that have accumulated substantial assets, whereas the income of those who are worse off is generated through employment and social benefits.

Table 5. Tax burden on high wages in OECD countries in 2012

Country	„Tax wedge” (PIT+ contributions) at the highest threshold (as % of the taxpayer’s income)	Highest PIT rate (in %)	Highest tax threshold – the product of the average wage
Australia	46,5	46,5	2,259
Austria	43,714	50	1,921
Belgium	59,447	53,7	1,015
Canada	49,53	49,53	4,446
Chile	39,518	40	12,764
Czech Republic	31,1	15	0,396
Denmark	56,222	60,415	1,231
Estonia	22,58	21	0,142

⁶ Over the first 24 months of operation, contributions paid by first-time entrepreneurs are calculated at 30% of the minimum wage.

⁷ This is the minimum amount of contributions paid by entrepreneurs, but entrepreneurs can increase this amount in order to receive higher pension benefits in the future. In practice, 99% of entrepreneurs pay minimum fees.

Finland	57,211	51,49	2,518
France	55,011	54,501	14,977
Germany	47,475	47,475	5,658
Greece	46	46	5,574
Hungary	34,5	16	0
Iceland	44,39	46,24	1,431
Ireland	52	48	0,952
Israel	50	50	6,214
Italy	47,843	49,133	9,848
Japan	51,086	50,84	4,57
Korea	43,199	41,8	4,444
Luxembourg	45	43,6	3,002
Mexico	35	35	29,468
Netherlands	53,413	52	1,199
New Zealand	33	33	1,279
Norway	47,2	39	1,581
Poland	38,751	32	2,376
Portugal	61,285	56,5	16,111
Slovak Republic	35,05	25	3,91
Slovenia	61,05	50	5,337
Spain	52	52	11,673
Sweden	56,86	56,86	1,509
Switzerland	41,753	41,67	3,32
Turkey	35,8	35,76	3,874
United Kingdom	47	45	4,21
United States	48,6	46,25	8,225

Source: OECD.

The analysis of data on taxing high income also leads to interesting conclusions. Income is considered “high” when it reaches the highest threshold set for personal income tax. Once again, social security contributions and income tax paid by those

with high income in Poland and other countries from the region are moderate. It should be emphasised that the scale of fiscal burden in Poland, Slovakia or Hungary is much lower than in social-democratic Scandinavian economies, as well as in liberal Anglo-Saxon countries, such as the United States and the United Kingdom. This can be explained by the low marginal rates adopted by the countries of Central Europe. In this respect, Poland's situation deserves particular attention: the highest tax threshold is surprisingly low (less than the equivalent of the national average wage multiplied by 2.4). At the same time, data provided by the Ministry of Finance indicates that only 2.7% of taxpayers earn more than PLN 85,528.00 per year. This surprising data can be accounted for by two phenomena. First, the national average wage reported by the CSO does not reflect the actual level of remuneration in Poland. This is due to the mathematical characteristics of the index, namely the arithmetic average: extreme values raise the average. This problem becomes clear when we compare average and median wages; according to data from the Central Statistical Office, at the end of 2014 (more recent official data are not available), the average wage in Poland amounted to PLN 4,108 per month, while the median wage was PLN 3,292. We must also remember that the average wage, as it is usually referred to in the mass media, is calculated by the Central Statistical Office on the basis of data provided by large companies with more than nine employees, where wages are considerably (as much as 30%) higher than in small and medium-sized enterprises.

Second, the small number of highest-rate taxpayers can be accounted for by a number of income-generation opportunities that are not subject to progressive taxation. Income generated through business activities, revenue from management contracts and dividend payments are all subject to flat-rate tax; this encourages high-income taxpayers to avoid the traditional form of employment. Thus, those generating high incomes are not subject to progressive tax.

Table 6. Labour market in selected EU Member States – data for 2013

Indicator, country	Denmark	Sweden	Poland	EU28
Employment rate (% of working-age population)	73.7	76.5	62.5	65.5
% of fixed-term workers	8.4	18.5	26.8	14.4
Self-employed (% of all employees)	8.4	9.0	18.1	14.2
Shadow economy (% PKB)	13	13	24	18.5

Source: author's own calculations on the basis of Eurostat data.

Once again, Poland clearly stands out among EU Member States, in particular when we compare its labour market with the labour market of Scandinavian countries. It is unlikely that certain national characteristics of Poles make them more willing and ready than citizens of other countries to undertake business activities. Rather, the large number of self-employed Poles is a consequence of the current fiscal model, which, to a large extent, is symptomatic of certain pathological relations within the Polish economy. On the one hand, from the point of view of the employer, it is cheaper to pay for services provided by an autonomous business operator. The company “saves” on employment costs – mainly social security contributions – even with respect to low-skilled and low-wage workers. Employees are often forced to give up their jobs in a company and set up a business. This model is an obvious pathology – services are provided to a single client, at the premises and under the control and supervision of the latter. This can hardly be referred to as an entrepreneurial activity, as it has all the characteristics of full-time employment.

On the other hand, high-income earners are also willing to become self-employed, as it allows them to take advantage of the flat-rate personal income tax for entrepreneurs and fixed-amount social security contributions.

Due to this labour market structure, two basic instruments – the minimum wage and tax progression – have a limited impact on income distribution in the Polish economy. Specifically, the minimum wage applies only to full-time employees, which means that the income of those employed on the basis of civil law contracts and the self-employed (as well as those working in the shadow economy) is not subject to legal regulations. In addition, tax progression does not apply to a large group of the self-employed paying social security contributions whose effective rate is inversely proportional to their income.

Income groups and their tax burden

The calculations presented below were made under the following assumptions:

- a household consists of four people, among whom only one generates income;
- the level of revenue and expenditure for households and their structure, on the basis of which the effective rate of VAT is calculated, according to the Central Statistical Office (2014);
- the effective VAT rate is calculated on the basis of the share of food expenditure among different income groups;
- all taxpayers are employed on the basis of an employment contract;

- taxpayers do not benefit from any tax relief;
- entrepreneurs generate gross income comparable to the income generated by representatives of the fifth quintile, and they incur similar expenses.

Table 7. Tax burden in different income groups in Poland

Income groups	Income per person	Expenditure per person	Monthly income of households	Monthly expenditure of households	Gross salary	PIT and annual contributions as % of income	Effective VAT (% rate)	VAT paid (monthly in PLN)	Monthly taxes (PIT+ contributions + VAT) in PLN	Annual fiscal burden as % of income
1 st quintile	430	549	1720	2196	2373	27.52	14.90	327.20	980.20	41.31
3 rd quintile	1149	939	4596	3756	6501	29.30	15.79	589.69	2494.69	38.37
5 th quintile	2748	1951	10992	7804	15680	32,12	17.50	1365.70	6401.45	40.83
Entrepreneur			11816	7804	15680	24,64	17.50	1365.70	5229.65	33.35

Source: author's own calculations based on data from the Central Statistical Office and applicable rates (2014).

The author is aware of some simplifications in the presented investigation. Several issues have been omitted, including:

- differences in the structure of household income, with different tax rates, such as social benefits, capital gains or transfers from abroad;
- in addition to VAT, excise duty partly applies to consumption;
- taxpayers benefit from tax relief and represent different forms of employment;
- a detailed study is undoubtedly necessary to examine the fact that the poorest households seem to spend more than they earn. According to the CSO, the difference is covered with savings, but it can be suspected that the shadow economy and transfers from abroad are sources of additional income.

Taking into account these and numerous other variables requires access to statistical data, which may be obtained only through a detailed and extensive household survey. Despite these simplifications, the above calculations provide a relatively clear picture of the impact of Poland's tax policy on the economic situation of households. It can be concluded that:

- the redistributive role of the fiscal regime is rather moderate considering the personal income tax, social security contributions and VAT;

- despite the progressive character of income taxes (see column: Taxes and contributions per year as the percentage of income), the general tax burden is regressive owing to the relatively higher consumption among poorer households;
- the situation of high-income entrepreneurs with the lowest tax burden in the fiscal system is clearly more advantageous, even if we do not take into account the fact that part of private consumption of entrepreneurs is classified as business expenses, which further reduces the amount of VAT and PIT effectively paid.

The claim that the Polish tax system is regressive (i.e., the relative scale of fiscal burden is inversely proportionate to income) may seem questionable given the progressivity of personal income tax. Nevertheless, if we take into account the total amount of taxes paid by households, the relative amount of taxes decreases as income increases. Similar conclusions are presented in the study by Muszyński and Janyst (2015), who also point out the preferential treatment of income obtained from capital compared to income generated through employment by the Polish fiscal regime. Recent changes can be interpreted as an indication that this unfavourable situation could be reversed – that is, that the tax system may contribute to social cohesion in the future. Changes in taxes and contributions introduced in 2007–2008 (mainly changes to PIT rates) brought significantly higher benefits to taxpayers at the top of the income distribution scale. However, adjustments in the personal income tax system (mainly the introduction of greater tax reliefs for those having children in 2014–2015) have already contributed to alleviating inequalities in the disposable income of households (Myck, Kundera, Najsztub and Oczkowska, 2015).

The new 500+ child benefit programme of the Polish government, along with an increase of the tax-free amount following a decision of the Constitutional Court, will undoubtedly have a substantial impact on the budgets of Polish households. For the time being, the effects of these changes are impossible to estimate: the number and type (in terms of income) of households that will benefit from the 500+ programme remains unknown, as does the future tax scale with a higher tax-free amount.

Conclusion

The redistributive role of the Polish tax system remains limited, because regressive instruments, such as indirect taxes and social security premiums, contribute to the greatest extent to the generation of public revenue. At the same time, taxes on income from capital are of relatively minor importance, which means that richer entities generating income from this source bear a less heavy tax burden. The progressive

character of personal income tax and the introduction of the minimum wage have a limited impact on the final distribution of income within the economy, as many taxpayers are not subject to these regulations, due to the popularity of other than full-time forms of employment, such as civil law contracts or self-employment.

Poland is clearly in line with global trends in tax policy, combining a gradual increase in consumption and labour taxes with a decrease in the scale of capital taxation. This policy can be explained by the current situation in the global economy. However, there is no justification for the regressive character of the fiscal system. Examples of other developed countries indicate that greater social cohesion can be achieved through certain changes in the proportion of public revenue generated from different sources. Scandinavian countries prove that high economic efficiency can be combined with a progressive and pro-social fiscal regime (Jacobsen and Kleven, 2014).

It would be advisable to continue the research in order to examine the evolution of the fiscal burden among different income groups in Poland. Such calculations would demonstrate the effects of adjustments in the fiscal policy and, consequently, contribute to the development of a reasonable revenue policy. Research could also be expanded geographically, and similar calculations could be carried out in other countries of the region; thus, allowing the Polish system to be assessed against the background of other economies.

References

- Alvaredo, F., Atkinson, A., Piketty, T. and Saez, E. (2013). The Top 1 Percent in International and Historical Perspective. *NBER Working Paper 19075*.
- Atkinson, A. (2015). *Inequalities: What Can Be Done?* Harvard University Press, <http://dx.doi.org/10.4159/9780674287013>
- GUS (2015). *Sytuacja gospodarstw domowych w 2014 r. w świetle wyników badania budżetów gospodarstw domowych*. Warszawa: GUS.
- IMF (2007). *World Economic Outlook*. International Monetary Fund, October.
- Jacobsen, K.H. (2014). How Can Scandinavians Tax So Much? *Journal of Economic Perspectives*, 28(4).
- Mankiw, G. (2013). Defending the One Percent. *Journal of Economic Perspectives*, 27(3).
- Muszyński, K. and Janyst, T. (2015). *Kapitał w Polsce w XXI wieku. Regulacje w służbie najsilniejszych: Praca i Kapitał*. Warszawa: Fundacja Kaleckie.
- Myck, M., Kundera, M., Najsztub, M. and Oczkowska, M. (2015). *Dwie kadencje w polityce podatkowo świadczeniowej: programy wyborcze i ich realizacja w latach 2007–2015*, IV Raport Przedwyborczy CenEA 03/09/2015.
- NBP (2015). *Zasobność gospodarstw domowych w Polsce Raport z badania pilotażowego 2014 r.* Warszawa: Narodowy Bank Polski.
- Piketty, T. (2014). *Capital in The Twenty-First Century*. Cambridge, Massachusetts, London: The Belknap Press of Harvard University Press, <http://dx.doi.org/10.4159/9780674369542>
- Tanzi, V. (2014). *The Challenges of Taxing the Big*, *Revista de Economia Mundial* 37.