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**EVALUATION OF ALTERNATIVE TAXATION
SOLUTIONS FOR CONSUMPTION TAXES IMPOSED
ON POLISH HOUSEHOLDS ACCORDING
TO SOCIOECONOMIC GROUPS – SIMULATION
ANALYSIS**

Abstract. When taking a closer look at the changes of economic thought in the field of fiscal policy, it might be seen that more and more emphasis is being put on system operation costs, thus consequently also its efficiency. Differing tax rates is thought to be one of most troublesome and expensive complications of the tax system in Poland; it often brings about problems to entrepreneurs and tax control bodies.

For many years, there has been a discussion about the height and diversity of tax rates in Poland. The question which arises is how would potential application of the discussed matters influence the situation of Polish households. Certainly, when considering different variants of tax rates, one needs to take into account Polish membership in European Union structures. Therefore, proposals of alternative solutions in that area must account for necessary harmonization of tax law with EU requirements.

The purpose of this article is an attempt to estimate Polish households' consumption tax¹ burden, assuming different variants of *VAT* and excise duties rates. The main source of information is the unpublished Main Statistical Office data in Research on Household Budgets in 2006² as well as Eurostat and Ministry of Finance.

Key words: VAT, excise, consumption, households, simulations.

1. INTRODUCTION

Indirect taxes are the most important source of budget income in Poland. Their meaning for the budget revenues is systematically growing, which influences, for instance, household tax burden.

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¹ Tax burden stands for the total of consumption taxes paid by households in relation to their net income.

² The data was paid for with education measures for 2007–2008 as a research project N N111 2917 33.

of the discussed matters influence the situation of Polish households. When considering different variants of tax rates, one needs to remember about the Polish membership in European Union structures. Therefore, proposals of alternative solutions in that area must account for necessary harmonization of our tax law with EU requirements.

The purpose of this article is an attempt to estimate Polish households' consumption tax³ burden, assuming different variants of *VAT* and excise duties rates. The main source of information is the unpublished Main Statistical Office data in Research on Household Budgets in 2006⁴ as well as Eurostat and Ministry of Finance resources.

2. CONCEPTIONS OF CHANGES IN CONSUMPTION TAX RATES RESULTING FROM THE PROPOSAL OF THE POLISH TAXATION SYSTEM REFORM

The question of establishing height and diversity of consumption taxes rates arouses many problems not only in Poland but also other European Union countries. The situation results from the high participation of the taxes in the budget revenue and their influence (especially *VAT*) on a given country's competitiveness; in economies with substantial tax burden, there might be increased outflow of investment to countries with lower taxes.

Among many suggestions to change the Polish taxation system, recently, conceptions of a flat rate tax have often appeared. In terms of direct taxes, the changes suggested refer mainly to *VAT*. The reason for this is a common belief that differing tax rates is one of most troublesome and expensive complications of the tax system in Poland; it often brings about problems to entrepreneurs⁵ and tax control bodies.

In autumn 2003, Center for Social and Economic Research CASE⁶ presented a conception of „linearization” of all the basic taxes in Poland: income tax, corporate tax and *VAT* to the level of 15%. The slogan „3x15” was also used by one political party during parliament elections campaign in 2005. In the

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⁵ The difficulty may result from application of a wrong tax rate by the producer. It happens that the same or almost the same goods are made by different producers and taxed at different *VAT* rates; what is more, local tax offices might provide their own interpretations.

⁶ At the conference organized with BRE Bank in Warsaw, 22 September, 2003.

programme „Country for its citizens. Management agenda for 2005–2009”⁷, the party suggested simplification of taxes, which meant lowering basic tax rates and at the same time resignation of all tax reliefs and preferential rates. The conception was probably shaped on the 19 % flat rate for *VAT*, personal and corporate income tax which was introduced in Slovakia, and a flat 25% *VAT* applied in Denmark⁸. „3x15” conception was the most radical proposal to simplify the Polish tax system. However, only in October 2005, the suggestion had been modified into „3x16”, with a PLN1000 tax allowance for each spouse and per each child⁹. At the same time, another alternative variation of flat tax appeared, with personal and corporate income tax rates established at 19% (thus, higher than in the basic variant), 3% pension insurance decrease and 16% *VAT* rate. Only exemptions required by community regulations and exemptions with the right of deduction (0% *VAT* rate) were not subject to the introduction of harmonized tax rates for all transactions. Moreover, the conception would allow for *VAT* exemptions in relation to real estate lease.

According to the authors, the most significant consequence of introducing „3x16”, or alternatively “16 and 2x19” conception, would be depletion of the financial sector budget¹⁰, which would impose simultaneous cuts in country budget expenditure. On the basis of the simulations¹¹, authors of the project emphasized positive results of these changes for an average household in case of both taxation strategies.

Another conception was to apply a uniform 19% rate for *VAT*, corporate and personal income tax and simultaneously to introduce a family relief protecting the poor and numerous families¹². It is assumed that personal and corporate taxation should be lower and simpler than in developed EU countries, and the rise in the prices of goods and services that had been taxed at reduced *VAT* rates for social reasons, would be made up for with a family relief in personal income tax.

The most radical change in taxation system was proposed by Adam Smith Center (CAS)¹³ and The Sobieski Institute¹⁴. Due to many common assumptions,

⁷ „Country for its citizens. Management agenda 2005–2009” [2005] Country and Administration Institute, Warsaw.

⁸ Apart from a regular *VAT* 25% rate, in Denmark there is also a 0% transition rate

⁹ The change in the conception resulted from a compromise between Civic Platform and Law and Justice, while an attempt to create coalition.

¹⁰ The simulation outcome, presented in the Civic Platform programme „Country for its citizens. Management agenda 2005–2009”, estimated lowering hypothetical income in 2006 to PLN 14,5 billion for „3x16” strategy and around PLN 14 billion for „16 and 2x19” strategy.

¹¹ Simulation guidelines were presented in the programme: „Country for its citizens. Management agenda 2005–2009” [2005] Country and Administration Institute, Warsaw, 102–115.

¹² Compare with Democratic Party programme on www.demokraci.pl, of July 2, 2007.

¹³ Resolution draft **O likwidacji bezrobocia i naprawie finansów publicznych** („Elimination of unemployment and public sector financial recovery”) with Kamil Zubelewicz’s explanation [2004] Adam Smith Center, Warsaw.

the two projects will be dealt with together. According to both institutions, the main problem of Polish economy is unemployment. Most significant changes in the project refer to elimination of social insurance and all other contributions raising labour costs, personal and corporate income tax elimination, introduction of a Payment Fund tax. As for indirect taxes, both analysis opt for a uniform *VAT* rate at 20% on all goods and services (excluding 0% rate on export) as well as maintaining excise tax rules, with optimal simplification of its collection, and providing a flat rate for substitute products. The suggested *VAT* rate accounts for the necessity to secure such budget revenue, that would make up for the payroll tax depletion. (Read more in Gwiazdowski R. [2007], p. 419 i n.).

3. GUIDELINES FOR SIMULATION ANALYSES

Simulations will be based on a simple model, where consumption and income structure of Polish households in 2006 will be taxed at certain *VAT* and excise rates. It was, therefore, assumed that income and consumption structure is constant, and the taxes remain independent of consumption structure. Also, any changes in tax rates will be reflected in retail prices of goods. Which is why research outcome must be taken with a bit of reservation, since it highlights the tendency of changes rather than their intensity. Nevertheless, to some extent, the result will point to the types of households that will bear the highest cost of changes.

In the article, four variants of simulation have been established and they are referred to as A, B, C and D.

The first three are related to proposals (of European Commission, Polish political parties, research centres) to harmonize *VAT* rates and leaving excise tax on the current basis. In the first simulation variant, flat *VAT* rate will be 16% (A), in the second- 19% (B), and in the third- 20% (C).¹⁵ In the three variants, all reduced tax rates were eliminated, except for exemptions required by community regulations and exemptions with the right of deduction (0% *VAT* rate) All *VAT* variants rates account for EU membership, since their level meets EU Directive 77/1992/EC of 1992¹⁶ requirements.

The fourth, least radical variant (D), is related to European Union negotiation resolutions. There will be a simulation of household *VAT* and excise tax

¹⁴ Freedom and labour. A project of tax reduction and changes in public contributions system [2003] The Sobieski Institute, Warsaw.

¹⁵One of such exceptions are supplies of goods undergoing customs clearance procedures, since formally, they remain outside Polish economic turnover. The assumption is not relevant in case of research on households' consumption tax burden.

¹⁶ European Union Directive 77/1992/EC of 19 October 1992.

burden at levels coming into life after two transition periods in Poland. It should be reminded that adopting EU solutions, Poland got a few transition periods with lower *VAT* and excise rates on certain goods and services.

In terms of value added, they are:

- means used for agricultural production, agricultural products and services, most of which should be taxed at 7% *VAT* after 2010,
- construction-assemble works as well as renovation and conservation works related to residential buildings and accompanying infrastructures, residential buildings or their parts, except for business establishments, restaurant services, with exemptions stated in the resolution¹⁷. So far, *VAT* for this group of goods is at 7%, and it will rise to 22% after 2010.
- national supplies and intra-Community acquisitions of certain books, magazines and specialist periodicals, import of printed books and brochures, as well as specialist periodicals import, transition of the resident's occupancy right to a housing unit into a personal property law and transferring the law to own a housing unit or a house to a housing association member. This group is taxed at 0% *VAT* and after 2010, it will have to rise to 7%.

In the suggested simulation variant, excise tax rate will be assumed at the level set in EU directives. Since excise rates on alcoholic beverages in Poland are tuned to the guidelines of Union Directives of 1992, this product group will be taxed in accordance with 2006 Polish tax rates. For manufactured tobacco, excise rates that have been applied come from the Council Directive 2002/10/EC of 12 February 2002, amending Directives 92/79/EWG, 92/80/EEC and 95/59/EC on the structure and excise rates on tobacco. Hence, excise rate on cigarettes was set at EUR 64 per 1000 items and 57% of the retail price of cigarettes belonging to the most popular price category; excise rate on **tobacco**—EUR 32 per kg.¹⁸ As for energy products and electricity, Council Directive 2004/74/EC¹⁹ rates have been applied. Unleaded petrol rate was set at EUR 359 per 1000 l.; gas oil at EUR 302 per 1000 l.; oil used for heating purposes at EUR 15 per 1000 kg; coal and coke at EUR 0.3 per 1GJ. The rates of other harmonized excise products conform to European requirements and have been taxed at Polish rates of 2006.

The basis for establishing tax rate in EURO is the 2 October 2006 exchange rate, published in *Official Journal of the European Union* (C238 of 03.10.2006), which is 3,9606²⁰.

¹⁷ Resolution of 11 March 2004, on foods and services tax, art.146 bill 1 p 2 (Law Gazette 04.54.535).

¹⁸ Minimal rates existing since 1 July 2004.

¹⁹ Council Directive 2004/74/EC amending Directive 2003/96/EC on application of temporary tax exemptions and reductions in relation to energy products and electricity.

²⁰ EUR 1 = PLN 3,9608.

In the fourth simulation variant, the basic *VAT* rate will be 22%, and the reduced one 7%. Reduced rates will refer only to goods and services set out in Annex III to New European Union Directive of 28 November 2006. The list includes: foodstuffs (including beverages but excluding alcoholic beverages), supply of goods and services of a kind normally intended for use in agricultural production, pharmaceuticals and medical equipment, books, admissions to cultural and sporting events, and services: housing, passenger transport, medical and dental care, water, gas and electricity supplies, refuse collection and waste treatment, accommodation provided in hotels, undertakers and cremation services as well as supply of services by writers, composers and performing artists.

Details of methodology of estimating households' consumption tax burden were described in B. Dobrowolska's Ph.D. (Dobrowolska B. [2008], p. 127–138).

4. RESULTS OF THE SIMULATION ANALYSES

Conducted simulation analyses prove that none of the suggestions (A,B,C,D variants) to change consumption tax rates in Poland are beneficiary for Polish households. Both *VAT* harmonization, with simultaneous resignation of reduced rates of the tax (A, B, C variants), and adjusting Polish solutions in the area of indirect taxes to EU directives, caused the growth of household burden with consumption taxes (compare Table 1) after the end of transition periods (variant D).

Simulation results shown in Table 1 point that the highest growth of burden in comparison to the real burden in 2006 was noticed at flat 20% *VAT* rate (variant C). The lowest growth of household consumption tax burden was noticed if variant D solutions were applied. It should be reminded that this variant included the changes in consumption tax burden values while tuning Polish *VAT* and excise solutions to EU regulations after transitions periods.

The analysis of the height of households' consumption tax burden according to socioeconomic groups indicates that the consequences of *VAT* rate change are not equal for different social groups, the heaviest burden resting on farmers' households (compare Table 1). Higher consumption tax burden in case of farmers' households results from a wider use of goods and production services taxed with excise and *VAT*.

Table 1. Consumption tax burden (*VAT* and excise) of Polish households' net revenue according to socioeconomic groups in 2006, burden simulations in variants A, B, C i D and their dynamics in comparison to the real burden rates of 2006 (%)

Details		Workers' households	Farmers' households	Self-employed households	Pensioners' households
2006		10.50	15.50	11.38	9.83
Burden simulation (%)	Variant A	11.97	18.52	12.50	11.79
	Variant B	13.42	20.69	13.97	13.27
	Variant C	13.97	21.52	14.45	14.16
	Variant D	11.34	17.21	12.14	10.71
Variant A (dynamics. year 2006=100)		113.93	119.48	109.77	119.89
Variant B (dynamics. year 2006=100)		127.76	133.55	122.73	135.01
Variant C (dynamics. year 2006=100)		133.05	138.87	126.93	144.00
Variant D (dynamics. year 2006=100)		108.01	111.03	106.63	108.94

In variant A, harmonized VAT rate is 16%. In variant B- 19%, in variant C – 20%. In the three variants, all reduced tax rates were eliminated, except for exemptions required by community regulations and exemptions with the right of deduction (0% *VAT* rate). The fourth simulation variant– D– is based on European Union negotiation resolution on VAT and excise rates that will come into life after transition periods. A, B, C and D variants were described in the third point of the article.

Source: personal calculations based on unpublished *Main Statistical Office data, in Research on Household Budgets in 2006*.

Interesting conclusions can be drawn from the analysis of distribution of Polish households' burden in terms of *VAT* basic rate, *VAT* preference rate and excise tax, on assuming simulation variant D guidelines (Table 2). The research shows that pensioners' households will be most influenced by the process of tuning excise rates to EU requirements. The group's tax burden was raised by almost 21% when applying variant D, in comparison to the real burdens of 2006. The growth might be explained with the inclusion of excise on coal in the simulation variant, which will raise the costs of living. On the other hand, tuning *VAT* solutions, caused relatively highest growth of tax burden in case of farmers' households. The situation is caused by coming-soon taxation changes on agricultural production means, products and services, as well as some foodstuffs, most of which are supposed to be taxed at 7% *VAT* after 2010. Also, you might notice strong dynamics in the growth of preference *VAT* burden in comparison to the real burden, when considering pensioners' households (raised by 14.3%). It results from a higher share of foodstuffs expenses in the groups' overall expenses, since the simulation includes elimination of 3% *VAT* preference rate on essential foodstuffs.

Table 2. The level of households' income *VAT* burden according to the basic rate, *VAT* preference rate and excise rate in terms of socioecoomic groups in 2006 and in the fourth simulation variant (D); dynamics of the tax burdens in variant D in relation to the real burdens of 2006 (%)

Details	Workers' households	Farmers' households	Self-employed households	Pensioners' households
VAT burden value according to the basic rate of 2006	6.23	8.99	6.85	5.63
VAT burden value according to the basic rate. resulting from application of simulation variant D	6.52	9.09	7.11	5.75
VAT burden value according to the preferential rate of 2006	1.53	1.82	1.40	1.85
VAT burden value according to the preferential rate resulting from application of simulation variant D	1.66	2.97	1.53	2.12
Excise burden value in 2006	2.75	4.68	3.13	2.35
Excise burden value resulting from application of simulation variant D	3.16	5.15	3.50	2.84
VAT burden value according to the basic rate. resulting from application of simulation variant D. in relation to real burdens of 2006	104.71	101.12	103.82	102.23
VAT burden value according to the preferential rates. resulting from application of simulation variant D. in relation to real burdens of 2006	108.58	162.63	109.32	114.30
Excise burden value resulting from application of simulation variant D in relation to real burdens of 2006	115.18	109.95	111.57	120.77

Simulation variant D was described in detail in point 3 of the article.

Source: personal calculations based on unpublished Main Statistical Office data, in Research on Household Budgets in 2006.

It must be noticed that harmonization of *VAT* rate will definitely have a positive effect on simplification of the tax accounting, it will lessen the troublesome nature of the tax obligation, reduce the so called „grey area” and improve tax control efficiency; however, it will lead to further growth of people's consumption tax burden. Introduction of a flat *VAT* rate will probably entail creation of a compensation system for those, who will be most affected with its application. That, however, means there will be less possibilities for system simplifications than it was expected.

Analysis of tax household burden cannot not be investigated in terms of one tax group and in isolation of other elements of fiscal policy. For this reason, the simplest compensation system for the poorest households might be introduction of a reasonable tax allowance for taxable persons.

5. CONCLUSIONS

When taking a closer look at the changes of economic thought in the field of fiscal policy, it might be seen that more and more emphasis is being put on system operation costs, thus consequently its efficiency. Differing *VAT* rates is thought to be one of most troublesome and expensive complications of the tax system in Poland; it often brings about problems to entrepreneurs and tax control bodies, as J. Neneman i R. Piwowarski point (Neneman J., Piwowarski R. [2004], p. 49). Apart from administrative costs, currently, new problems gain in importance. For instance, tax law application costs on the part of tax payers, tax evasion and tax avoidance, it is even said there are tax system constructions that are proof to irregularities and corruption. „If the reform brings about revealing what is hidden, it may lead to status quo change and completely new values will arise”.

The easiest and most efficient way to improve the economic situation is simplification of the system, e.g. by eliminating relieves and exemptions. By raising the level of transparency and simplicity of the processes, there are less chances of mistakes and overuse. It is also worth noticing that nowadays, in the full daylight of optimal consumption taxation theory, though it hasn't been decided yet, there is an overwhelming belief that differing sales tax for redistribution or efficiency purposes has very little or no justification²¹.

Although introduction of one flat rate for internal turnover, will probably simplify tax collection and protect against overuse resulting from *VAT* rate differences, it will simultaneously lead to household burden rise in Poland. Conducted simulation analyses prove that none of the suggested variants of *VAT* rate harmonization is beneficiary for Polish households. Adjusting Polish solutions in terms of indirect taxes, after transition periods, will also cause the rise of Polish households' burden rise. Introduction of a flat *VAT* rate will probably entail creation of a compensation system for those, who will be most affected with its application. That, however, means there will be less possibilities for system simplifications than it was expected.

²¹ It should be remembered that optimal taxation theories might be considered abstract because they don't account for the real condition and as well as institutional, political, social and cultural factors.

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**OCENA ALTERNATYWNYCH ROZWIĄZAŃ OPODATKOWANIA PODATKAMI
KONSUMPCYJNYMI GOSPODARSTW DOMOWYCH W POLSCE
WEDŁUG GRUP SPOŁECZNO-EKONOMICZNYCH
– ANALIZY SYMULACYJNE**

Obserwując zmiany myśli ekonomicznej w dziedzinie polityki podatkowej można zauważyć, że coraz większą wagę przywiązuje się do kosztów funkcjonowania systemu, czyli pośrednio do jego efektywności. Różnicowanie stawek podatku VAT uznaje się za jedną z najbardziej kłopotliwych i kosztownych komplikacji systemu podatkowego w Polsce, która często stwarza trudności przedsiębiorcom i organom kontroli podatkowej.

Od wielu lat toczy się w Polsce dyskusja na temat wysokości i stopnia zróżnicowania stawek podatków konsumpcyjnych. Nasuwa się zatem pytanie, jak potencjalne zastosowanie rozważanych opcji wpłynęłoby na sytuację polskich gospodarstw domowych?. Oczywiście przyjmując różne warianty stawek podatków konsumpcyjnych należy uwzględnić fakt przynależności Polski do struktur Unii Europejskiej. Zatem propozycje alternatywnych rozwiązań w tym zakresie muszą uwzględniać konieczność harmonizacji przepisów podatkowych z wymogami unijnymi.

Celem artykułu jest próba oszacowania obciążeń polskich gospodarstw domowych podatkami konsumpcyjnymi, przy przyjęciu różnych wariantów wysokości stawek podatku VAT i podatków akcyzowych. Głównym źródłem informacji są niepublikowane dane GUS pochodzące z Badań Budżetów Gospodarstw Domowych dla 2006 roku.

Słowa kluczowe : VAT, akcyza, konsumpcja, gospodarstwa domowe, symulacje.