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THE ROLE OF PERSONAL INCOME TAX IN THE MUNICIPAL BUDGET MEDIUM TERM PLAN DEVELOPMENT

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Abstract

Main source of revenue for municipalities is revenue of personal income tax (PIT). In years 2001 – 2011 it specific weight was in average 46.62% of all municipal revenue. For forecasting PIT revenue in the municipal budget, analysis of correlation must be made, to make regression model. Main factor in this model is gross domestic product. Other factors, affecting revenue of PIT, can be grouped – factors of positive influence, e.g. average wage, and negative influence, e.g. shady economy. Each municipality is required to evaluate impact of factors to its revenue of PIT. Moreover, there can be added some specific factors or information, which is actual for this municipality. Forecasting of PIT income provide implement of medium term planning principles in municipal operation. That can also improve possession of information of municipalities and apply to them greater responsibility for achieved results.

Keywords: municipality, medium term budget plan, personal income tax, Latvia.
JEL Classification: H72, R58.

Introduction

Performance of each organization can be improved relevantly by operation planning. After advancing objectives, it is important to study existing possibilities. That can be made by developing budget plans. This kind of plan is imposed for all municipalities. That means they need to evaluate amount of revenue in future. It is very important for assessing adequacy of resources for reaching the goals and possibilities of accomplishment of function. Also, extra volume of resources can be recognized.

The object of research is municipal budget.

The goal of research is to analyze possibilities for realization of municipal budget medium term planning by using methods of personal income tax revenue forecasting.

Necessary information for research is legislative acts and official statistics of Republic of Latvia, also as researches in this field, made by experts.

Quantitative and qualitative methods of research are used – factor analysis and correlation and regression analysis. Also grouping, reflection of analytic data in figures and comparison methods are used.

In various researches are discovered many problems, related with forecasting of municipal budget:

1. Forecasting is used less/ rarely at municipal budget level than at the state level (Reddick, 2004).
2. Municipalities frequently forecast revenue by using pessimistic scenarios (Frank& MCCollough, 1992).
3. Municipalities are striving to make budget with surplus. That is related with uncertainly of revenue in future (Marlowe, 2006).
4. Forecasting of revenue is technocratic in nature. Moreover, many managers accept forecast without any perception and absorption (Wildavsky, 1986).
5. Quality of forecast of revenue is affected by educational level of staff, disposable software and size of territorial unit (Frank& MCCollough, 1992; Reddick, 2004).

Many experts in municipalities are of the opinion, that forecast, made by qualitative methods is more accurate, that those, made by quantitative methods and models. (Frank & Zhao, 2009)

So, using of quantitative methods for forecasting municipal budget is important to improve budget planning and performance.

1. Role of the personal income tax in structure of municipal budget revenue

Municipalities are local governments that manage the ensuring interests of state and local inhabitants, accordingly to law about municipalities. They have to realize different functions:

1) self-governing functions;
2) delegated state government functions;
3) given government tasks;
4) unrestrained initiatives. (Parliament of Latvia, 2012)

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For normal performance, each function requires financial resources. Municipal revenue is urgent for ensuring qualitative and complete services for native inhabitants.

Main financial document about municipal finances is municipal budget. It consists of revenue, expenditure and funding parts. Municipal revenue is structured of allocation of state taxes and duties, municipal duties, state grants and earmarked subsidies, grants of the local government financial equalization fund, dealings with municipalities, charges for services, deductions from capital profits, revenue from property letting and selling and others. (Parliament of Latvia, 2010)

Every municipality need to set clear objectives and priorities for its operation, to assess the budgetary actions according to their performance and achievement. Lack of goals is generally regarded as the main municipal management problem. To ensure sustainability and sustainable development, governments need to make financial resources planning (to prepare a budget plan) for a longer period of time (at least 3 years). (Ivanova, 2011)

Such an approach to planning (which may be regarded as medium-term planning) will ensure that government is not only "the mediator and the performer" between the state and citizens, but is entity that is capable of developing. And development opportunities, primarily, can be assessed by identifying the expected income. Without revenue municipality is unable to carry out its functions. Revenue planning can contribute to major projects realization or in addition to resource exploration, if it is shown that the projects initiated in the medium term may be running out of money.

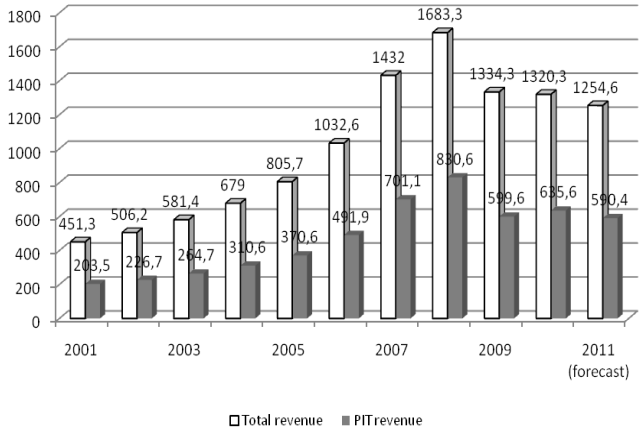

Figure 1. Total revenue and revenue from PIT of municipalities, million LVL
(Drawn by the author using (Ministry of Finance of the Republic of Latvia, 2012))

In assessing the overall government revenues of 10 years period (from 2001 to 2010 the actual data and the 2011th year plan), shows that in the period from 2001 to 2008 municipal budget revenues tend to increase every year. Similar to the local government budget revenue, also revenue from personal income tax (hereinafter - PIT) in 7-year period increases, then in year 2008 are the maximum and then decreases (see. Fig. 1.)

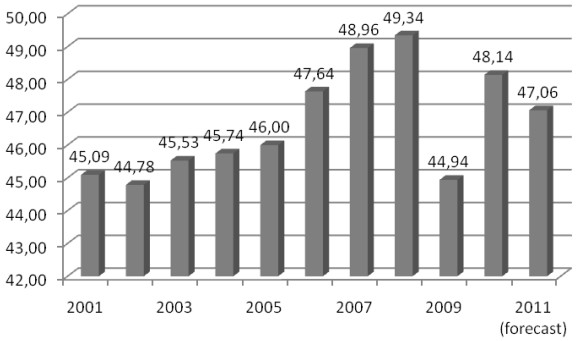

Figure 2. Municipal revenue from PIT as % of total revenue of municipalities
(Drawn by the author using (Ministry of Finance of the Republic of Latvia, 2012))

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Revenue of PIT in average is 46.62% of the total municipal budget revenue (if the calculation is carried out only on the actual data; if takes into account the 2011th year forecast, the share amount is 46.66%) (see. Fig. 2.)

Of course, assessing each individual municipality, there may be various constituent components of the revenue structure. For example, a large share of fiscal revenue for municipalities may draw up state earmarked subsidies. However, although earmarked subsidies and grants (e.g., grants of the local government financial equalization fund) promote regional development, to some extent they violate principle of municipal and local permanency. In addition, earmarked grants, however, is the income will be received in a certain period of time. By contrast, the PIT is a permanent source of revenue. That is why the PIT analysis is topical for every local government and the country as a whole.

2. Forecasting of PIT revenue in the municipal budget planning

Currently, the Ministry of Finance develop and provide PIT forecast for the next year for municipalities, and every year the state guarantees part of estimated PIT revenue (in the year 2012 – 98%). This approach is not conducive to full participation of municipalities in the development of PIT revenue forecast. In addition, assurance of revenue, on the one hand, provides a degree of stability, on the other hand, can contribute to lack of interest in promoting local business and more importantly – to allow the shadow economy (e.g. – envelope wages).

Active participation of municipalities in the development of PIT forecast for at least 3 years will allow more reasonably assess the covering of various projects in future. It also will put some responsibility on this matter to the local government, and may promote better work-style. This means that the budget planning, focused on results will be introduced in. Such budgeting means that resources are allocated to activities/ events where they can be used with the highest efficiency. (Rivenbark & Kelly, 2006)

Recognizing that collected PIT amount is a complex value, which is formed of different factors, appropriate is forecasting by using correlation and regression analysis.

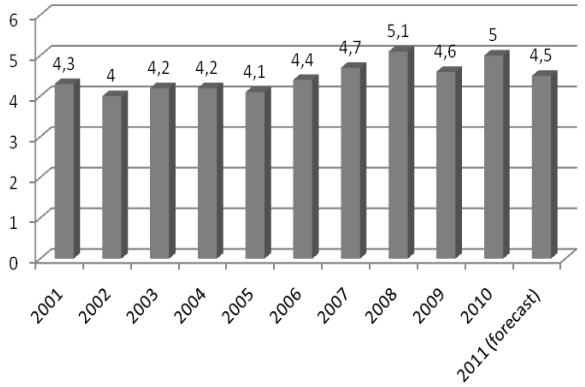

Figure 3. Municipal revenue from PIT as % of GDP
(Drawn by the author using (Central Statistical bureau of the Republic of Latvia, 2012) and (Ministry of Finance of the Republic of Latvia, 2012))

Revenue from PIT amount cannot be viewed separately from the overall economic situation in the country. Calculation of personal income tax revenue share in GDP (in current prices) during the year's shows that in the estimation period it is approximately equal. On average, municipal revenue from PIT amount is 4.46% of GDP, but the actual amount varies from 4% in year 2002 to 5.1% in year 2008. (see. Fig. 3).

So, growth of GDP (phase of economic growth) provides increase of the revenue from the PIT in municipal budgets. Decrease of GDP (the recession phase), provides the same process with the proceeds from the PIT. This is understandable and logical, because in the economic growth period, employment is increasing, income levels are raising. Long-term growth may result even increasing of population. Each of these processes makes a positive impact on revenue from PIT amount.

Analyzing municipal budget revenue from PIT, it is certainly to take into account that each year is determined PIT share to the municipal budget and PIT share that is transferred to the state budget. This is an indicator that can change the local government revenue from PIT, without any changes in total size of

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revenue from PIT and other variables. PIT revenue distribution between municipal and state budgets are different, the average municipal budget the share (years 2001 – 2011) is 76.2% of total PIT revenue (see. Fig. 4)

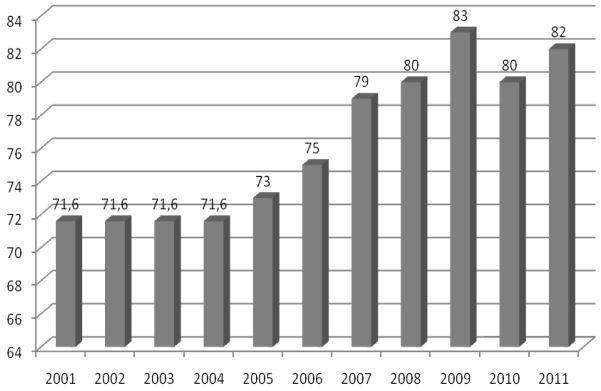

Figure 4. Share of PIT in the municipal budget, %
(Drawn by the author using (Parliament of Latvia, 2012))

Changes of share of PIT in municipal budget may explain changes in the amount of PIT in municipal budget, but does not explain changes of the total revenue from PIT. It has not been fully explained also by the state economic cycle phase. This means that should be still determined other factors influencing amount of PIT revenue. In drawing up the state budget explanation and analysis of revenue, the Ministry of Finance offers a number of factors that influence the PIT revenue amount in state and municipal budgets (see. Fig. 5)

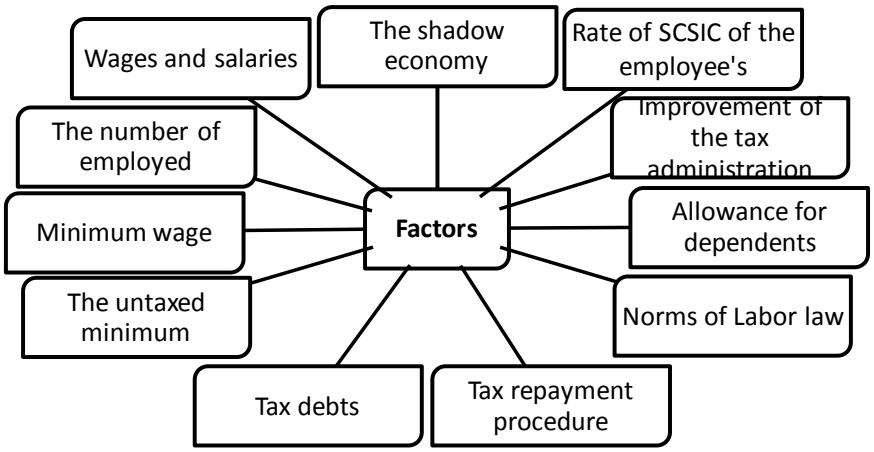

Figure 5. Factors influencing revenue of PIT
(Drawn by the author using (Ministry of Finance of the Republic of Latvia, 2012))

In Figure 5 is listed both – the quantitative factors and qualitative, and several of them affect the PIT revenues positively, but others – negative. The positive impact factors (i.e. - which one increase also increases the amount of revenue from PIT) are:

1) wage – employees average wages and salaries (the greater is the base from which tax is calculated as the greater may be the amount of tax due);
2) number of employees (as more people are employed, the greater is the taxable range of subjects);
3) minimum wage (applied to all economic subjects);
4) improvement of the tax administration (it is qualitative factor and it can be evaluated only at national level).

In addition, this list should include impact of the economic development phase, as well as the effect of the size of PIT rate. But relationship with the size of the PIT rate is very, very weak (correlation coefficient - 0.06 [author performed calculation using (Parliament of Latvia, 2012) and (Ministry of Finance of the Republic of Latvia, 2012)].

The negative impact factors (which one increase can decrease the amount of revenue from PIT) are:

1) rate of compulsory state social insurance contribution (contributions are calculated from the gross wages and reduces the amount of taxable income for PIT);
2) tax repayment procedure (amount of eligible expenditure on education and health services reduces the amount PIT);
3) the untaxed minimum (an amount is exempt from PIT);
4) exemptions for a dependent person (for each dependent person is applied allowance);
5) tax debts (worsening of economic situation or it can be intentionally);
6) the shadow economy (evasion of duty).

Factor that is not transferred to any drafted pressure groups is clarification of the Labour Law norms, because its impact on the PIT revenues can be both positive and negative.

To determine the influence of factors (to check if the qualitative conclusions are supported), a correlation analysis must be carried out (see. Table. 1.)

Table 1. Factors influencing amount of municipal budget revenue from PIT
(The author's calculation using (Central Statistical bureau of the Republic of Latvia, 2012), (Parliament of Latvia, 2012), (Ministry of Finance of the Republic of Latvia, 2012), (Ministry of Welfare of the Republic of Latvia, 2012))

Factors	Coefficient of correlation
GDP	0,99
Part of the PIT in municipal budget	0,87
Wages and salaries	0,96
The number of employed, thousands	0,51
Rate of PIT	-0,06
Rate of SCSIC of employee's	-0,53
The minimum wage	0,81
Allowance for dependents	0,82
The untaxed minimum	0,89

So, as a factor with a small impact, rate of PIT can be switched off. But in the project of Tax and fee system development guidelines for the years 2011 – 2016, developed by the Ministry of Finance (Ministry of Finance of the Republic of Latvia, 2012) it is expected to reduce rate of PIT to 21% until year 2016 (Latvia, compared with Lithuania and Estonia have the highest PIT rate (Financenet, 2011). This means that in future, at such rate changes this small effect can be felt.

The results of the correlation analysis shows that the allowance for dependents and non-taxable minimum are factors which have a positive impact on PIT revenues, although they were previously referred as the factors of negative effect. This can be explained by the fact that these two values increases in the economic growth stage, but then also GDP increases, resulting in significant personal income tax revenue growth. Thus, an incorrect mathematical interpretation is resulting.

The analytical results show that GDP correlates closely with almost all the factors – this can be explained by the fact that GDP includes impact of all these indicators. Correlation is observed also between factors non-taxable minimum, the minimum wage, allowances for dependents and wages. The connection between first three factors can be explained by changes in the legislative package, the fourth – by the impact of higher minimum wage to average wage.

Table 2. Coefficients of the regression equation
(The author's calculation using sources(Central Statistical bureau of the Republic of Latvia, 2012), (Parliament of Latvia, 2012), (Ministry of Finance of the Republic of Latvia, 2012), (Ministry of Welfare of the Republic of Latvia, 2012))

Factors	Coefficients
Intercept	607,14
GDP	0,02
Part of the PIT in municipal budget	-15,63
Wages and salaries	1,41
The number of employed, thousands	0,36

The coefficient of determination for the obtained regression equation is 99.12%. This means that the indicators used in equation are not explaining only 0.88% of PIT revenue in municipal budget changes. With these coefficients regression equation can be made to forecast revenue of PIT amount, if value of the factors in future is known.

In the analysis also qualitative factors can be used by applying an appropriate figure for each possible situation. But this significantly complicates the process as is necessary to describe, for example, each of the potential legislative changes. And, as shown, only with quantitative factors also it possible to draw up a qualitative model.

In order for each municipality to carry out PIT revenue forecast, it needs to be performed the calculations on their PIT revenue, to assess which factors are relevant. In addition, for drawing up forecasts, municipalities need information on the expected future performance of state (such as minimal wage, part of the PIT in municipal budget etc.). This means that public institutions, in developing concrete action plans and scenarios at least for the medium term, must provide exchange of information with municipalities.

Municipalities receive limited political and bureaucratic information, which could contribute to more accurate forecasting. (Frank & Zhao, 2009)

A better model drafting can be provided on the basis of specific indicators for particular municipality. In addition, local governments (especially the small, but not only) may include in a forecast model specific data that is known only to them. Perhaps, for many municipalities such detailed analysis of the situation can provide essential information for better decision-making in other areas (e.g., costs to social security).

Conclusions

According to research, following conclusions can be made:

1. To qualitative performance of the municipal functions and voluntary initiatives it is necessary to amount needed financial resources, i.e. – revenue;
2. The main source of revenue for municipalities is income from PIT, which represents (during the covered period) in average about 46.62% of total municipal revenue;
3. A relatively large proportion of municipal revenue forms grants and subsidies from the state budget, but it may not be a stable source of revenue;
4. Forecast of PIT revenue in municipal budget shall be predicted by using correlation and regression analysis, because it is an indicator, affected by many factors;
5. As a major factor, influencing revenue of PIT amount is the rate of GDP;
6. Depending on the available information and the required quality of the model, the regression model can be created by using the different number of factors, as there is correlation between the factors.

In general, it can be concluded that the municipal revenue from PIT amount is impossible to predict. And it can be made using accessible for each municipality technology, so it is possible to get results without great foundation. Forecasting of this revenue can not only provide medium-term planning principles to municipalities, but also can improve awareness of municipalities and impose greater responsibility on the results. Also, results of research shows that municipalities in their financial situation are strongly addicted by situation in state, also as great impact have legislation system, which they cannot affect.

Also some proposals can be given:

1. Municipalities need to set targets for its operation and according to them to carry out a medium-term budget planning;
2. During the planning and developing scenarios of future situation, public authorities must ensure municipalities with the necessary information;
3. Each municipality should assess effect of factors on its revenue from PIT. In addition, it is possible to use information and specific indicators, representative for a particular municipality.

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