

# VAT COLLECTION EFFICIENCY IN POLAND BEFORE AND AFTER ACCESSION TO THE EUROPEAN UNION – A COMPARATIVE ANALYSIS

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***Abstract.** The principal aim of this study is to evaluate the impact of EU accession on VAT collection efficiency in Poland. For the purposes of the analysis the article is divided into three parts. The first addresses the Polish economy in the years 2001–2006, and describes the main macroeconomic indicators (GDP, import, export, individual consumption expenditure, public consumption expenditure, inflation rate and unemployment rate). The next section presents a review on the most significant VAT modifications, implemented in 2004. The last section estimates, on the basis of certain indicators, the VAT collection efficiency in the years 2001–2006. The measures employed in this section include: VAT productivity and VAT efficiency ratio. Furthermore, the section presents the VAT to GDP ratio and the structure of tax receipts measured by the share of major taxes in the total tax collection. The main conclusion drawn from the analysis is that in the period preceding accession the economic cycle did not favour VAT performance. Since 2004, both improved economic situation and tax construction changes had been the main factors of VAT revenue increase. In the years following accession the VAT productivity and VAT efficiency ratios increased by 5,4 and 7,8 percentage points, respectively. It was the highest rise of these indicators in the period analyzed.*

***Key words:** VAT, tax revenues, Poland, EU accession*

## **Introduction**

VAT is considered as a significant instrument of tax policy in over 100 countries and its supporters claim, that VAT efficiency in raising tax receipts is higher than sales tax and is the best tax even invented (Cnossen, 1990). In fact a number of empirical studies favour the opinion. According to the analysis by M. Keen

and B. Lockwood, countries with VAT raise more revenue than those without it. Moreover, tax receipts in the countries that adopted VAT, since the moment it was introduced, have tended to grow (Keen, Lockwood, 2006).

The fiscal role of VAT is of particular concern in the European Union. As an important part of the EU's own resources VAT contributes to the financing of Euro-

pean Union expenditure. Therefore, collection efficiency of the tax in question is directly influenced by harmonization processes. A unified model of this tax has been in development since 1977, and is continually updated by the issue of new VAT Directives. The key role in this sense can be ascribed to the Sixth Directive<sup>1</sup>, which allowed the establishment of the basic VAT system components. Due to the fact that adoption of the common tax base is a prerequisite for EU membership, the only way for a member state to influence VAT revenue level is tax rate change<sup>2</sup>.

In Poland the analyzed tax was first introduced by the Goods and Services Tax and Excise Duty Act in 1993<sup>3</sup>. In the years 1994–2003 VAT receipts as a percentage of total government revenues increased from 23.8% to 39.7%. Since its implementation, VAT has undergone a wide range of modifications. The most noteworthy were related to Poland becoming a member of the European Union. In consequence, since the 1<sup>st</sup> of May 2004, Polish VAT has been amended in line with the European Union standards.

The basic aim of this article is to evaluate the fiscal importance of VAT before and after EU accession. The author considers different factors influencing VAT collection efficiency. In order to estimate this efficiency two measures are being ap-

plied: a VAT productivity coefficient and a VAT efficiency coefficient. The article contains three parts. In the first section the economic situation in Poland is described and the possible impact of the main economic indicators on VAT receipts are analysed. The second examines VAT construction changes as a result of the adaptation of the law to intra-Community regulations. In the third section the author presents the level of VAT revenues and its collection efficiency in the years 2000–2006.

### **Poland's Economic Situation in the Years 2001–2006**

Tax collection efficiency is affected by many different factors. The economic situation of a country is one of them. VAT is particularly sensitive to growth rate and domestic demand changes. Furthermore, VAT performance may be influenced by both the value of export and the value of import. In the case of export a zero tax rate is imposed. Therefore, an increase in exports may have a negative effect on VAT collection. On the other hand, growing exports are usually accompanied by an increase in domestic production, which as a consequence may lead to a rise in the households' disposable income and domestic demand growth. A change in import level affects VAT revenues in the opposite way. An increase of import value means a lower demand for domestic goods. As import is subject to VAT in the country of consumption, a rise of its value results in tax revenue growth.

In the years preceding EU accession, the Polish economy experienced a visible slowdown. The economic growth rate, which started to decline in 1998, fell in

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<sup>1</sup> Council Directive 77/388/EEC replaced 1st of January 2007 by the Council Directive 2006/112/EC.

<sup>2</sup> It has to be emphasized that by tax rate reduction member states have to take into account regulations of the Council Directive 92/77/EC. Under this directive the standard VAT rate should not be lower than 15% and the reduced rate – not lower than 5%.

<sup>3</sup> Ustawa z dnia 8 stycznia 1993 r. o podatku od towarów i usług oraz o podatku akcyzowym (Dz.U. nr 11, poz. 50 ze zm.).

*Table 1. The growth rate of selected macroeconomic indicators (constant prices)*

Specification	2001	2002	2003	2004	2005	2006
GDP	1,2	1,4	3,9	5,3	3,6	6,5
Domestic demand	-1,3	0,9	2,7	6,0	2,4	7,3
Export	11,8	8,3	18,7	18,2	10,6	16,1
Import	3,2	7,3	8,2	17,3	5,2	16,8

Source: *Rachunki kwartalne produktu krajowego brutto w latach 2000–2006*, Główny Urząd Statystyczny – Departament Rachunków Narodowych, Warszawa 2007, p. 71–74.

*Table 2. Main macroeconomic indicators in Poland (current prices)*

Macroeconomic Indicator	2001	2002	2003	2004	2005	2006
GDP (in PLN millions)	779 564	808 578	843 156	924 538	983 302	1 060 194
Individual Consumption Expenditure (in PLN millions)	498 980	532 615	545 136	585 983	610 362	647 904
Public Consumption Expenditure (in PLN millions)	139 457	144 651	152 826	162 656	177 786	193 708
Exports (in PLN millions)	210 919	231 535	280 888	346 631	364 658	427 776
Imports (in PLN millions)	239 486	259 227	302 470	364 959	368 013	442 399
Inflation Rate (%)	5.5	1.9	0.8	3.5	2.1	1.0
Registered Unemployment Rate (%)	17.5	20.0	20.0	19.0	17.6	14.8

Source: *Rachunki kwartalne produktu krajowego brutto...*, op. cit., p. 71 and *Polska – wskaźniki makro-ekonomiczne*, Główny Urząd Statystyczny, Warszawa 2008, pp. 96–108.

2001 to 1.2%<sup>4</sup>. Such situation was partly due to the global economy recession and the decrease of the domestic demand growth rate expressed in constant prices (see table 1). In 2002, the economy started to show some signs of improvement and the GDP growth rate rose by 0.20 percentage points. A year later, owing to higher exchange rates of Euro and increased export as a consequence, the GDP growth rate reached 3.8% and continued growing in the accession year. In 2005, the Polish economy slowed down, probably due to the lowering of export and domestic demand growth rate. Falling interest rates, improvement on the labour market and an

increase in average wages led to a recovery in private consumption and finally to growth acceleration in 2006.

Since 2000, export has been growing faster than import. Due to improved competitiveness of Polish products and despite the exchange rate appreciation between 2005 and 2006, the value of export in current prices doubled in the period in question (see table 2). Particularly vigorous development of export in constant prices can be observed in the figures for 2003, 2004 and 2006. Similarly, import growth rate peaked in 2004 and 2006. The entry into the European Union does not seem to have strongly influenced either the structure of trade by groups of countries or its product composition (*Poland – Economic surveys*, 2006). Poland's foreign trade is basically

<sup>4</sup> In the period 1997–2000 the GDP growth rate (in constant prices) in Poland decreased by 2.8 percentage points (from 6.8% to 4.0%).

oriented towards EU member states. In 2006, trade exchange within the zone constituted 77.4% of Polish export and 63.2% of import. Main foreign trade commodities include inter alia machinery and transport equipment.

Economic growth was driven less by domestic demand than by export. Moreover, a decrease in total domestic expenditure was a major factor of GDP growth rate decline in 2001. Private consumption was increasing at a slightly faster rate than public consumption in most of the years analyzed. However, in 2002 and 2004 the growth rate of public consumption exceeded the private one.

In the period under consideration, prices were growing at a diversified rate. Inflation was falling steadily between 2001–2003. In 2004, a 2.7 percentage point rise was recorded. The afore-mentioned increase turned out to be temporary, and since 2005 inflation rates continued falling.

Stronger growth led to a fall in unemployment rate from the very moment of EU accession. In the period 2004–2006, it decreased by 4.2 percentage points. Such decline was also a consequence of many Poles emigrating to other European Union countries (especially popular in this sense were Ireland and United Kingdom, where no restrictions were imposed). Due to this reason, the lowering of the rate under consideration had only a limited effect both on domestic demand and VAT collection.

## **EU Accession and Amendments to VAT Legislation**

One of the non-negotiable conditions for European Union membership is – as it has already been pointed out – the adjustment of VAT law to the EU standards. As a result

of Poland's accession to the European Union on the 1<sup>st</sup> of May 2004, a new regulation – namely the Goods and Services Tax Act was put into effect<sup>5</sup>. Although VAT since its introduction in 1993, generally complied with the EU model, numerous provisions had to be amended in line with the 6<sup>th</sup> VAT Directive (Famulska, 2005). The main changes referred to:

- taxable activities,
- the definition of goods, taxpayer, commercial activity, importation and exportation,
- tax exemptions,
- tax rates with reference to certain goods and services,
- taxpayers' obligations.

In comparison to the old VAT law the scope of taxable activities regulated by the Goods and Services Tax Act was extended and includes<sup>6</sup>: supply of goods and services for consideration within the territory of the country, exportation of goods, importation of goods, intra-Community acquisition of goods for consideration within the territory of the country and intra-Community supply of goods. The broadening of the scope, under consideration, could be directly attributed to the modification of basic definitions. The definition of goods – in the context of intra-Community law – refers inter

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<sup>5</sup> Ustawa z dnia 11 marca 2004 r. o podatku od towarów i usług (Dz.U. nr 54, poz. 535 ze zm.).

<sup>6</sup> According to the regulations previously in force, goods and services tax was imposed on sale of goods and provision of services in Poland, exportation and importation of goods and services. Moreover, art. 2 of the Goods and Services Tax and Excise Duty Act also contained a definite list of other activities subject to tax. From the moment of VAT implementation, the list had been continuously supplemented and covered 10 additional items in 2003 (e.g. exchange of goods, donation of goods, transfer of goods for private needs).

alia to land. It had not been the case under former regulations. Similarly, supply of services is specified in a more open sense, as “each transaction which does not constitute a supply of goods”<sup>7</sup>. As a consequence of this, it covers, amongst others:

- assignment of intangible property regardless of the form in which such a transaction has been carried out,
- obligations to refrain from an act or to tolerate an act or situation,
- performance of services under an order made by a public authority or an entity acting in the name of such a public authority, or in pursuance of the law.

Previous law associated status of the taxpayer with the frequency of the performance of taxable activities. In line with the intra-Community definition a taxable person is any person who independently carries out, in any place, any economic activity (subject to tax), whatever is the purpose or result of that activity. It may suggest that the range of taxable persons was extended as well. Such a conclusion is, however, not accurate. In fact, VAT amendments in relation to this aspect were subtle, resulted basically in the modifications of the terminology and did not directly influence the taxpayers themselves. For instance, public authorities and offices servicing those authorities – on the contrary to former regulations – are not considered as taxable persons in respect of the activities assigned under separate laws, for the performance of which they have been appointed (excluding the activities per-

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<sup>7</sup> Former regulations defined services as those contained in the Central Statistical Office classification.

formed under civil law contracts). Under the provisions of the Goods and Services Tax and Excise Duty Act they were tax exempt (Pomorska, Szolno-Koguc, Wójtcwicz, 2003).

Noticeable changes concerned the definitions of commercial activity, importation and exportation. The first one was introduced by the Goods and Services Tax Act. According to its provisions – commercial activities comprise all activities of producers, traders and persons supplying services, including mining and agricultural activities, and activities of these professions, even when a transaction has been effected once in circumstances indicating an intention to perform it frequently. From the very moment of EU accession, the concept of importation and exportation for trade between Poland and the Member States of the EU was replaced by a system of intra-Community supply and acquisition. In the light of current definitions, importation of goods is defined as their entry from a non-member country into the territory of Poland, exportation – as a delivery of goods from the territory of Poland to a non-member country (Bartosiewicz, Kubacki, 2007). Furthermore, importation of services means the performance of services on which the tax is paid by their recipient.

Due to the implementation of the European Union regulations several tax exemptions had to be eliminated<sup>8</sup>. Since the 1<sup>st</sup> of May 2004, the following transactions are

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<sup>8</sup> In order to increase tax universality, the number of tax exemptions had already been gradually reduced between 1993 and 2003 (e.g. since 2000 a 3% VAT rate has been imposed on unprocessed foodstuffs from agricultural production). Therefore, the amendments in this regard in 2004, were not particularly far-ranging (Juja, 2005).

Table 3. VAT rates applied to selected goods and services in 2008

VAT rates	Goods and services
0%	export and intra-Community supply; books, specialist periodicals; international transport services; certain means of marine and air transport (e.g. sea fishing vessels, vessels for transport of goods, pleasure boats); certain refine; processing and repair services; computer equipment for educational institutions and humanitarian organizations
3%	unprocessed foodstuffs from agricultural production for human and animal consumption (e.g. vegetables, milk, fish, meat, fruit, eggs, forage); live animals; seeds; plants and ingredients normally intended for use in the preparation of foodstuffs; certain products normally used to supplement foodstuffs or as a substitute for foodstuffs
7%	certain labour-intensive services (renovation and repair of private dwellings; hairdressing; repair services of the following items: bicycles, shoes and leather goods, clothing and household linen); goods designated for children, certain healthcare-related goods, musical instruments; decorative and artistic products; fire protection good; taxi services; services related to water distribution; hotel services
22%	all goods and services which do not qualify for preferential treatment

Source: Art. 41–42 of Goods and Services Tax Act..., op. cit.

subject to tax: supply of certain cultural services, supply of services by undertakers and cremation services (with the supply of goods related thereto); supply of services by libraries, supply of works of art and objects of museum value; supply of second hand goods; and supply of certain public utility services. The Good and Services Tax Act, in common with the former regulations, differentiates only between subject based and object based exemptions. In line with the community regulations VAT exemptions can also be categorized as related to the right of input tax deduction or without this right. Instead of exemptions with the right to input tax deduction Poland applies a 0% VAT rate.

Taking into account VAT collection efficiency, it has to be underlined that one of the most significant modifications were related to the increase of VAT rates with reference to certain goods and services. Polish tax law provides for four VAT rates. Its application in 2008, to selected

goods and services is presented in table 3. In 2004, the tax rates under consideration were increased in the case of the following goods: designated for children; healthcare-related; construction materials; musical instruments and certain services (e.g. repair of agricultural equipment, road building, and cartographic services). Moreover, Polish authorities negotiated certain transition periods (Zubrzycki, 2004). They apply to:

- goods and services intended for use in agricultural production – 3% rate, until the 30<sup>th</sup> of April 2008,
- certain foodstuffs – 3% rate, until the 31<sup>st</sup> of December 2010,
- certain labour intensive services (since the 1<sup>st</sup> of January 2006), new flats, catering and restaurant services – 7% rate, until the 31<sup>st</sup> of December 2010,
- books and specialist periodicals – 0% rate, until the 31<sup>st</sup> of December 2010.

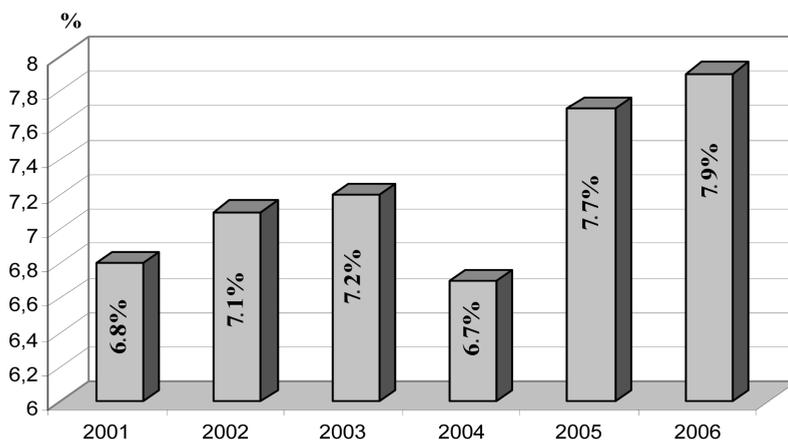


Figure 1. VAT-to-GDP ratio

Source: Author's calculation based on: *Rachunki kwartalne produktu krajowego brutto...*, op. cit., p. 71, *Analiza wykonania budżetu państwa i założeń polityki pieniężnej w 2002 roku*, Najwyższa Izba Kontroli, Warszawa 2003, p. 60 and 62, *Analiza wykonania budżetu państwa i założeń polityki pieniężnej w 2004 roku*, Najwyższa Izba Kontroli, Warszawa 2005, p. 74 and *Analiza wykonania budżetu państwa i założeń polityki pieniężnej w 2006 roku*, Najwyższa Izba Kontroli, Warszawa 2007, p. 47.

Poland, as a member of the European Union, had to introduce certain principles in connection with the intra-Community trade. One of them is the destination principle. It implies that tax on goods traded between VAT-registered persons is levied in the country of final consumption (destination). Furthermore, in the country of the supplier a zero rate is applied (Klamecka-Roszkowska, Mikulska, 2004). However, when a supplier delivers goods to a non-registered person, he is obliged to charge VAT according to the rate applied in his country. Due to the procedure described above, additional obligations have been imposed on intra-Community traders. In case of both intra-Community supply and intra-Community acquisition, a trader has to complete and submit quarterly a recapitulative statement indicating, inter alia the value of intra-Community supplies. Moreover, performing such transactions a trader

at first has to register for the purposes of intra-Community trade (Hybka, 2006).

### VAT Revenue Performance in the Years 2001–2006

VAT has always been one of the principal sources of state receipts in Poland. In contrast to some other EU member states (e.g. Germany or Austria) VAT is not redistributed among different government levels (regional or local), but constitutes central budget income only. Tax collection (including social security contributions) in Poland accounts on average for 35% of GDP and VAT proceeds itself constitute almost 8% of GDP. From 2001 to 2006, the VAT to GDP ratio grew by 1.1 percentage points (see figure 1). The accession year apart the VAT revenues as a constituent of GDP were increasing fairly consistently.

Table 4. Tax revenues in Poland (in PLN millions, current prices)

Year	VAT	Excise duties	PIT	CIT	Other taxes	Tax revenues
2001	52 893,1	28 860,5	23 444,2	13 219,7	683,8	119 101,30
2002	57 441,7	31 489,8	24 139,0	15 008,4	672,0	128 750,90
2003	60 359,5	34 387,7	25 674,9	14 108,0	697,5	135 227,60
2004	62 263,2	37 964,0	21 506,2	13 071,7	766,2	135 571,30
2005	75 401,0	39 479,1	24 423,0	15 762,4	794,1	155 859,60
2006	84 439,5	42 078,0	28 125,3	19 337,5	895,7	174 876,00

Source: Author's compilation based on: *Analiza wykonania budżetu państwa i założeń polityki pieniężnej w 2002 roku*, op. cit., p. 60 and 62, *Analiza wykonania budżetu państwa i założeń polityki pieniężnej w 2004 roku*, op. cit., p. 74 and *Analiza wykonania budżetu państwa i założeń polityki pieniężnej w 2006 roku*, op. cit., p. 47.

Table 5. Structure of revenues from taxes (in %)

Year	VAT		Excise duties		PIT		CIT		Other taxes	
	1	2	1	2	1	2	1	2	1	2
2001	37.64	44.41	20.54	24.23	16.68	19.68	9.41	11.10	0.49	0.57
2002	40.02	44.61	21.94	24.46	16.82	18.75	10.46	11.66	0.47	0.52
2003	39.68	44.64	22.61	25.43	16.88	18.99	9.27	10.43	0.46	0.52
2004	39.84	45.93	24.29	28.00	13.76	15.86	8.36	9.64	0.49	0.57
2005	41.94	48.38	21.96	25.33	13.59	15.67	8.77	10.11	0.44	0.51
2006	42.72	48.29	21.29	24.06	14.23	16.08	9.78	11.06	0.45	0.51

1 – revenues as percentage of total government revenues

2 – revenues as percentage of tax revenues

Source: Author's compilation based on: *Analiza wykonania budżetu państwa i założeń polityki pieniężnej w 2002 roku*, op. cit., p. 60 and 62, *Analiza wykonania budżetu państwa i założeń polityki pieniężnej w 2004 roku*, op. cit., p. 74 and *Analiza wykonania budżetu państwa i założeń polityki pieniężnej w 2006 roku*, op. cit., p. 47.

In the period under consideration, total tax collection in Poland rose by 55,8 mld PLN and exceeded 174 mld PLN in 2006 (see table 4). On average, the share of tax proceeds in government receipts equals 87.5%. Tax structure in Poland measured by the share of major taxes in the total tax collection had been reasonably stable over the years analyzed. According to data presented in table 5, VAT is the basic source of tax revenue, and second by importance are excise duties. Direct taxes produced in 2006 only 27.1 % of total tax revenue,

compared to 30.8% in the first year of the analysis. In fact, the increased importance of VAT has counteracted the diminishing role of personal income tax. Over the period in question the share of corporate income tax has hardly changed despite the tax rate reduction by 9 percentage points.

Analyzing changes in VAT receipts, an uptrend in current prices can be observed. However, the tendency may partly be attributed to the inflation rate. Figure 2 demonstrates the VAT performance in real terms, *defined* as its collection deflated by the con-

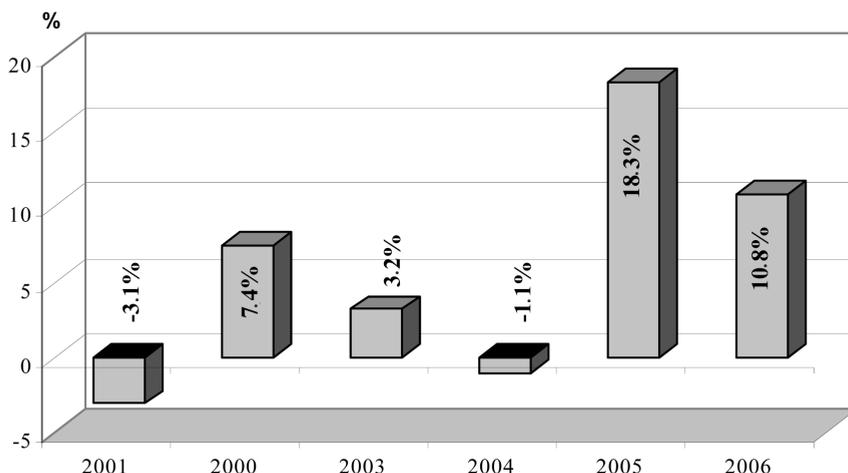


Figure 2. VAT revenue growth rate (constant prices)

Source: Author's calculation based on: *Polska – wskaźniki makroekonomiczne*, op. cit., p. 96, *Analiza wykonania budżetu państwa i założeń polityki pieniężnej w 2002 roku*, op. cit., p. 60 and 62, *Analiza wykonania budżetu państwa i założeń polityki pieniężnej w 2004 roku*, op. cit., p. 74 and *Analiza wykonania budżetu państwa i założeń polityki pieniężnej w 2006 roku*, op. cit., p. 47.

sumer price index. It has to be noted, that in the period preceding EU accession VAT revenues in constant prices were rising at a definitely lower rate than between 2005 and 2006. In addition in 2001 and 2004, in comparison to the previous years VAT receipts in real terms declined. The key factor behind the afore-mentioned decline in 2001 was probably the negative domestic demand growth rate. On the contrary, the decreased VAT revenue growth rate in 2004, cannot be explained by the worsening of the basic macroeconomic indicators.

In order to measure VAT collection efficiency two tools are the most commonly used in the OECD countries, namely VAT productivity ratio and VAT efficiency ratio (called sometimes c-efficiency ratio – CER). The first indicator illustrates what percent of GDP is being collected by each percentage point of the standard VAT rate (e.g. the ratio of 45% implies that a 1-point increase in the standard VAT rate is associ-

ated with an increase in the share of VAT revenues in GDP by about 0.45 percentage points). The higher the figure the more efficient VAT system is considered to be (the broader the tax base the fewer exemptions and derogations from the standard VAT rate are being applied). This measure is calculated by the formula:

$$VAT_p = \frac{(VAT_r / GDP) \times 100}{SR} \times 100, \text{ where}$$

$VAT_p$  – VAT productivity

$VAT_r$  – VAT revenues

GDP – Gross Domestic Product

SR – standard VAT rate

The afore-mentioned indicator may be easily misinterpreted due to the fact that errors in the measurement of the GDP can contaminate it. The second measure is considered to be more accurate because the tax base is related more to domestic consumption rather than to domestic production. It can be calculated as follows:

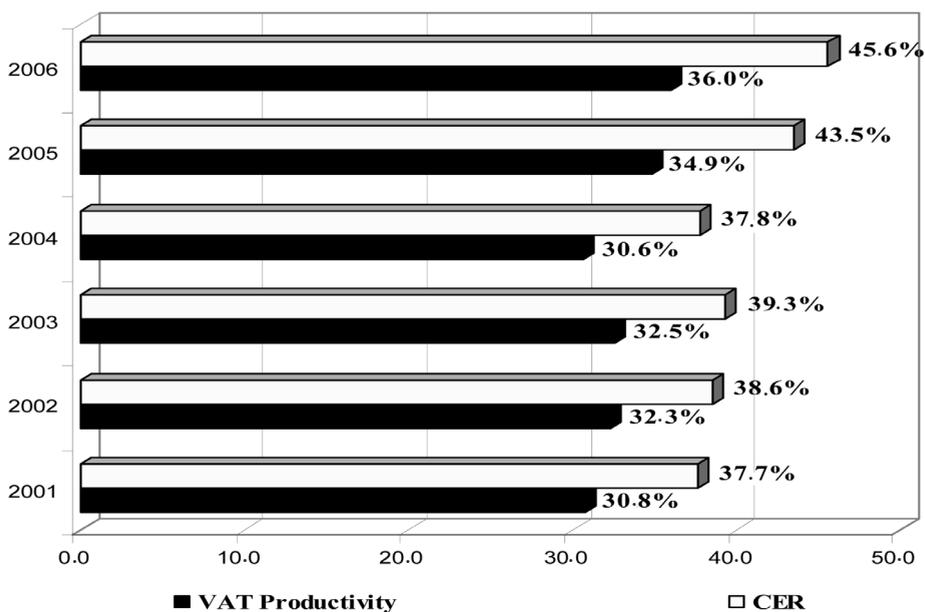


Figure 3. VAT productivity and CER in Poland

Source: Autor's calculation based on: *Rachunki kwartalne produktu krajowego brutto...*, op. cit., p. 71, *Analiza wykonania budżetu państwa i założeń polityki pieniężnej w 2002 roku*, op. cit., p. 60 and 62, *Analiza wykonania budżetu państwa i założeń polityki pieniężnej w 2004 roku*, op. cit., p. 74 and *Analiza wykonania budżetu państwa i założeń polityki pieniężnej w 2006 roku*, op. cit., p. 47.

$$CER = \frac{(VAT_r / NC) \times 100}{SR} \times 100, \text{ where}$$

$CER$  – c-efficiency ratio (VAT efficiency),

$VAT_r$  – VAT revenues

$NC$  – national consumption

$SR$  – standard VAT rate

A VAT system in which all consumption is taxed at a uniform rate will have a CER of 100%. A different value of this ratio indicates deviations from a single tax rate. In addition to the VAT rate structure the afore-mentioned ratio reflects VAT compliance level (Keen, Smith, 2007). Summarizing, it has to be said that the following contribute to the lowering of the ratios under consideration: erosion of the tax base as a consequence of VAT rate reductions, tax exemptions, tax fraud, tax avoid-

ance and ineffective tax administration. Zero-rating of some consumption items would, for example, lead to a c-efficiency ratio below 100%. On the other hand, limitations to the right of input tax deduction would result in the inclusion of investment in the VAT base and may lead to the ratio above 100%.

Figure 3 demonstrates both the VAT productivity ratio and the CER. In the period analyzed, the measures described rose significantly (VAT productivity by 5.2 percentage points and CER by 7.9 percentage points). It suggests that the EU accession and VAT law amendments contributed to the improvement of VAT collection efficiency. The broadening of the tax base in 2004 was definitely the main factor affect-

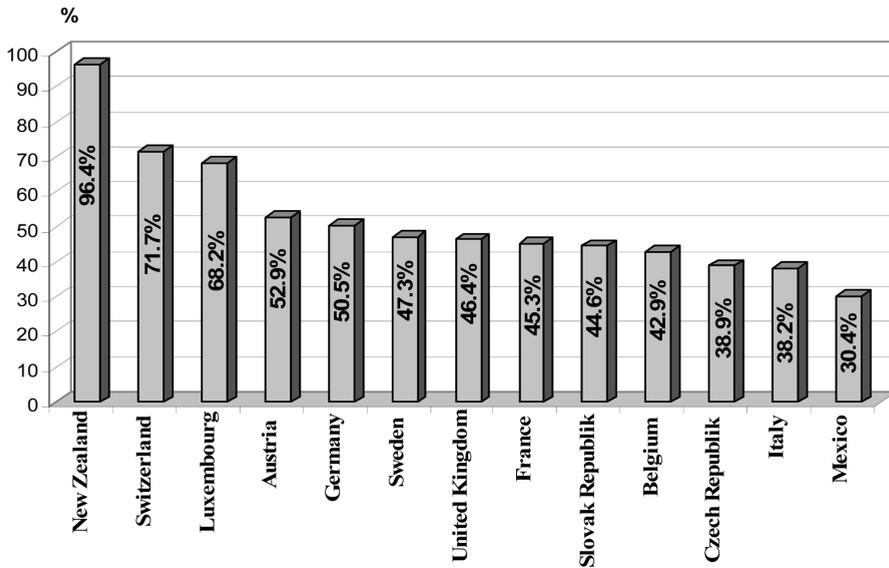


Figure 4. CER in selected OECD countries in 2003

Source: *Consumption Tax Trends, VAT/GST and Excise Rates, Trends and Administration Issues*, OECD, Paris 2006, p. 53.

ing the efficiency in question. The analysis of the indicators quoted confirms the results obtained on the basis of VAT-to-GDP ratio. In 2004, a decrease of VAT collection efficiency can be noted. Such a situation may be partly attributed to the alternations in official statistics data aggregation methods in the years 2004 and 2005. The VAT refunds due in the period from the 1<sup>st</sup> to the 25<sup>th</sup> of January 2005, were subtracted in these statistics from the VAT revenue in 2004. The afore-mentioned decline could also be blamed on administrative inefficiency. In 2004, neither tax administration nor taxpayers were adequately prepared for the VAT construction changes.

Figure 4 shows a considerable variation of CER in selected OECD countries. This ratio ranges from 30.4% in Mexico to 96.4% in New Zealand. It has to be perceived that in Switzerland or Luxembourg

the ratio under consideration was in 2003, nearly 30 percentage points higher than in Poland. In such European countries like Denmark, Italy or the Czech Republic it was slightly lower than in Poland. With a relatively high standard tax rate Poland had their VAT efficiency ratio below the OECD average.

## Conclusions

The analysis shows that the entry to the European Union resulted in improved VAT performance in Poland. This can be deduced from the fact that the share of VAT revenues both in tax receipts and total government income has risen since the moment of EU accession. Moreover, in 2005 and 2006, a significant increase in VAT productivity ratio and VAT efficiency ratio can be observed. The following two factors may be considered as the most

likely to have contributed to the increase in question: VAT construction changes due to the adaptation of the legislation to intra-Community requirements and economic growth acceleration after EU accession.

As a result of high standard tax rate and narrow tax base Poland in comparison to other OECD countries has relatively low VAT efficiency indicators. Elimination of certain tax exemptions and restriction of the reduced tax rates' application should

therefore be taken into account by designing the future tax policy. Another problem to be faced in order to increase VAT collection efficiency is the fast accumulation of VAT arrears. In 2006 they accounted for 55% of the arrears on the tax payment and equaled nearly to 11% of the annual VAT revenue. Improvement of tax execution proceedings and broadening of the tax base may enable the move towards standard tax rate reduction.

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