Evaluation of Financial Management of Towns in relation to Political Cycles using CV-TOPSIS

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Abstract The political cycle and its impact of economy is usually monitored at the macroeconomic level. Nonetheless, abroad studies are emerging which analyzed the impact of the political cycle on economy on the level of territorial self-government. The aim of the paper is to evaluate the impact of the political cycle on the financial management of municipalities on a sample of 69 district towns in Slovak Republic in time period 2007-2017. The results point that to significant heterogeneity, whether at the level of individual towns or when comparing the results for individual years. As a result of the differences observed at the level of the political cycles, we analyzed the differences between the results in each year of each political cycle through CV-TOPSIS method. The financial management of the analyzed towns are very diverse and the increase of town´s expenditures is not always linked to the political cycle.

Keywords: • financial management • political cycle • mcdm; topsis • coefficient of variance

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1   Introduction

The research of the political budget cycle is one of the sub-areas underlying one of
the dynamically evolving directions of the current macroeconomic so-called new
political economy. It was created with the integration of three approaches, which
for many years existed in parallel with each other without greater contact between
each other. It was the theory of public choice, the theory of rational expectations,
and the theory of rational choice that was used in political science (Persson &
Tabellini, 2000:50). At the center of this theory were stay political markets, which
it analyzed through the tools of economic theory. Thanks to this theory, the new
political economy could explain many of the causes of inefficiencies in the
performance of state power and consequently also in the economic sphere (Gregor,
2005:32).

An important aspect that affects the entire political cycle in a country at all levels
is the election of the President. (Yi-Hsien et al., 2008:58) analyzed the US
presidential election and concluded that the impact of presidential elections on
stock markets depends on the political orientation of the winning presidential
candidate, from the general policies of the winning parties and the nature of the
market. On the other hand, (Dopke & Pierdzioch, 2006:925) dispute the view that
political factors affect movements in the stock markets. The authors did not find
evidence that the return on the German stock market was higher during liberal
governance than during conservative government. Based on the above, (Myataza
& Gupta, 2018:2122) state that the impact of the outcome of the presidential
elections on the behavior of financial markets is twofold. On the one hand, a many
authors report that the outcome of the presidential election has a significant impact
on the financial markets and, on the other hand, several significant studies refute
the existence of the presidential cycle's impact on the return on the stock market.

The political cycle affects not only the economy of the state, but also reflected into
the economy of local self- governments. The results of parliamentary elections not
only affect the selection of candidates for the election of elected representatives at
the level of local self - governments (mayor, deputies), but also their financial
management. Therefore, we have decided in this article to examine in more detail
the impact of the political cycle in the context of the financial management of local
self – governments. Within the framework of own research, 6 indicators were
identified in total to evaluate the efficiency of the finance management of local self-
government entities.

The main purpose of the article presented is to evaluate the impact of the political
cycle on the financial management of municipalities. We have monitored changes
in these selected financial ratios within 3 policy cycles in the Slovak Republic in
time period 2007 – 2017, so that we can compare the results obtained and
eventually generalize them. At the same time, we analyzed the differences between

results in each year of each cycle and subsequently analyzed the differences between the policy cycles. Our hypothesis tested is: Does the political cycle affect the management of municipalities? From this reason, the presented article has the following structure: in the first chapter, we focus on the theoretical foundations of the political cycle in the context of the specific conditions of local governments in the Central European region; the second chapter describes the used methodology with emphasis on weighting the selected criteria and their further processing; the third chapter is divided into two parts, the first being the evaluation of the financial management of the municipalities throughout the analysed period, which is subsequently evaluation in the second part of the chapter in the context of the individual municipal election cycles; the final chapter is the conclusion.Introduction presents the scientific problem of the article, its novelty, exploration of the problem, aim, objective, research methods).

2   Political economic cycle and the political budget cycle

Traditional political budget cycles suggest that current opportunistic politicians may have incentives to manipulate budget resources, such as increasing public spending or deferring tax increases, to induce economic expansion prior to elections, thus maximizing their chances of being re-elected (Drazen, 2002:42). (Pajerská, 2012:2) notes that the theory of the political cycle is divided general into two groups. One group of theories stem from the idea that politicians maximize their own benefits because they are related to the purpose of their re-election. These theories are often referred to as opportunistic. It follows that politicians, according to these theories, are trying to influence economic development by making attractive political measures just before the election. The model has its weaknesses and therefore the criticism of this model has focused on the behaviour of voters. The second group of theories of the political cycle is often called ideological. This mean that politicians always hold their opinion of beliefs and thus focus only on a certain group of voters. The political cycle (Chovanculiak, 2016:1) understands as a situation when politicians change their behaviour according to how elections evolve. According to this theory, politicians after the election should take heavy, cost-effective and unpopular measures that will bring "fruits" till a few years. On the other hand, just before the elections, they should take measures that are popular, handing out and not so economical. The second group of theories of the political cycle is often called ideological. This mean that politicians always hold their opinion of beliefs and thus focus only on a certain group of voters. It also confirm it (Čepelová et al., 2018:52) who note that the theory of political (political-economic) cycles involve the so-called pre-election short-sightedness of voters, it means incompetence to identify long-term effects of government measures. If the dominant party wishes to remain in power, then must to realize before election "popular" fiscal (budgeting) policy with expansive character (tax cuts, raising pensions, etc.). This situation lead a temporary increase into the "welfare" of the majority voter, but after election to occur to realize of

unpopular "fiscal" measures (raising taxes, reducing pensions, etc.) in an attempt to "extinguish" inflationary pressures or maintain a balanced budget. Before the next election, the government is again starting to rely on popular measures and the cycle is repeated. (Castro & Martins, 2018:48) analyzed public expenditures in 18 European countries over the period 1990–2012. They found out that some components of public expenditures was significantly manipulated in election years: expenditures for public services, education, social protection and some items inside health expenditure. Those components are chosen because they, quite likely, aggregate items that tend to generate more visible outcomes for voters. It confirm also (Bove et al., 2017:590) who analyzed political cycle in 22 OECD countries from 1988 to 2009. From their research show that before the election politicians will shift expenditures towards social welfare and away from defence to signal that their preferences are close to those of voters. (Janku & Libich, 2019:25) note that in countries with uninformed voters, politicians attempt to 'buy' votes by substantially increasing government expenditures in election years. This generates budget cycles and costly macroeconomic fluctuations. Authors note that in time period 1995-2014 only the top third of OECD countries with well-informed voters has not experienced political budget cycles. In contrast, the bottom third of OECD countries with poorly-informed voters has consistently seen a deterioration of the budget balance by 0.7– 1.2% of GDP in election years. (deWitte et al.,2018:50) states the results of the analysis of 589 Belgian municipalities over the period 1977-2016 confirmed that local tax rates were set lower at the start of the election cycle. (Marenco, 2017:1030) analyzed of data on the professional status and educational background of public servants working in the core administration on the sample of 5.5 thousand Brazilian municipalities in the context of the electoral cycle. From research revealed that against to election cycles and governmental cycles, professional bureaucrats may using various technical and informative resources as well as political and organizational incentives for offsetting the decisions based on heavy political pressure. Vice versa (Kauder et al., 2018:986) analyzed the salaries of German state Members of Parliament in the context of the political cycle. From the analysis of 15 states in the time period 1980- 2014, showed that no relationship was identified between political cycle and the increase of the salaries of these members. Politicians have increased their salaries at any time during the political cycle without negative consequences. According to (Tsai, 2016:1035) in democracies, political budget cycles are propelled by electoral cycles and are significant motivated by the political desire of politicians to be re- elected. The impact of election cycles on policy is well established in the democratic countries, but the model of political budget cycles in the absence of competitive general elections remains underexplored. An important aspect that is part of the policy cycle is also decision-making on the award of public contracts. As cities spend a fairly big part of their public finances on securing services to citizens, the important question is how to choose individual partners, suppliers to provide the services. This is also confirmed by (Sičáková – Beblavá & Beblavý, 2009:670), who conclude that

during the election year, political leaders mainly devote to campaigning, and they need resources that can also pump from the rent associated with deciding to award a service contract. Their analysis showed that the political cycle had an impact on the duration of the contracts awarded, since a year before the elections were contracts are concluded for a longer period than in the other years of the political cycle. At the same time, they identified that in the year before the elections more contracts were concluded for indefinite period than compared to other electoral years.

The causes of the transition from the political-economic cycle to the political-budget cycle had two levels. The first was the theoretical interpretation of economics. It stemmed from the acceptance of a theory of rational expectations that questioned the interpretation of the real effects of changes in monetary policy on the economy. The second was based on practical economic policy (Doležalová, 2012:51). In Chile (Corvalan et al., 2018: 5) studied political - budget cycles at national and local level, in separately. Local self-governments are dependent on national sources, so the central government can have the motivation to manipulate with intergovernmental transfers to give preference to politically coordinated mayors to use their assistance in mobilizing voters in the next national elections. This generates an indirect political - budget cycle. Research results show that the government increases the total amount of transfers to municipalities (local authorities) during the election years and that these additional funds are allocated to a "politically kindred" mayors. In connection with the theory and the practical outcomes of the policy cycle, the key question is how much the government, as a fiscal policy maker, has the potential to more strongly influence the performance of the economy, and how far its efforts will ultimately to be reflected on the development of macroeconomic indicators. Although some economists disagree with this philosophy, it does not mean that politicians in the pre-election period does not try to use fiscal policy with the intent to influence voters. Fiscal policy is under the direct control of the government, which the main aim is re-election of the same government (Černohorský & Černohorská, 2009:29). This is also confirmed (Drazen & Eslava, 2008:3) who support the existence of election-year fiscal manipulation in countries with sophisticated, well-informed voters, who are averse for high overall government expenditures. According to their model, citizen's value government expenditures on some goods but others rational, forward looking voters use the public expenditures to draw conclusions about the preferences of each politicians. Electoral manipulation thus takes the form of shifting expenditures towards the goods that voters prefer in the attempt to convince them that the current politicians shares their spending priorities (Bove et al., 2017:585). (Gerigk et al., 2018:95) present the study of the Brazilian municipalities with less than five thousand inhabitants in the north-eastern region of Brazil which the aim of analysis was to determine which political factors exerted influence on regulated and unregulated public policies. As regulated public policies presented the municipal expenditures which were used for

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education and health and as unregulated ones for administration / planning. The
sample consisted of the 2414 municipalities in the time period 2001-2012. The
results show that political budget cycles impact regulated and unregulated policies
in municipalities with less than 5000 inhabitants and also the fact that the
politicians prefer expenditures on education and health over municipal elections.
Political competition within the municipal legislature indicates that the more
intense the political competition, the greater the spending on the administrative
and health area. It follows that the more intense the political competition, the
higher expenditures flow on the education and health area. (Chortareas et al.,
2017:325) researched the impact of political cycle in 109 Greece´s municipalities
from 1996 to 2009. Their results show that elections positively affect the number
of municipal employees. The electoral effect is manifested by increases in the
number of the total employees, it is mainly driven by increases of contract
employees. The above findings emerge regardless of whether the mayors run for
re-election and regardless of whether incumbents are politically aligned with the
central government.

3   Fiscal decentralization as an important part of political budget cycle

Fiscal decentralization is closely linked with the concept of political budget cycle
especially at local level. Solution of the fiscal autonomy of local self-government
has several relevant reasons. For example, the public finances which flows to the
local level represent a significant share of the total volume of public resources in
the developed countries. Their analysis makes it possible to evaluate and compare
the real position of the local self-government level in the country and
internationally (Sopkuliak, 2012:220). Fiscal decentralization represents the
process of allocating competences to different levels of government in order to
achieve their relative autonomy and self-sufficiency (Žárska et.al, 2007:125). It
confirms this also (Petrášová & Beresecká, 2012:402, Dvořák, 2017:187) who
note that since 2004 there is a decentralized tax system in Slovak Republic, and
this system increasing the competencies in tax collection for the state and in tax
collection for cities and municipalities. In the world, the principle of fiscal
decentralization according to (Sedláková, 2008: 807) is to reinforce the incomes
of self- governments through their power to determine the amount of taxes (in the
form of local taxes) in order to ensure the territorial principle of these taxes (it
means the municipality becomes the recipient of this tax, where the residents pay
the tax). (Papcunová et al., 2015:810, Biceková et al., 2015:78) state that the aim
of the fiscal decentralization was to increase the financial independence of
municipalities. However, research by authors shows that municipalities are still
dependent on the state budget and the development of the country's economy. State
budget incomes are an important part of the budgets of municipalities in both
countries and any significant change in the country's economy affects the financial
management of municipalities. (Hudáková, 2016: 490) notes that strengthening of
these competencies at local self - government level in the process of fiscal

decentralization has brought for municipalities some problems associated with the performance of these competencies. Recent analyses of fiscal decentralization highlight that office-oriented politicians might abuse their power over local budgets according to their own benefit (e.g., involvement into corruption). It also confirm it (Maličká, 2019:507) who note that the fiscal manipulation might have negative impact on public good provisioning even on municipal level of government. On the other hand (Koeppl –Turyna, 2016: 190) notes that local decision makers are more accountable to local voters and therefore have few opportunities to misbehave. Also author notes that the higher financial autonomy of municipalities would give an elected representatives motivate to reduce inefficient incomes, if accompanied by a reduction in tax burden on the voters. But this incentive is non- existent for the case of Austrian municipalities because after the reform of public administration, municipalities in Austria, that elect the mayor directly spend on average 45.60 € per capita less on public administration compared with those municipalities that have not changed the electoral system. Similarly, they observe a drop of expenditures on private services and on personnel costs. On the other hand, municipalities with directly elected mayors spend more money on transportation and subsidies ostensibly to promote the municipal economy. This situation is due to the fact that, under Austrian conditions, local authorities have little decision-making power within their each budget items. So the fiscal policy according to (Křápek & Formanová, 2017:235) present not only as one of the main economic policy instruments through which macroeconomic goals can be met, but also instruments that can be manipulated in a political struggle. They predict that changes resulting in tax increases will be postponed until the post-election years, while their decrease can be anticipated in pre-election or election years. Also (Bonfatti & Forni, 2019:10) note that fiscal rules can limit the political budget cycle. They find that the political budget cycle increases real capital expenditures in Italian municipalities in time period 1999-2012 about 10–20% on average in the years prior to municipal elections. It confirms it also (Bodo, 2017:670) who note that political actions like fiscal policy affect the economy and voters behave in a rational way to increase their own (economic) well-being. However, the advancement of the internet and social media platforms provide more public information to voters. The new information creates higher public transparency of political decisions and thereby change the voters' as well as policy-makers' behaviour in respect to the budget cycles. During the period 1999–2009 in Israeli municipalities (Baskaran et al., 2016:9) find that to exist high dependence of municipalities on central government transfers as reflected in a low share of locally incomes in the municipality's budget. This dependence exacerbates political budget cycles. These results suggest that political budget cycles can result from fiscal institutions that create soft budget constraints, that is, where rational voters can expect that the costs of pre-election campaign will be partly covered later by the central government. (Klomp & de Haan, 2013: 168) find that in most countries fiscal policy is hardly used for electoral purposes, however that parties in government can influence the election outcome

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significantly by manipulating government expenditures. Government expenditures also has an indirect positive effect on the support received by the parties in government by promoting faster economic growth in the election year. Although, they note that exist a statistically significant effect between election induced government expenditures and election outcomes, its economic significance is relatively small. This could explain why fiscal policy is used for election purposes in only a few countries.

3   Research

Based on Act No. 369/1990 Coll. about the municipal establishment, in the conditions of Slovak republic, all territorial units on the local level are understood as municipalities. But of the total number of municipalities we have 140 towns and for our analysis we have chosen district towns, which was 69. The sample is a set of 69 district towns whose management is comprehensively evaluated for 2007-2017. During the analyzed period, the elections in the local conditions took place in 2010 and 2014. So we dividing this period into three policy cycles (it means we are evaluating the period between the elections):

- 1st policy cycle, consisting of 2007, 2008, 2009 and 2010,
- 2nd policy cycle consisting of 2011, 2012, 2013 and 2014,
- The 3rd policy cycle of politics, consisting of 2015, 2016 and 2017.

Within the framework of own research, 6 indicators were identified in total to evaluate the efficiency of the finance management of local self-government entities. The identification of individual indicators was based on personal consultations with government auditors and representatives of individual entities. Their goal was to jointly identify a set of core indicators that best reflect the real status of the economy in given economic, social and social conditions. In the first phase, a group of 28 indicators were presented, which after several meetings and discussions using the Delphic method was minimized into the following group of indicators:

- Current incomes per inhabitant (in €),
- Capital incomes per inhabitant (in €),
- Current expenditures per inhabitant (in €),
- Capital expenditures per inhabitant (in €),
- Ratio of foreign sources to total assets (in %),
- Foreign sources per inhabitant (in €).

In order to be able to evaluate the territorial self-government entities concurrently on the basis of all the above-mentioned indicators, it is necessary to determine their importance, respectively the weighting of individual criteria. This, according to (Yalcin & Unlu, 2016: 551), significantly influences the application of the chosen multi-criteria method. Several methods are used to determine weights.

These methods were initially divided into two groups - subjective and objective methods (Tzeng et al., 1998:358). Subjective methods are based on the individual preferences of the decision maker, while objective methods determine the weights of the indicators based on mathematical models without any intervention by the decision maker. Since it is not possible to determine the weight of the monitored indicators on the basis of our own opinion respectively on the basis on expert literature (which is still unified in view of individual criteria), we have chosen to use objective weighting methods. Within this group of methods, you can find,

for example, CRITIC, MW, SD, IDOCRIW, CV, IDP, or SVP. The current use of these techniques is documented by a group of authors who also describe these methods (for example Čereška et al., 2018:15, Yalcin & Unlu 2018:555, Singla et al., 2017:138). The importance of indicators for the needs of our research is calculated using the Coefficient of Variance (CV) method, which is described in detail in (Singla et al., 2017:132).

From Figure 1 we can also find a relatively high degree of equilibrium of results, respectively the steady importance of each indicator over the whole monitored period. Except for the years 2013 and 2017 (when the second indicator was significantly dominant), the weights can be considered complex as they ranged between 9.2% and 24.3%. We also appreciate the significant differences in the current and capital incomes, respectively of expenditure per inhabitant.

These weights present the input data for the calculation of TOPSIS technique, which is used by (Vavrek et al., 2015:252, Vavrek, Chovancová, 2019:4) and we establish on this research.

It is classified by (Zavadskas & Turskis, 2011:401) as one of methods based on quantitative measurements. According to (Hwang & Yoon, 1981:125, Yoon, 1980:32), the TOPSIS method proposed as an alternative to the ELECTRE method by (Hwang & Yoon, 1981:57) which was based on the idea that when an alternative has the shortest distance to the ideal solution, it can be considered as the best one. We also agree with (Zavadskas et al.,2016:22), this method, by considering both the above distances, tries to choose solutions that are simultaneously close to the ideal solution and far from the nadir solution. The TOPSIS method is used in various areas of the public and private sector and can produce reasonable solutions for real-world practice (Liang et al., 2017:5; Bhutia & Phipon, 2012: 45; Milani et al., 2008:1770; Pavic & Novoselac, 2013: 7). The use of this method can be found in the evaluation of the local self-government entities (Vavrek et al., 2017:295), as well as in tourism (Yin et al., 2017:1440), transport (Markovic et al., 2018:1952), risk assessment (Zolfani Antucheviciene, 2012:428), evaluating providers of cloud services (Radulescu & Radulescu, 2017:185) or to conduct sustainability assessment (Cinelli et al., 2014:140).

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As a result of the differences observed at the level of the above mentioned policy cycles, we analyzed the differences between the results in each year of each cycle (for example the stability of the results in the first policy cycle was comparing by the results of the CV-TOPSIS method in 2007, 2008, 2009 and 2010) and subsequently differences between policy cycles we analyzed by median values (for example, for the first cycle was made the median from CV-TOPSIS results for the years that were relevant to it).The choosing of sample is not intended to reflect the management of a particular territory. Its purpose is to identify the differences caused by the change of the evaluation methodology (described above) and and also use the obtained results for further research. The obtained results were subjected to a statistical analysis involving several tests, including:

- the Shapiro-Wilkov test

$$SW = \frac{(\sum u_i x_i)^2}{\sum u_i^2 \sum (x_i - \bar{x})^2}$$

where:

u_i - constant
x_i - value of i-th statistical unit
$\bar{x}$ - average value of variable

- the Kruskal-Wallis test

$$Q = \frac{12}{n(n-1)} \sum_{i=1}^{I} \frac{T_i^2}{n_i} - 3(n+1)$$

where:

n - number of observations
n_i - number of observations in i-th group
T_i^2 - total number of order in i-th group

- the Levene test

$$W = \frac{(N-k)}{(k-1)} \frac{\sum_{i=1}^{k} N_i (Z_i - Z_{..})^2}{\sum_{i=1}^{k} \sum_{j=1}^{N_i} (Z_{ij} - Z_{i.})^2} \quad , \text{where}$$

$$Z_{ij} = \begin{cases} |Y_{ij} - \bar{Y}_{i.}| \\ |Y_{ij} - \tilde{Y}_i| \end{cases}, Z_{..} = \frac{1}{N} \sum_{i=1}^{k} \sum_{j=1}^{N_i} Z_{ij}, Z_{i.} = \frac{1}{N} \sum_{j=1}^{N_i} Z_{ij}$$

where:

k - number of values of monitored category variable

N - number of observations
N_i - number of observations in i-th group
Y_{ij} - measured value of j-th unit of i-th group
$\bar{Y}_i$ - average value of i-th group
$\tilde{Y}_i$ - median of i-th group
$Z_{..}$ - average of Z_{ij} group
$Z_{i.}$ - average Z_{ij} for i-th group

or ANOM analysis to better illustrate the results. A separate group is a regression analysis which capture the tax incomes development of municipalities. The analyses were processed in MS Excel, Statistica 13.4 and Statgraphics XVIII.

4   **Discussion**

Within the framework of the decentralization of competences from the central state administration bodies to the level of regional and local self-government in the conditions of the Slovak Republic, the municipalities gained competence in many areas that the state had done so far. In Slovak Republic, the decentralization of competencies has taken place equally for all municipalities, which means that all municipalities have the same amount of competences, irrespective of the number of inhabitants. Thus, competences will be considered a constant factor in comparisons with each other and also within the political cycle (irrespective of the composition and representation of the political spectrum).

The volume of incomes (current and capital) is variable (as well as expenditures). The biggest amount of tax incomes of municipalities is generated by the tax of the personal income and it distributed to municipalities from the state on the basis of the number of inhabitants. Hand-in-hand with the growing volume of self-government competences also increases tax incomes of municipalities, which have more than doubled over the last 25 years. In the period of the financial crisis, these incomes fell significantly and the state was forced to subsidize the municipalities with an extraordinary financial package. The evolution of this indicator over time captures the following regression model (Table 1).

$$TRM \text{ (mil. EUR)} = (-3108.66 + 1.56542 * Year)^2$$

The high disclosure value of the above model indicates a 95.6178% determinant, as well as Figure 2, showing a high growth rate in the last decade. Municipalities manage and will be manage increasing amount of funds, which adequately influence the basket of provided services for citizens. But (Brown and Potoski, 2003:450) who note that towns choose each mechanisms in part to minimize the risks associated with securing services.

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Also tax incomes of municipalities are increasing continuously, with the
regression model assuming a significant increase in the next period (subject to
ceteris paribus). This situation confirm also (Sičáková- Beblavá & Beblavý,
2009:2) who note that constantly increasing in purchasing goods, services and
capital goods in the public sector.

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From the point of view of the overall structure of each indicators for each analyzed
year we can observe significant differences (see Figure 3). The high variability is
caused mainly by the occurrence of outlying respectively extreme values on both
sides of the result spectrum, the presence of which denied the hypothesis of a
normal distribution of results. In absolute terms, the best values, it means the best
financial management of municipalities we are looking at 2008 and 2009 (these
are the pre-crisis years in which the economy was in a relatively stable and good
shape). At the same time, with the progress of the years, there is an increase of the
homoscedasticity of the overall results (despite the fact that incomes and
expenditures of municipalities are permanently affected by many relatively
variable impacts). The most stable is the period 2010-2011 and 2016-2017,
although there are increasing differences in the analyzed set of district towns.

Absolute differences in the results for individual years can be monitored at the
level of individual moment characteristics (variation coefficient, variation range,
obliquity, sharpness, etc.). As statistically significant, differences in
homoscedasticity (LE = 6.8836; $p \leq 0.01$) were found to be consistent with the
mean values, it means median (W = 370,703; $p \leq 0.01$) or ANOM analysis (Figure
4). As all district towns exist under the same legislation, they manage the same
competencies, operate at the same stage of the political and economic cycle, the
differences should be as small as possible. But the widening of differences shows
the high impact of variable factors, especially the human factor (mayor, members
of town parliament), who manage the municipalities perhaps also in the context of
the political cycle.

From the point of view of individual towns, the town with the best average value
is Banská Štiavnica followed by Galanta and Stropkov (Table 2). These are small
district towns with a population of between 10 000 and 15 000. Banská Štiavnica
maintained the stable ratio between current and capital incomes, including foreign
sources per inhabitant, over the analysed period. The resulting situation was
caused, that the town to rise incomes from tourism and also to rise incomes from
foreign resources in particular from the structural funds that the town has received
for support of tourism. The town of Galanta, as Banská Štiavnica, maintained a
high level of current incomes. This rising was caused that to rise incomes from
real estate tax, but capital incomes were volatile. The town of Stropkov shows
stable current incomes per inhabitant, volatile capital incomes, and relatively high

foreign resources per inhabitant. We see that in the first tenth there are 4 towns that have been placed first place in at least one year. The majority, however, also saw the position at the end of the rankings in the analysed period. The most significant differences in placement reached, for example, the towns of Prešov and Rožňava, which in 2014, respectively, 2007 ranked first, but in the whole analysed period they in the lower quartile. The main reason is the minimum absolute differences in the overall evaluation of the CV-TOPSIS method (Figure 3), in which also the minimum improvement respectively a worsening of one of the 6 analysed indicators caused a change that was reflected as a shift in the rank ranking.

On the basis of the evaluation of the financial management of towns using the CV-TOPSIS method and the 6 input indicators, we see significantly differences between in individual towns in the individual years of the analysed period. This situation was caused by the application the different policies of the district towns, which results in changes of the analysed indicators.

Evaluation of the impact of the policy cycle on the overall results of MCDM analysis

During the analyzed period 2007-2017, the local elections took place in the conditions of local self- government in 2010 and 2014. Based on this fact, differences are observed between groups and also in the three groups of results (see methodology).

From the perspective of each year in each policy cycle, significant differences can be observed (Table 3), it means that no exist match of mean value nor scatter, it means that individual years in the political cycle do not show signs of homogeneity, which indicates that local self - governments are changing their policies just at the breakthrough of political cycles. When these results are combined and averaged, these differences will be highlighted (Figure 5). We can assume that the heterogeneity between political cycles is bigger than heterogeneity within self-governments, confirming the impact of the policy cycle on self- governments.

If at using the geometric mean of the yearly indices we choose 3+3 district towns with the highest or lowest stability of CV-TOPSIS results (Figure 6) it is not possible to identify the group to which the town belongs nor the differences between political cycles.

This phenomenon is closely related to the conditions in which the town operates, its location, but, in particular, the human factor who entering into the self-government as an elected representative within the framework of regular political cycles (based on campaign and voter's approach). It should be remembered that,

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according to (Krause & Méndez, 2005:755), the interests of politicians before
democratic elections are an important determinant of current policy. In our case,
we can rather count on the outcome of the election of irrational voters, as stated
by (Pajerská, 2012:4). In one of the Slovak district town (Vilinová et al.,
2016:849) notes that the voters' voting are variable and grow in successive political
cycles. Also in the German conditions (Foremny et al., 2018:21) tested the political
cycle in connection with the expenditures and they identified the significant
impact of the policy cycle on budget expenditures. The political cycle also affects
the award of contracts for the supply of goods and services between cities and
suppliers. (Sičáková – Beblavá & Beblavý, 2009:1) found that supply contracts
concluded in the year before the elections were closed for the longest period.

5   Conclusion

The evaluation of financial management of towns points to significant
heterogeneity, whether at the level of individual towns or when comparing the
results for individual years. It is not possible to identify the town that would
maintain a stable financial management in the long run, which, however, is very
difficult due to the changing economy of other towns. There are a many number
of factors that limit or support the financial management of town with a high
degree of variable impact. The research sample represented 49.28% of the total
number of sites analyzed. Although this sample is relatively small from the
statistical point of view, from the point of view of analyzed cities in the Slovak
Republic it is big enough to try to generalize the obtained results.

Our purpose was to to evaluate the impact of the political cycle on the financial
management of municipalities. The analysis showed that the political cycle and its
impact on the results of processed analyses cannot always be unequivocally
demonstrated, i.e. it is not possible to confirm the hypothesis set out in the
Introduction. On the basis of the evaluation of the financial management of towns
using the CV-TOPSIS method and the 6 input indicators, we see significantly
differences between in individual towns in the individual years of the analysed
period. This situation was caused by the application the different policies of the
district towns, which results in changes of the analysed indicators.

The variability of the results of individual towns is, in our opinion, also determined
by factors other than the choices themselves respectively political cycle. However,
this factor cannot be clearly rejected in further research. In the next research we
will try to get a higher number of responded towns, thus creating space for further
comparison of the obtained results. An important aspect of this research, as well
as the motivation, was to find out whether a truly political cycle has a significant
impact on the financial management of towns or is it a merely a subjective opinion
of the general public. On the basis of current results, the relationship between
national and local election results also seems to be an interesting aspect for future

research in this field in terms of the political facility of the elected local self -
government representatives (mayors, deputies).

Acknowledgment

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Appendix:

Table 1: Regression model TRM x YEAR, 1993 – 2017

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Model	3185.72	1	3185.72	501.85	0.00
Residual	146.003	23	6.35		
Total (Corr.)	3331.720	24			

Table 2: TOP 10 towns ranked by the average placement

	town	average	median	the best placement	the worst placement
1	Banská Štiavnica	12.64	8	1	34
2	Galanta	17.45	17	3	33
3	Stropkov	17.73	12	2	66
4	Spišská Nová Ves	20.27	19	1	39
5	Hlohovec	20.45	17	6	55
6	Snina	21.09	20	6	58
7	Sobrance	22.18	11	3	54
8	Námestovo	22.64	14	2	60
9	Žiar nad Hronom	22.73	16	1	47
10	Stará Ľubovňa	23.00	26	1	53

Table 3: Comparison of political cycles

		Homoscedasticity	Medium value
differences in groups	1st policy cycle	7.324 ($\leq$0,01)	108.348 ($\leq$0,01)
	2nd policy cycle	6.271 ($\leq$0,01)	118.758 ($\leq$0,01)
	The 3rd policy cycle	7.100 ($\leq$0,01)	107.320 ($\leq$0,01)
Differences between groups	---	3.335 ($\leq$0,05)	78.203 ($\leq$0,01)

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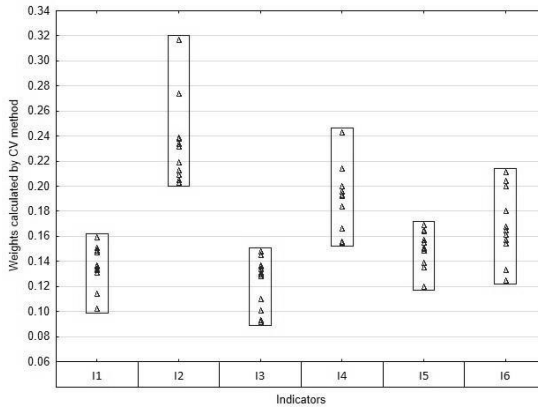**Figure 1:**   Weights of used indicators calculated using the CV method

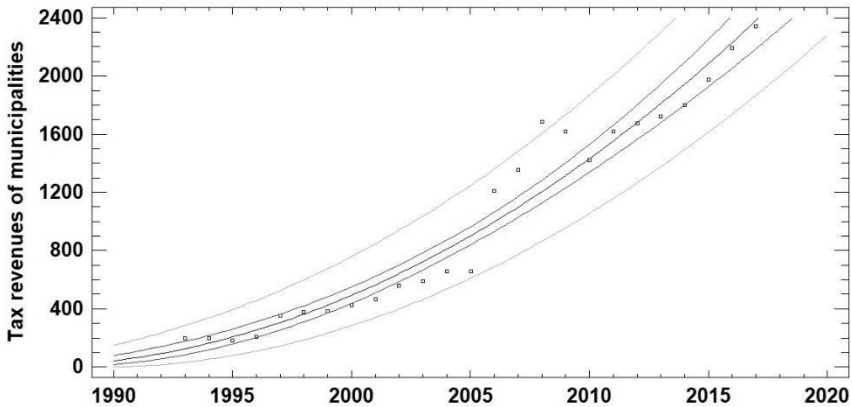**Figure 2:**   Regression model TRM x YEAR, 1993 – 2017

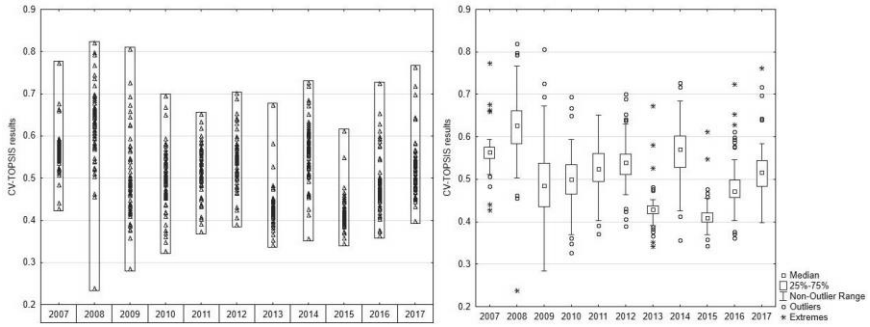**Figure 3:** Total results of CV-TOPSIS method for time period 2007 – 2017

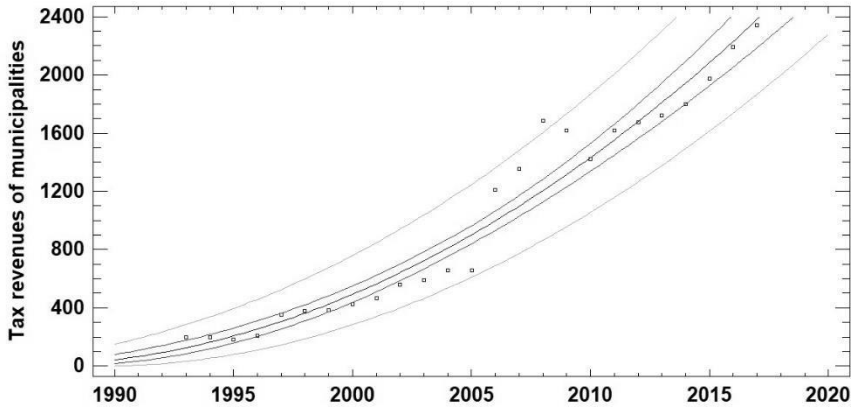**Figure 4:** ANOM analysis of the total results of CV-TOPSIS method for time period 2007 – 2017

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Figure 5: Box plot of average results in individual policy cycles
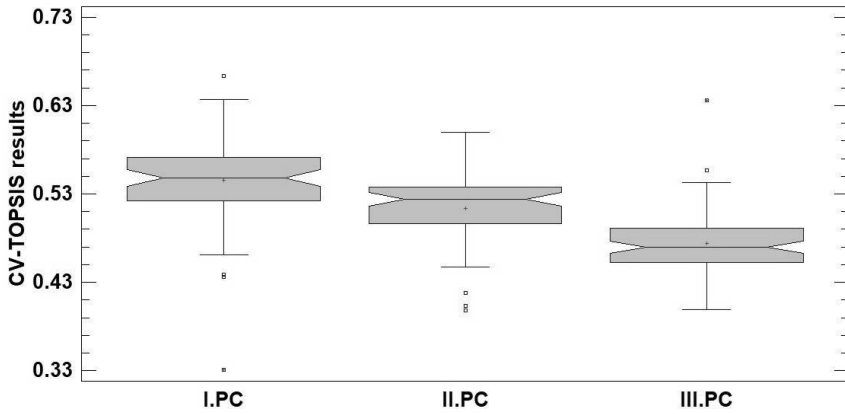
Figure 6: Box plot of average results in individual policy cycles in selected towns