242/2012

Raport Badawczy Research Report

RB/50/2012

Revenues and operating budgets of local government sector in UE countries, U.S. and Japan over 1999-2011

M. Bitner, K.S. Cichocki

Instytut Badań Systemowych Polska Akademia Nauk

Systems Research Institute Polish Academy of Sciences



POLSKA AKADEMIA NAUK

Instytut Badań Systemowych

ul. Newelska 6

01-447 Warszawa

tel.: (+48) (22) 3810100

fax: (+48) (22) 3810105

Kierownik Zakładu zgłaszający pracę: dr inż. Lech Kruś

Revenues and operating budgets of local government sector in EU countries, U.S. and Japan over 1999-2011 Krzysztof S. Cichocki, Michal Bitner¹

Abstract

1. Introduction

1.1.Significance of the local government investment and its role in public finance

One should not underestimate the role and significance of local government in contemporary world. European Charter of Local Self-Government summarizes experience of nearly hundred and fifty years of local government evolution stating that local communities, furnished with appropriate authorities, constitute the basis of a democratic system. Local government known in traditional European administration theory as a territorial corporation of public law - constitute, by law, a fundamental organizational model of local communities.

Local governments constitute the basic parts of an organizational structure, which tasks and competence comprise a given area and all inhabitants of the area. Central feature of local governments, within the above structure, can be described as self-governed public sector, in which local authorities either overview and control tasks delegated to local level, execute ownership authorities or finance other institutions of the sector, and, in most cases, implement all three functions. The main economic function of the structure is to provide local community with various services which are financed prevalently by taxes and administrative fees. This structure is commonly referred to as local public sector. The recognition of fundamental differences among various entities controlled by local governments leads to identification of units which are financed mostly by compulsory payments and which main economic function is redistribution of income. In accordance with international statistical standards, we call these units – together with local governments – the local government sector, which is a subsector of the general government² sector.

Local government sector plays a significant role in facilitating quality of life of local inhabitants. The tasks implemented by institutions of the sector include general purpose non-economic public services, for example education, health care, and direct social services, but also some economic services — water, gas. and energy supply, road maintenance. Select institutions controlled by local governments constitute enterprises, which activity is subordinated to market rules, other institution's objective is to minimize market failures and to conform to social expectations. Local government sector is responsible for redistribution of one third, and sometimes half of the general government sector revenue, it is the largest public investor and it contributes largely to economic development.

Relative significance and the role of the local government sector in the whole economy, especially in comparison with the general government sector, can be measured by various

¹ The article is in 50% financed by the research grant no 3032/B/H03/2010/38 of the Ministry of Research and Higher Education in Poland.

We consistently, for all countries, utilize names and definitions of national accounts system adopted by ESA'95.

indicators, for example employment, revenue and expenditure. In literature, it has been widely accepted that a share of expenditure in GDP is the basic measure of participation of a given sector in the general government sector. We have found that the expenditure/GDP ratio changes strongly during periods of economic slow-down, remaining above the revenue /GDP ratio, while in other periods the ratio is below the revenue GDP (deficits and investment expenditure change cyclically). Therefore, in the paper, we assume that the share of revenue in GDP is the most justified measure of the local government sector financial significance in the public sector. In the analysis we include all institutions belonging to the local government sector, thus taking into account various complicated relations between them. Comparative analysis, which bases solely on local governments and neglects other institutions of the local sector would present a deficient, not complete picture of the local government sector, and of the whole public sector. We try to significantly contribute to the existing literature in the area.

1.2. Bibliography

Literature regarding local government finance is not extensive and a thorough comparative analysis is very seldom. Basic methodological issues of local government revenue and regional accounts, which enable spatial comparison of government financial data are set down in the UN System of National Accounts, 1993, the European System of Accounts ESA 95, and in the IMF Government Finance Statistics Manual, 2001. They were comprehensively discussed in numerous publications, e.g. in the Studies in Methods series prepared by the UN Statistics Division, for example - National Accounts: A Practical Introduction, 2003. There exist comparative studies of local government finance based on the above mentioned methodology. A solid comparison of local finances and revenue presents Dexia report, 2008, but the level of aggregation is higher than in our article, and the analysis ends in 2007. The second report of the United Cities and Local Governments, 2010 is significant, however, because it analyzes over 100 states on all continents, the results, similarly to the first report, 2008 (and the 2009 report), have a general character – it concerns aggregate data, for example only two categories of revenue.

Some international comparison of local government finance data are included in the studies devoted mainly to fiscal institutions, and fiscal rules: Ter-Minassian, in 1997 presented the first comprehensive report, but of very general character, the book by Dafflon, 2002, is cited very often, but compares only select countries of the old EU. Boogert and others, 2005, published a very interesting comparison of local government tasks, but compared only France, Germany, Poland and Netherlands. The comparative study by Friedrich, Gwiazda and Nam, 2003 also considers select EU countries. Some general comparisons were presented in papers on the impact of global financial crisis on local government finance (Canuto, Liu, 2010) and in reports by the Council of European Municipalities and Regions, 2009 and United Cities and Local Governments, 2009.

Polish literature in the area focuses, in majority, on normative regulations regarding revenue, (also expenditure and debt), and the impact of these regulations on operation of local governments. International comparisons of revenue include Swianiewicz, Łukomska, 2010 (pp. 12-14) and Bitner, Cichocki, 2012 (pp. 5-41, 68-69).

2. Methodology

2.1. Basic facts

In the analysis we include all member countries of the European Union (EU), and Norway, USA and Japan - select countries of the Organization of Economic Cooperation and Development (OECD). For presentation reason (clarity of graphs) the scope of presented data of the EU countries is limited, we present results only for select countries: Denmark, Germany, Spain, France, Italy, The Netherlands, Sweden and Great Britain for the old EU countries (UE15), and Poland, Czech Republic and Hungary for the new member states (NMS. Sometimes we include in the presentation other select countries.

Selection of the analysis period 1999-2011 (13 years) allows to compromise between two objectives: analysis of dynamics of various categories of revenue and expenditure of the local sector and its long-term development. Analysis of local government finance over 1999–2011 enables observation of the above countries local finance in periods of prosperity (1999–2000, 2003–2007), and in times of economic slowdown, or recession (2001–2002, 2008–2010) and smoothing regulatory changes in the local government finance system of countries in which they took place. In addition, the data prior to 1999 are for many countries inaccurate, or not available. In Poland, the starting point of analysis (1999) is natural as in 1998 the local government system changed – two new levels of local government were introduced: districts (poviat) and regions (voividships) were added to the existing lowest level (municipality).

The basis for selection of countries to be presented in the article was the role of local government sector in economies of these countries (share of revenue in GDP), and the share of debt in financing expenditure of local government sector. The remaining EU countries are included in the presentation of three averages: for new member states (countries, which joined EU in 2004, or later), for fifteen countries which belonged to EU prior to 2004, and for all 27 UE member countries. We present arithmetic averages and not the averages weighted by the share of individual country GDP in total EU GDP (such averages are published by Eurostat). Selection of the other OECD countries seems obvious, USA and Japan are the largest economies among OECD members, Norway for many years has had the highest *Human Development Index*. In addition, national income per capita, measured by purchasing power parity, in Japan is comparable with the richest EU countries, and the U.S. - the highest in the world, excluding Luxemburg, Norway and Singapore.

2.2. Data utilized in analysis

We use comparative data, which base on two compatible methodological standards: ESA'95 (in the European Union) and SNA - for UN members, and OECD countries - nonmembers of EU (ESA'95 methodology is used for definitions of variables exploited by the excessive deficit procedure determined by art. 126 of the Treaty on the Functioning of the European Union and implementing regulations).

The analysis bases on data from the Eurostat Dissemination Database – former New Cronos Eurostat database (for EU member countries and Norway) and the SourceOECD database (for USA and Japan). In analysis of local expenditure in the U.S. we had to use budget reports of local governments published by the U.S. Census Bureau. In the U.S. only consolidated data for the state and local government are published; such joint data are also published by OECD, and the Government Finance Statistics (GFS) - database of the

International Monetary Fund. In addition, these data required verification, as they base on budgetary classification, not on the SNA transactions. Therefore, the data we use for analysis of local government expenditure in the U.S. should be regarded as an approximation . Select Eurostat data, and the OECD data had to be compared with the GFS data and appropriately verified³

2.3. Subject and scope of analysis

We analyze and compare finances of the whole local government sector, and not local governments alone. There are obvious advantages of such an approach. First, the approach is neutral with regard to institutional solutions, which differ in the EU member countries and in U.S., regarding budget comprehensiveness. Second, it allows to use the same data sets, collected in EU and OECD countries according to the same methodology of national accounts. Third, and the most important is that the approach respects a variety of relations between core budgets of local governments and financial plans of many local government institutions.

We investigate and compare EU15 and the NMS countries - present main sources of local government sector revenue (taxes on income and wealth and on production, current and capital transfers), operating revenue, expenditure and surplus or deficit, and the impact of recession 2008-2010 on local finances (investment, net borrowing, debt and deficit are analyzed separately in Bitner, Cichocki, 2012b).

Economic crisis of 2008-2010 has resulted in the decrease in GDP in the U.S., Japan and all EU member countries except Poland. It has also caused drastic reduction of revenue in the public sector and, simultaneously, an increase in operating expenditures, and a decline in operating surplus.

In figure 1 we present geometric mean of yearly changes in real GDP volume over 1999–2011 for EU countries, Norway, Switzerland, USA and Japan. Italy and Japan have the lowest (0,7%) average rate of growth. Portugal and Denmark rate of growth equals 1%, and GDP in Germany, France and Greece grows, on average, about 1,5% yearly. The highest GDP growth we observe in Lithuania (4,6%), Bulgaria, Estonia, Latvia, Poland, Slovakia (4,0%), and Romania (3,4%). In EU15 countries GDP grows at a rate of: 3,5% in Luxemburg and Ireland, 2,6% in Sweden and nearly 2,4% in Spain and Finland. The average GDP growth rate over 1999–2010 is lower than over 1999-2011 in Greece, Japan, Portugal and Slovenia and higher for Lithuania, Estonia, Latvia, Poland and Germany.

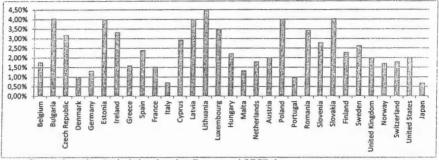
The average values of growth rate are interesting and indicative, however the high rate of growth for example in Ireland, did not protect the country from current drastic financial and budgetary crises. Irish economy suffered most over 2008–2009 (GDP decreased by 3% in 2008 and by further 7% in 2009). The strongest yearly decrease in GDP was observed in 2009 in Finland (–8,4%). In 2010, after strong fall of 2009, GDP grew in nearly all countries of EU-15, most rapidly in Sweden (6,1%) and Germany (3,7%). Greece was the only country with the substantial decrease in nominal GDP (–3,5%), which declined also in 2011 by 6,9%.

The recession of 2008–2010, and 2011 affected all countries we analyze, however, to a various degree. In new member states of EU the economic downturn of 2008–2010 was stronger than in countries of EU15. In 2009 GDP decreased strongly in NMS and in Japan (-5,5%), where it recovered in 2010 (4,4%). Norwegian economy was most stable over 2008–

³ We take into account methodological differences between general principles of national accounts defined by the SNA and ESA'95 systems, and methodology used by GFS.

2010, and enjoyed in 2011 GDP growth of 1,6%, together with NMS countries - 3%. The GDP growth rate over 2001–2008 was in the NMS countries twice as high as in EU15, and substantially higher than in U.S., Norway and Japan. During economic slowdown of 2001–2003 we do not observe a substantial decrease in GDP in NMS countries, except in Poland.

Figure 1. Average annual change of GDP (geometric mean of year to year changes) over 1999-2011



Source: the authors' calculations based on Eurostat and OECD data

4. Revenue of the local government sector over 1999-2011. Comparative Analysis

4.1.1. Share of local government sector revenue in GDP

The level of the share of local government sector revenue in GDP results, on one hand, from the share of general government sector revenue in GDP, and, on the other hand, from the role that local government sector plays in distribution and redistribution of public revenue. In Scandinavian countries the redistributive factor plays a very important role and the relation of public sector revenue to GDP is high - therefore, the local government sector revenue share in GDP is also very high. In Japan local government sector revenue is high, 16% of GDP, in spite of the fact that revenue redistribution through public finance is low. This indicates a dominant role of the local government sector as the supplier of financial funds in the general government sector.

Table 1. Share of local government sector revenue	e in GDP (in %) over 1999-2011
---	--------------------------------

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
PL	13,64%	12,95%	13,60%	13,09%	12,60%	12,97%	13,07%	13,43%	13,39%	13,92%	13,67%	13,83%	13,47%
EU-27	9,95%	9,84%	10,01%	10,22%	10,49%	10,46%	10,12%	10,24%	10,18%	10,44%	11,15%	11,04%	10,77%
Eu-15	12,02%	11,94%	12,03%	12,22%	12,43%	12,36%	11,88%	11,96%	11,89%	12,17%	13,07%	12,84%	12,68%
NMS	7,36%	7,21%	7,48%	7,72%	8,06%	8,07%	7,92%	8,08%	8,05%	8,29%	8,74%	8,80%	8,39%
CZ	9,52%	9,49%	9,65%	10,46%	12,22%	11,89%	11,31%	11,21%	11,19%	10,80%	11,52%	11,38%	11,05%
DK	32,29%	31,77%	32,43%	32,82%	33,75%	33,59%	33,22%	33,52%	32,14%	32,85%	36,57%	37,11%	37,58%
GE	7,71%	7,67%	7,27%	7,14%	7,05%	7,17%	7,43%	7,57%	7,72%	7,77%	7,97%	7,73%	7,92%
ES	6,17%	6,07%	5,91%	5,93%	5,84%	5,87%	5,95%	6,27%	6,30%	6,13%	6,72%	6,56%	5,89%
FR	9,85%	9,91%	9,75%	10,09%	10,30%	10,58%	10,72%	10,85%	10,88%	11,02%	11,87%	11,76%	11,69%
IT	13,26%	13,81%	14,34%	14,03%	14,43%	14,43%	14,58%	14,43%	14,76%	15,00%	16,30%	15,42%	14,99%
HU	12,40%	11,76%	12,11%	12,04%	13,16%	12,51%	12,41%	12,17%	11,78%	11,63%	11,88%	11,82%	11,89%
NL	15,85%	15,71%	15,69%	15,79%	16,48%	16,01%	15,61%	15,23%	15,24%	15,32%	16,86%	16,38%	16,00%
SE	24,50%	23,88%	24,13%	24,31%	24,52%	24,24%	24,60%	24,19%	24,14%	24,74%	26,02%	25,34%	24,89%
UK	10,58%	11,20%	11,29%	11,87%	12,39%	12,29%	12,46%	12,90%	12,67%	13,13%	13,96%	13,89%	13,13%
NO	17,43%	15,68%	16,45%	14,82%	14,25%	13,54%	12,98%	12,47%	12,53%	11,95%	14,28%	14,15%	14,19%
US	10,18%	10,19%	10,38%	10,18%	10,24%	10,53%	10,36%	10,52%	11,20%	10,71%	10,26%	11,25% nd	
JP	16,56%	16,23%	16,10%	15,49%	14,96%	14,88%	15,02%	15,09%	14,85%	15,30%	16,65%	15,68% nd	

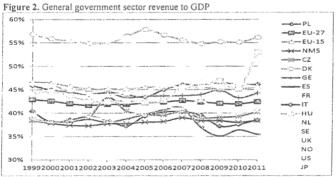
Share of the local sector revenue in GDP is highest in Denmark – 37,5% in 2011 (since 2007 it was rising systematically from 32,1%). High share in GDP is observed in Sweden – on average about 25%, the Netherlands and Italy: 16,0% and 15% respectively in 2011 (16,9%, and 16,3% in 2009). In Norway, United Kingdom and Poland, the share equals about 14% in 2010 (in Poland and U.K. - decreases to 13,5% in 2011). In Hungary, France and Czech Republic the share equaled about 11,5% in 2011. The countries with federal structure – Spain and Germany are characterized by low share of local government sector revenue in GDP (6% and 8% in 2011). The average value of the share in NMS oscillates between (7%–9%), and is evidently lower than calculated for countries of EU15 (about 12%).

An economic slowdown of 2001–2003 and the recession of 2008–2009) resulted in a slight decrease in the share of local government sector revenue in GDP.

4.1.2. Share of general government sector revenue in GDP

The share of revenue of the general government sector in GDP is very high in Scandinavian countries - the highest in Norway (56,7% in 2010, above 58% in 2011 and over 2006–2009), Denmark (56% in 2011, about 55% in the analyzed period), Sweden – 51,4% in 2011, 52,4% in 2010, about 55% in previous years, and in Finland - 53% in 2011. In France the value of the share equaled 51% in 2011 and approached 50% over 1999-2010. Relatively high was the share of the general government sector revenue in GDP in Hungary, Italy, the Netherlands, and in Germany (52,9%, 46%, 45,5%, and 44,7% in 2011 respectively).

Among the remaining EU countries, the share of general government sector revenue in GDP in 2011 is high in Ireland (35,7%), Spain (41%), Slovakia, Bulgaria, Romania, Lithuania, Poland (about 39%), U.K. (40,8%) and Latvia (35%). Traditionally, general government revenue share in GDP is low in the U.S. and Japan (about 33% in 2009).



Source: the authors' calculations based on Eurostat and OECD data - the same for all consecutive figures

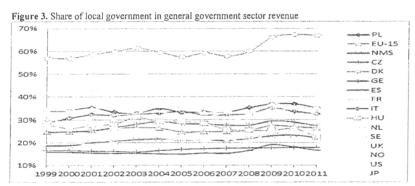
During 2002–2003, after the technological crisis, the general government sector revenue share in GDP decreased in many countries – in Netherlands, Norway, U.K., U.S., Japan and Hungary. In Poland and Germany a decrease was observed also in 2004. During the financial crisis of 2008–2010, the share in GDP of the general government sector revenue decreased in comparison with 2007: in Spain (by 13%), Poland (5,6%), U.K. (4,5%). In France, Spain, Italy and in Germany, the ratio of general government sector revenue to GDP remained stable over the analyzed period (also over 2008–2010). Economic recession of 2008–2009 did not strongly influence the share in Czech Republic and in the Netherlands. In

new member states the share of general government sector revenue in GDP (about 38% on average) is lower than in the old countries of EU (about 45%).

4.1.3. Share of local government sector revenue in the general government sector revenue

The share of local government sector revenue in the revenue of the general government sector is highest in Denmark, Sweden and Japan. Over 2009–2011 the share in Denmark equals 67% (in 2009 we observe the highest yearly increase of 6 percentage points) and in Sweden exceeds 48%. In Japan the share equaled about 51% in 2009 and 44% over 2006-2008.

The share of local government revenue in the general government revenue is relatively high in Poland, the Netherlands (35%), U.K. and Italy (32,5%). The share in Norway is close to the average value for the whole EU (24,5% in 2011), and below the average for the EU15. In France the share is relatively low – equals 23% in 2011.



The EU countries with federal structure show the lowest share of local government sector revenue in the revenue of the general government sector, in 2011: Germany - 17,8%, Spain, Austria - 16,5% and Belgium - 14,2%. In the U.S. the share is twice as high – equals 32% on average.

The NMS share is lower than the share in countries of the old EU, but for both groups its value systematically rises (from 18,7% in 1999 to 22,1% in 2011 (23,2% in 2010) for NMS, and from 24,9% to 26,5% in 2011 (27% in 2010) – for EU15.

Over 2008–2011, as compared with 2007, the value of the share of local government sector revenue in the revenue of the general government sector did not decrease substantially.

4.2. Revenue structure of the local government sector

The basic source of local government sector revenue are taxes and current transfers from central budgets (state budgets in countries with federal structure). Inflows from these sources constitute over 80% of the local sector revenue in new member states and nearly 75% in countries of EU15. In Japan share of these inflows is close to the NMS share. In the U.S. various payments called in national accounts payments for non-market output, are important source of the local sector revenue. These payments, are not explicitly related to production cost of goods and services, or cover only a small part of these costs. Below, we present tax

revenue, intergovernmental transfer revenue and revenue from sales of goods and services (market, and non-market production).

4.2.1. Tax revenue

Taxes, consistently with the national accounts classification, include: sales (production) taxes, taxes on income and wealth and capital taxes. Information acquired from international data bases which draw from national accounts do not allow for disaggregation of some revenue categories. For example current taxes on revenue and wealth – D.5 include taxes on revenue – D.51 and other (remaining) taxes – D.59. Identification of taxes D51 and D59 would not bring important information for comparative analysis.

Current taxes in income and wealth include tax burden from individual, periodic revenue and profits, and from increases in value (capital gains), as well as from prize wins and periodic taxes on wealth (including property). Business taxes paid by enterprises are excluded from this category - they are included in the sales (production) tax. Sales taxes include taxes on products – goods and services manufactured, or sold, or on prices (or/and value) of goods and services (VAT, excise taxes, import taxes without VAT, and other taxes on sales and purchases of financial and non-financial assets) and the remaining production and sales taxes paid by producers, independently of the production volume and value.

Capital taxes include irregularly and seldom levied taxes on value of assets, net value of wealth and on value of transferred assets: bequests, inheritance and donations (endowments).

4.2.1.1. Taxes on income and wealth

Revenue inflows from taxes on income and wealth result from at least two tax categories: locally collected taxes, and transfers - shares in Personal and Corporate Income Taxes (PIT and CIT), paid and collected locally, and redistributed by the central budget. Local taxes include property tax (for example French taxe foncière sur les propriétés bâties), and income taxes - in Sweden local income tax is the major source of financing local governments. The shares in income taxes (Lohnsteuer in Germany, PIT and CIT in Poland) are source of revenue at various levels of local government budgets (municipality, county, region). Property taxes related to business activity are defined in national accounts either as element of sales tax (Grundsteuer in Germany, property tax on businesses in Poland), or as income taxes (French taxe d'habitation, British council tax).

The highest share of taxes on income and wealth in local government sector total revenue is in Sweden (60% in 2011, above 63%, on average, over 1999–2010), Norway (38,7% in 2010, 34,8% in 2011), Denmark (30,5% w 2011, above 37% over 1999–2010) and in U.S. (about 29% over 1999–2008, and 32,5% in 2009). In Poland and Czech Republic the share of these taxes in local government revenue is relatively high - equals 21% in 2011 and 2010, 23% over 2004–2009 in Poland, and 22,6% in 2011, 21% in 2009-2010, and above 26% over 2005-2007 in Czech Republic In Cz.R. (2001), Poland (2004), Denmark (2007) and Hungary (2008) local governments revenue systems reforms took place and resulted in strong step changes in the share.

The lowest share of taxes on income and wealth in local government sector revenue is in Hungary (after 2008 on average 1,7%, 18% in 2007), and The Netherlands (3,7% over 2006–2011 and 4% earlier). The share is low in France (on average 7% over 1999–2009,

7,5% in 2010-2011), Spain, Great Britain and Italy - equals respectively in 2011 and (2010): 13,6% (12,2%), 13% (12,5%, and 13,8% (13%).

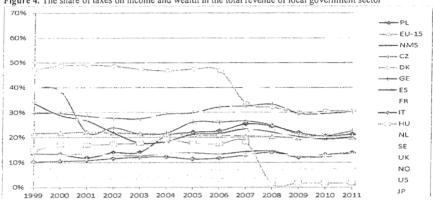


Figure 4. The share of taxes on income and wealth in the total revenue of local government sector

In many countries (especially in Czech Republic, Poland, Spain, Italy and Japan) the share of taxes on income and wealth in total revenue of local government sector fell during 2009–2010 (by 2-3 percentage points - about 15%) and to a lesser extent in 2008. In 2002, in comparison with 2001, we observe a substantial decrease of the share in new member states (excluding Poland, Czech Republic and Hungary) and in Norway. In France and Sweden the share was stable until 2008.

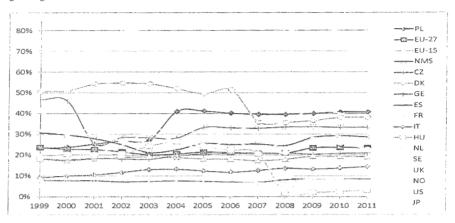
The share value of taxes on income and wealth in total revenue of local government sector noticeably converges in NMS and EU15 countries. In 1999, in countries of the old EU, the share equaled 22%, and in NMS -34%, but in 2011, the share equals about 20% in both the EU15 and NMS countries.

4.2.1.2. Revenue from tax on income and wealth in local government sector and the general government sector

The highest share of taxes on income and wealth of the local government sector in the general government sector is in Sweden (on average 79% in 2010-2011, about 75% over 2005–2009). The share is also high in Finland, Latvia - nearly 63%, Estonia and Lithuania - 60% over 2009-2011. In Poland, Slovenia, and Denmark the share equals about 40%, in Slovakia – about 43%, in Japan - 43% in 2009, and 36% over 2007–2008, in Czech Republic (33%), U.S. (34% in 2009, and 27% in 2008), in Norway - above 26% in 2009-2010 and 23% in 2011.

The lowest share of taxes on revenue and property of local government sector in the general government sector is in Greece (2,5%) and Hungary (2,5% over 2008–2011), where in 2008, as a result of a change of the local governments revenue system, the share fell by 19 percentage points (by 92%). The share is low in the Netherlands (5% over 2008–2011, 6,5% over 2004–2005), Spain, France and Portugal (about 8%). In new member states the share equaled 28% over 2009-2011, and in EU15 countries - 19%.

Figure 5. Share of local government sector revenue from taxes on income and wealth in the same revenue of the general government sector



4.2.1.3. Taxes on sales

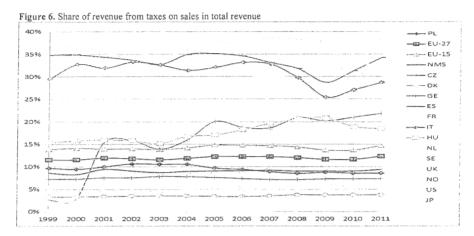
Revenue from taxes on sales (products) originates from two sources: tax on value added (share in turnover tax of German local governments [Gemeinden] of the VAT type – Umsatzsteuer), and exclusively local tax (French taxe professionnelle), or turnover tax of local character (sales tax in U.S.). Consistently with the principle of national accounts regarding priority of economic content over the legal form, in order to include an economic category into taxes on products, one has to show explicit relation of a given tax with sales or business activity. Individual classifications resulting from legal regulations of select countries do not matter.

The highest share of taxes on products in revenue of the local government sector is in France (39% in 2011, 29% in 2010, about 37,5% over 2004–2009), Spain (34% in 2011, 31% in 2010, about 35% over 2004–2006), Italy (28,8% in 2011, 27% in 2010, 32,5% over 2002–2007), and Japan (25% in 2009, about 29,5% over 2004–2008). The share is relatively high in Czech Republic (21,8% in 2011%, 21% in 2010) and in Hungary (nearly 19% over 2010-2011). In both countries the share was rising starting 2001, and is higher than the average in countries of UE15 (14,7%) and UE27 (12,3%).

The lowest, practically negligible, share of taxes on products in revenue of local government sector is in U.K. (about 0,14 % over 2001–2011) and Sweden (1,6% over 2008–2011). The share is very low in Norway (2,6% over 2005-2011), Denmark and Netherlands (3,7% and 5% over 1999–2011). In U.S. the share of sales tax in local government revenues remains within 5,5–6,2%. In Poland, the share equals 8,2% in 2011, 8,6% in 2010 and approaches the NMS average - close to 9%.

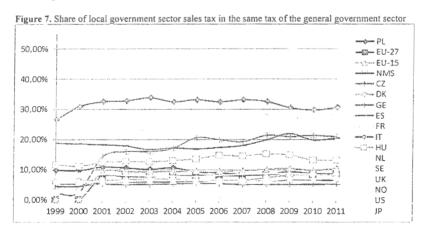
In 2010, in comparison with 2006, the share of revenue from sales tax in total revenue of local government sector fell in many countries – in France (by 25%), Italy and Japan (by 17%), in Poland (by 12%). In 2011, in most countries the share increased (in Poland it

decreased by 5%). In 2003, in comparison with 2002 the share decreased slightly in: Czech Republic, Spain, Italy, France, Hungary and the U.S.



The share of revenue from sales tax in the total local sector revenue, over 1999–2011, is for new member states (9,4% in 2011) below the share calculated for EU15 countries (14,7% in 2011) by 5,0 percentage points.

4.2.1.4. Taxes on products in the local government sector and in the general government sector



The share of taxes on products of local government sector in the sale tax of the general government sector is highest in Japan (almost 49% in 2010) and in Italy, France and Czech Republic (30%, 30% and 20% respectively in 2011). The share is lowest in U.K., Finland, Sweden, Norway (below 3%) and Greece (below 1%) in 2011. In countries of EU15 the share equals on average 9,6%, and remains stable over 1999-2011. For NMS countries the share

rises systematically from 4,4% in 1999 to 6,5% in 2011. In the U.S. and Poland the share equals 8,4% in 2011 and approaches the average calculated for EU15 countries,

4.2.1.5. Capital taxes

Capital taxes contribute only marginally to the local government sector revenue – their share in total revenue does not exceed 0,5% (in Poland the share equals 0,1% over 2010–2011 and 0,2% until 2009). There are two exceptions: in Bulgaria, the average share of capital taxes in local government revenue approaches 4%, and in Spain the share oscillates around 3%. In some countries capital taxes form a part of the central government sector revenue.

4.2.2. Intergovernmental transfers

Local governments are subsidized with the transfers from the central (or state) budgets in all investigated countries, although the degree of this support varies. According to national accounts conventions, transfers within the general government sector comprise current transfers (D.73) and capital transfers (D.9), which are linked to the acquisition of capital assets by the recipient. Capital transfers between institutional units belonging to different subsectors of the general government are called earmarked investment grants (D.92). These grants finance gross fixed capital formation (investments) by local governments. However, general transfers that are not linked to any specific purpose are always qualified as current grants, even if they are used for financing investment. The examples of current transfers include: French dotation globale de fonctionnement, German transfers granted by Länder under Finanzausgleichssystem, British revenue support grants. Investment grants include French dotations globale d'equipement, various specific grants for financing investment (although specific grants can also finance current expenditure), and the EU grants for financing investment projects.

4.2.2.1. Share of current transfers from the central (state) budget in total revenue of local government sector

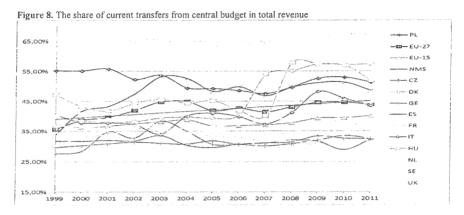
Countries with the highest share of current transfers from the state budget in total local revenue include: Bulgaria (on average above 80%), the Netherlands (nearly 67% in 2011, around 64% over 1999-2009), United Kingdom (64% over 1999-2011), Denmark (57% in 2011, above 58% over 2008–2009) and Hungary (52% in 2011, 55% in 2010, above 57% over 2008–2009, and 45% over 1999–2005).

The lowest transfers share can be observed in Sweden (25% in 2011, 21% over 1999–2009), Spain, Germany and Japan (about 32% on average). In the U.S. it peaked 37% in 2009 from 34% during 2004-2008).

During the 2008-2010 crisis the share of current transfers in total local government revenue was growing in all investigated countries (except Hungary and Spain). The increase was substantial in Italy (22,5%), Sweden (14,5%), Norway and Poland (10,5%). The share of current transfers from central budget in total revenue of the local government sector in MNS is on average about 10 percentage points higher than in EU15.

In Poland the share of current transfers in total local government revenue is high (49% over 2004–2008 and 53% in other years. The share is relatively high in Italy (43,5% in 2011, 48% in 2009 and 40% over 2004–2008) and France (4,5% in 2010, 31,5% over 2007–2009,

33,5% over 2004–2006). We observe a steep increase of the transfer share in Denmark (2007) and France (2010) of about 10 percentage points.



4.2.2.2. Share of investment grants in total revenues of local government sector

Investment grants from the central (or state) sector for select countries are highly volatile over the analyzed period (particularly in Poland, U.K., Ireland and Greece). Therefore it is reasonable to talk about the long-term average shares. The highest share of investment grants in total local government revenue is in Ireland (31% on average over the reference period), Portugal (23%), Greece and Cyprus (20%). Investment grants play significant role in the local finance system also in Spain, Japan (13-14%) and Czech Republic (8-10%). There are hardly any investment grants in the local budgets of Scandinavian countries: Denmark, Norway and Sweden. Rapid changes in the level of investment grants can be observed in the U.K. and Poland. On the contrary, in Germany and Spain the share of investment grants in total revenue of local governments remains stable.

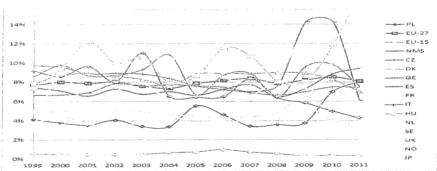


Figure 9. Share of earmarked investment grants in total revenues

The share in NMS and EU15 countries varies slightly – oscillates between 7% and 9%. The financial crisis did not influence the level of investment grants in any noticeable

way. In many countries, the share of investment grants in local revenue was relatively stable between 2007 and 2011.

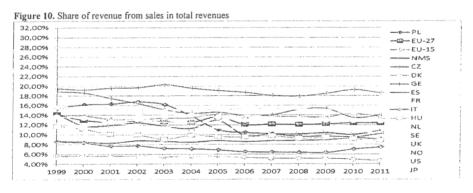
4.2.3. Other sources of revenue

Taxes and transfers play the leading role in the revenue system of the local government sector. The other sources of inflows comprise sales of products and services including also output for own final use and property income - derived from financial and nonfinancial assets including interest and dividends. Revenue from sales of products and services is the result of economic activity carried out by select local government units. A significant share of local sales in the total revenue of the general government in some countries can be explained by statistical conventions: enterprises controlled by public authorities that are not institutional units (for various reasons, e.g. the lack of ability to incur liabilities on their own behalf) are included in the government sector (select utilities in the U.S., German Stadtwerke, French regies, Polish budgetary enterprises).

Revenue from sales is significant in the U.S., where its average share in total revenue of the local government sector over the reference period approached 28%; for analysis of the U.S. finances, the authors used U.S. Census budgetary data and not data generated by the National Income and Product Accounts – therefore, the figures are most likely higher than expressed in the SNA terms.

4.2.3.1. Revenue from sales

We define revenue from sales as the sum of market output (prices, P.11), payments from non-market output (administrative fees, P.131) and output for own final use (P.12).



The share of sales of goods and services in total revenue over the reference period was highest in the U.S. – it oscillated around 28%. In most new member states the role of sales revenue was decreasing during the analyzed period - the average share of revenue from sales in total local revenue dropped from 14% in 1999 to less than 11% in 2011. In the EU15 the ratio was fairly stable and equaled about 14%. The exception is Greece, where the ratio was close to the U.S. level. Sales revenue play relatively significant role in the Czech Republic, Germany, France and Netherlands - on average contribute to above 15% of the total local government revenue. In Poland the share of sales in total local revenue has been decreasing since 2003, in 2011 equaled 9%. The share has been continuously growing in Ireland since 2005.

4.2.3.2. Income from property

Property income (interest, dividends, rents) is earned by an owner of assets who provides borrowing funds to the others or lets them use his moveable or real property (by law, an institutional unit that economically controls the assets does not have to be the owner). The share of property income in total revenue of local government subsector equals above 1% in NMS and in Japan, and less than 2% in the EU15 countries. The share, over the analyzed 13 years, has been decreasing in most EU countries (Poland is an exception: in 2010 and 2011 the share equaled 1,4%, prior to 2008 - 4,4%, and above 3% over 2008–2009). The highest share, in the analyzed period, was in the U.S. – around 5%.

5.2. Current expenditures

5.2.1. Assumptions and methodology

Current expenditures are defined as all expenditures, which are not investment expenditures (GFCF – P.51) neither are capital transfers payable (D.9).

The analysis of current expenditures includes wages and debt service and it is based on SNA transaction categories: expenditures for wages correspond to transaction D.1 "wages of labor" and include social transfers paid by entrepreneurs directly to workers, and also social insurance premium, which in SNA are considered part of workers' salaries. Expenditures for debt servicing correspond to transaction D.41 "interest".

5.2.2. Wage expenditure

The share of wages in total expenditure of the local government sector varies strongly in analyzed countries: it equals 25% in Germany and Austria (23,6% in 2011), and reaches above 50% in Norway and Belgium (where the share is the highest – nearly 56% in 2011).

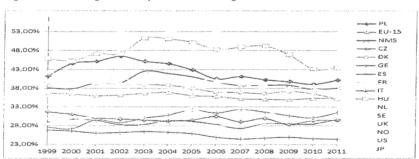


Figure 11. Share of wages in total expenditure of the local government sector

In the majority of countries — excluding Czech Republic, Belgium, Rumania, Switzerland and Japan — the share of wage expenditure in the total expenditure declined in 2010 and 2011 in comparison with 1999. The degree of the decline is strongly diversified. In France, the share has not changed. In Poland, the decline of the share was noticeable: from 45% in 2002 to 40% in 2011. However the share of wages in total expenditure of the local government sector in Poland is still 2 percentage points above the average value calculated for the new member states (38,1%), which in turn is above the share calculated for the 15 old EU countries (35,3%). In France, Italy, Spain, Portugal the share was stable over the analyzed

period – it equaled about 30% (in Cz.R. from 2001). The value of the share rose in 2011, as compared with 2009, in Italy, France, Netherlands, Czech Republic and Spain.

5.2.3. Expenditure for debt servicing

The cost of debt service in relation to total expenditure of the local government sector depends on the indebtedness of the sector and on effective costs of debt servicing, which is strongly related to interest rates. The share of debt service costs in total expenditure of the local government sector in the U.S. and Japan is significantly higher than in E.U. countries and on average exceeds 4%. In Europe, the highest costs of debt service is in Cyprus (above 7%), and Norway (4,7% in 2008, 3,5% on average). Analysis of debt in relation to revenue is presented in Bitner, Cichocki, 2012, and 2012a.

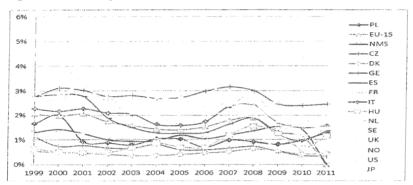


Figure 12. Share of local government debt service in total expenditure

In the EU15 the highest costs of debt service in relations to revenue present Germany, Netherlands and France (2,5%, 1,9% and 1,5% in 2009-2011). In Germany and France, it results from the high value of debt to revenue ratio (about 70%). In the Netherlands the value of debt to revenue ratio is lower (55%) and stable, therefore high debt service costs result from high effective costs of debt service.

In new member states, including Poland, the costs of debt service in relations to revenue varies from 0,35 to 1,3% (2% in 2000). In 2011 the share equals 1,3% in Poland, 1,6% in Romania, and below 0,5% in Latvia, Cz.R., Bulgaria and Denmark.

7. Changes in local government sector revenue and expenditure over 1999-2011

7.1. Periodicity of revenue and expenditure

We present yearly percentage changes in operating revenue, operating expenditure and wage expenditure of the local government sector in select countries over 1999-2011 and compare these rates with the GDP growth rate (figures 15A). We also present, in figures 15B, changes of select revenue sources of local government sector – inflows from revenue and property tax (D5), sales tax (D2), current transfers from the central budget (D7) and revenue from sales of gods and services. The changes are calculated in current prices⁴.

⁴ In OECD countries it is accepted to compare real GDP growth rate, which depends on price structure in previous year. However incorporating price changes to taxes, fees and other purely financial flows would be not justified.

7.2. Changes in revenue

7.2.1. Taxes from revenue and property, from production, sales and current transfers from the central budget

Changes in revenue and revenue sources of local government sector to a large extent depend on structural changes in the sector and the local government finance reforms which took place in the analyzed countries. Select revenues vary in analyzed countries and were subject to strong changes in times of economic slowdown.

The average rate of growth of revenue from current taxes on income and wealth over 1999-2011 was higher than the GDP growth rate – in Poland (by nearly 100%), Sweden, Italy, Great Britain and the U.S. In Japan a decline of the rate in the tax revenue was smaller than the decline in GDP. The growth rate of taxes on income and wealth was on average lower than the GDP growth rate in Czech Republic (two times), Denmark, The Netherlands, Germany and Norway. In Netherlands it was the 2006 local government finance reform, which resulted in low growth rate of taxes on income and wealth. In France, Spain and Hungary the average yearly rate of growth of budget revenue from revenue and property tax nearly equaled the GDP growth rate.

Current transfers from the central budget changed with the same rate as GDP in Poland and Spain, and much faster than the GDP in Cz.R., Denmark, France (over two times), Netherlands, Germany, U.K. and the U.S. In Norway and Hungary the current transfers were changing slower than GDP, and in Japan a decline in current transfers was much slower than the decrease in GDP.

Changes in revenue from taxes on products (sales tax) were, on average, higher than the GDP growth rate in Cz.R., Denmark, Netherlands, the U.S., U.K. (two times) and slightly higher in Hungary. In Italy both growth rates were equal. In Poland, Germany and Spain the growth rate of revenue from sales tax was on average lower than the GDP growth rate, and in France – slightly lower. In Japan a decrease in revenue from sales tax was faster than the decrease in GDP.

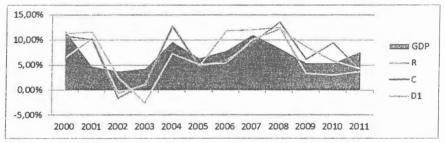
The U.S. and U.K. were the only investigated countries, where over 1999-2011 the average rate of growth of all major local government sector budget inflows grew faster than the GDP. In Great Britain, even in 2009, in spite of a fall in GDP growth rate, the basic local government sector revenue inflows grow, both in nominal and real terms. In several other countries we observe in 2009 an increase in select local sector revenue sources in spite of decreasing GDP. In France (3,2% decrease in GDP) we observe an increase in all local government sector revenue sources, especially in the revenue and property tax (7,7%). In Netherlands (4% decrease in GDP) nominal values of all local government sector revenue sources grow. In Norway, a deep decrease of GDP in 2009 (–7,2%) was accompanied by an increase in local revenue from the revenue and property tax (9,5%) and from current transfers (15,5%). In Germany only the current transfers grew on average faster (2,6%) than the GDP (2,1%); the nominal revenue from sales tax remained unchanged.

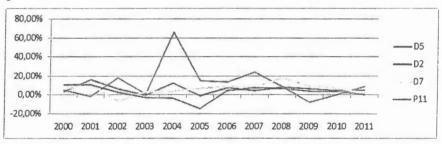
7.2.2. Changes in current revenue, current expenditure and wage expenditure

A category of current revenue (revenue of the operating budget) is defined in the analyzed countries in a variety of ways, and is not internationally standardized. For the purpose of our analysis we define current revenue as total revenue minus all earmarked investment grants. We utilize nominal data in current prices and present changes of all variables for such prices. We present, over 1999-2011, the local government sector yearly

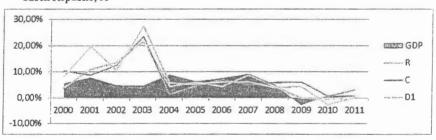
percentage changes of current (operating) expenditure and wage expenditure, which are part of current expenditure. The changes presented in figures 15A for 8 representative countries are compared with the GDP growth rate and the growth of local government sector current revenue. We adopt the following notation: R - current revenue, GFCF - gross fixed capital formation (investment expenditure), C - current expenditure, D1 - wage expenditure. Figure 15.

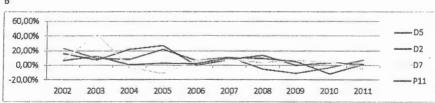




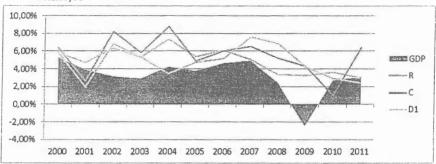


Czech Republic; A

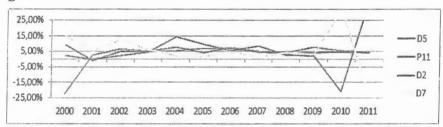




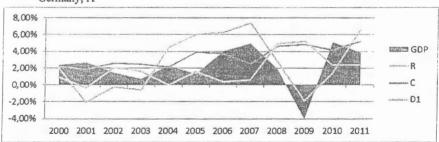




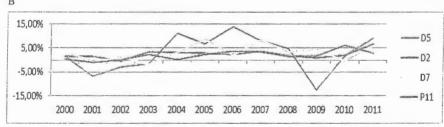
B



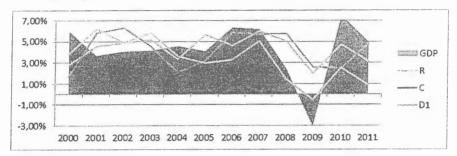
Germany; A

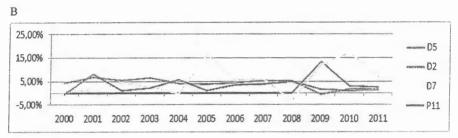




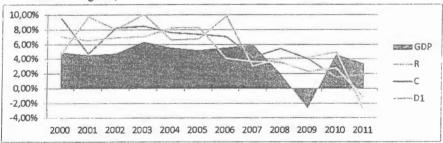


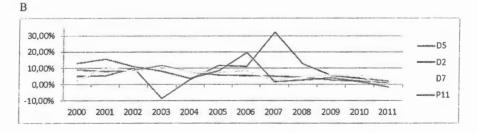
Sweden; A



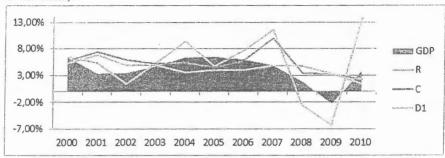


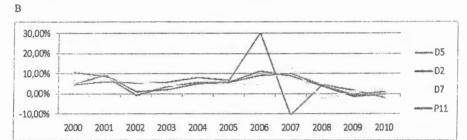
United Kingdom; A



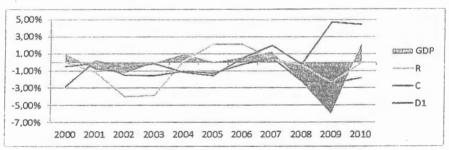


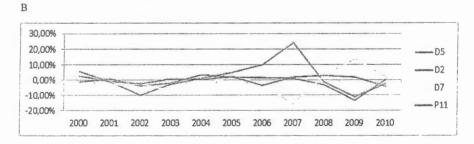






Japan; A
The GDP declined in 2011 by nearly 3%.





7.2.2. Correlation between select categories of revenue and GDP

Analysis of correlation between local government sector budget inflows from major sources of revenue (revenue and property tax, sales tax, sales of own production and services and current transfers) was disturbed by the world economic crisis and by structural changes of the finance and revenue systems of the local sector. The result of the crises was a decrease in the major sources of local government sector revenue and also in the general government revenue.

We have calculated correlation coefficients between yearly changes in local government sector revenues from current taxes on income and wealth and current transfers from the central budgets, and between yearly changes in GDP and taxes on income and wealth, changes in GDP and sales tax, and yearly changes in GDP and current transfers.

In many analyzed countries we observe a strong, negative correlation between changes in local government sector revenues from the revenue and property tax and from current transfers; the negative correlation coefficient equals in Denmark 96,1%, Hungary 72,5%, Japan 67,7%, Sweden 63,2% and in Czech Republic 50,4%. Germany is the only country in which we observe a significant, positive correlation (61%).

Correlation of changes in local government sector revenues from the revenue and property tax with the change in GDP is significant in Spain (84,7%), Italy (73%) and Japan (73,4%). In the U. K. correlation is low, equals 54,2%, and in Poland – only 44,4%. High correlation coefficients are obtained when strong changes in GDP result in relatively strong changes in sales tax revenue and in the revenue and property tax.

Correlation of changes in local sector revenues from the sales tax and the GDP changes is high in Japan (92,4%), Italy (85,5%), Hungary (73,6%) and Spain (60,8%).

Correlation of changes in the local sector revenues from current transfers and the changes in GDP is significant only in Hungary (50,2%) and Spain (50,5%) and is strongly negative in Japan (–80,4%), and between changes in local sector revenues from sales of own production and services and the changes in GDP only in Hungary - equals 56,4%.

8. Observations and conclusions

- 1. The role of the local government sector in the public finance sector is very significant and has grown since 1999, measured by both, its revenue and expenditure share in GDP. In 24 countries, out of 32 analyzed, the share of local government sector revenue in the revenues of the general government sector increased. In the remaining 8 countries the share remained nearly unchanged. The share calculated for new member states raised from 18,7% in 1999 to 23,2% in 2010 (22,1% in 2011). In countries of the EU15 it raised from 24,9% in 1999 to 27% in 2010 (26,5% in 2011). One should though remember that local government sector in countries with federal structure: Germany Spain, Austria, Belgium show the lowest share of revenue in the revenue of the general government sector, which in 2011 equaled: 17,9%, 16,6%, 16,4%, 14,2%. In the federal U.S. the share is high on average equals 32% (33% in 2009). Japan is the country with the third highest share (after Denmark and Sweden) -51% in 2009 and 44% over 2006-2008. In Poland the role of the local government sector is significant, the share of its revenue in the general government sector revenue grew from 34% in 1999 to nearly 37% in 2010 and 35% in 2011. The value of the share in the whole EU did not substantially decrease over 2008-2011.
- 2. The continuously growing share of the local government revenue in total government revenue is the evidence of decentralization as well as common acknowledgement

of the benefits of fiscal federalism. The revenue of local governments strongly varies in the analyzed countries, however some general trends can be observed. Current transfers from the central (state in U.S.) budgets are unquestionably the major source of revenue. This is the general phenomenon and it has nothing to do with the degree of financial autonomy, because commonly these transfers are guaranteed be law. It means that financial autonomy and financial self-sufficiency of local governments are entirely different concepts. The second largest category of revenue are taxes on income and wealth - income taxes and property taxes. This category is by far more significant than the other taxes altogether (taxes on products and capital taxes). The scope of economic activity of local governments can be assessed by looking at the share of sales in their total revenue. Remarkable difference between the significance of commercially oriented revenue (sales) between the U.S. and member countries of the EU can be most likely explained by the differences in the budget comprehensiveness (enterprise budgets are included in the budgets of U.S. local governments).

- 3. The system of local government sector revenue is strongly diversified. The transfers from the central (or state) budget play the most significant role in the majority of countries. During last three years, in EU15 countries the share of current transfers from the central budget in the total revenue of local governments equals 40%, and of capital transfers 8,5%. The corresponding shares in NMS equal 50% and 8,7% (the current transfers are about 10 percentage points greater than in the EU15 countries). In both groups the share of current transfers has grown: from 37,2% in the EU15 and 33,8% in the NMS in 1999, to 40,1% in the EU15 and 48,6 % in the NMS in 2011. In Poland the share of transfers in the local government sector revenue equals 60% (2010 and 2011), including over 8% of capital transfers and nearly 52% of current transfers. However, the current transfer's share in Poland decreased over the analyzed period (similarly in Latvia, Slovenia, U.K. and Japan). The capital transfers were changing cyclically, according to the flows of funds received by local governments from the EU budget.
- 4. Taxes: revenue and property tax, sales tax and capital tax, constitute the second significant source of the local government sector revenue. Their share in the sector total revenue equals nearly 34% in EU15 countries, and 29% in the NMS countries; in both groups of countries the share declined in the analyzed period. In Poland, on the contrary, the share of taxes in total revenue increased from 23% in 1999 to nearly 29% in 2011.

Taxes on revenue and property are the largest part of taxes contributing to total revenue: in 2011, their share in total revenue of the local government sector equals 20% both in EU15 and NMS countries (in 1999 in UE15 countries the share equaled 22%, in NMS – 34%). In Poland the share equals 21% in 2011-2010, and 23% over 2004–2009. In the U.S. the share equaled 32,5% in 2009 and 30% in 2008 and in Japan: 20% and 22,6%. Correspondingly the share of sales tax revenue in total revenue equaled 6,2% and 5,9% in the U.S. and 24,8% and 29% in Japan.

The share of revenue and property tax of the local government sector in the general government sector equals, over 2009-2011, 19% for UE15 and 28% for NMS. The sales tax share in total revenue is by about 5 percentage points higher in countries of the "old EU" (14,7% in 2011) than in NMS (9,7% in 2011). The capital tax contribution to the total revenue of the local government sector is fiscally negligible.

5. Revenue from sales of goods and services are the third significant source of the local government sector revenue. In the EU15 countries the share of these revenues in total revenue of the sector equals nearly 14% and has remained fairly stable over the analyzed period. In the majority of new member states the role of sales revenue has decreased over 1999-2011; the NMS average share dropped from 14% in 1999 to below 11% in 2011. The

share of sales revenue in total revenue over 1999-2009 was highest in the U.S. and Greece oscillated around 28%. Sales revenue play relatively significant role in the Czech Republic, Germany, France and the Netherlands - on average contribute to more than 15% of the total local government revenue. In Poland the share of was decreasing - in 2011 equaled 9,1%, in 1999 -15,5%. In NMS it decreased from 14,3% in 1999 to 10,8% in 2011.

References:

Bitner M., Cichocki K.S.a, Local government investment and debt in select OECD countries over 1999–2011, Working paper, RB49/2012, IBSPAN, Warszawa

Bitner M., Cichocki K.S., [Polish], Finanse podsektora samorządowego w wybranych krajach OECD w okresie 1999-2010, Samorząd Terytorialny, pp. 5-71, 1-2, 2012

Boogert G. H. (ed.), "Regional Governments in France, Germany, Poland and Netherlands", Rotterdam 2005

"Budgetary Procedures and Budget Management at Local Authority Level", Report by the Steering Committee on Local and Regional Democracy, May 2002

Canuto O., Liu L., "Subnational Debt Finance and the Global Financial Crisis", The World Bank, Economic Premise, Number 13, May 2010.

Council Regulation (EC) No 2223/96 of 25 June 1996 on the European system of national and regional accounts in the Community (Official Journal L 310 , 30/11/1996 P. 0001-0469), as amended

Dafflon B. (ed.), "Local Public Finance in Europe. Balancing the Budget and Controlling Debt", Cheltenham UK, Northampton MA USA. 2002.

"Decentralization and Local Democracy in the World", United Cities and Local Governments, First Global Report, 2008

Friedrich P., Gwiazda J., Nam Ch. W., "Development of Local Public Finance in Europe", CESifo Working Paper No. 1107, December 2003

"Local Government Finance: The Challenge of the 21st Century", United Cities and Local Governments, Second Global Report on Decentralization and Local Democracy, 2010

"Sub-national Governments in the European Union. Organisation, Responsibilities and Finance", DEXIA 2008.

Swianiewicz P., Łukomska J., [Polish], "Spowolnienie gospodarcze a sytuacja finansowa samorządów terytorialnych", Finanse Komunalne, 5/2010

System of National Accounts 1993, Brussels/Luxembourg, New York, Paris, Washington, D.C., 1993

Ter-Minassian T. (ed.), "Fiscal Federalism in Theory and Practice", IMF, 2007

"The Economic and Financial Crisis. Impact on Local and Regional Authorities", Council of European Municipalities and Regions, March 2009

"The Impact of the Global Crisis on Local Governments", United Cities and Local Governments, October 2009



