

# THE ADMINISTRATIVE CAPACITY INDEX OF STATE ADMINISTRATION

**Prof. Borislav Borisov, PHD**

**Abstract:** This paper is based on a research conducted among 80 administration groups of the executive authority. The aim of the survey was to measure the administrative capacity of those groups by 44 indicators. Respondents were selected according to the structure of the state administration formed by the number of employees in each unit of administration. The findings of the research were analysed by computing the average values of the scores of capacity; by employing average weighted values and by determining the uncertainty factor when assessing the capacity of different structures of state administration. We have designed a new, aggregate index for measuring administrative capacity – the Index of the administrative capacity of state administration for good governance. By employing that index, we are able to monitor the systematic progress in terms of current concepts about administrative capacity, applicable to the entire system of state administration.

**Key words:** state administration, administrative capacity, good governance.

**JEL:** H0, H1, H7.

## Introduction

A number of strategic and programme documents emphasize the importance of the administrative capacity of state administration. These documents have been drawn up over the past twenty years in order to modernize state administration, increase its administrative capacity and ensure good governance.

The administrative capacity of the state administration relates to its ability to provide good governance of the state and has been the focus of extensive scientific research. Administrative capacity is a complex, latent and dynamic concept. It is complex since it comprises a number of individual elements that add to the meaning of the concept. It is also latent since administrative capacity is covert and cannot be measured directly, but only through measuring its constituents. Finally, the concept of administrative capacity is dynamic since it is constantly evolving.

Assessing the administrative capacity of state administration is a key issue as it has become obvious from numerous scientific publications dealing with the problem and the assessment methods and manuals, which have been designed lately. It is necessary to further explore this issue since the methods proposed so far take into consideration and assess individual aspects of the administrative capacity only. Even when seeking to be more comprehensive, such methods fail to provide an overall assessment of the capacity of the entire state administration and are therefore more applicable to assessing the administrative capacity of individual administrative units or organizations.

The tasks we set in this paper are:

1. To analyse the data collected through a survey assessing administrative capacity and to formulate conclusions about the state of administrative capacity, both in terms of the entire state administration and in terms of individual groups of administration;
2. To design an integral index which can be employed in assessing the administrative capacity of the state administration and which will render it possible to chronologically monitor the dynamics of building that capacity.

## **1. Major Parameters of the Empirical Research**

In order to assess objectively the available administrative capacity of the state administration, we conducted an empirical research in the period from September to November 2017. The research consisted of **three major stages**:

## **THE ADMINISTRATIVE CAPACITY INDEX OF STATE ADMINISTRATION**

Stage one included identifying the research subject and its structural elements; studying the regulatory framework that governs the operation of state administration and currently existing requirements to administrative capacity;

Stage two included designing a survey questionnaire;

Stage three included conducting the survey.

The number of people employed in state administration is nearly 10,000. They are employed in 10 major groups of administration of the central and territorial executive authorities. These groups differ in terms of their governance responsibilities; the regulations which govern their activity; their inner structure; their modes of operation, functions and number of employees. **Stage one**, therefore, included studying thoroughly the regulatory framework which governs the operation of state administration. We analysed seventy-nine Acts, Regulations and strategic documents that constitute the legal environment in which central and territorial administration units of the executive authority operate. The content analysis of these documents helped us clarify the competences of each administration, the requirements governing their operation and the results to be expected. We also defined different possible states of administration groups (excellent, good, satisfactory or unsatisfactory) and specified objective and verifiable indicators of each of these states. The main objective of the content analysis of researched normative documents was to ascertain their compliance with national and supranational good governance requirements and accomplishments. Stage one also included studying relevant good practices in the sphere.

**Stage two** of the empirical research included designing a questionnaire to conduct an online survey among state administration experts. The stage consisted of three sub-stages:

1. Compiling a questionnaire;
2. Testing the questionnaire in a real environment;
3. Reformulating and restructuring the questionnaire in order to make the questions easier to understand and answer;
4. Testing the new version of the questionnaire.

The final version of the questionnaire consisted of 44 questions whose objective was to assess the state of the administrative capacity in a

specific area, which could be approached as a separate component of administrative capacity.

**Stage three** of the empirical research included conducting the survey itself. The author of the paper conducted the research as part of Project 'Research of the Administrative Capacity of the Executive Authority', which was funded by D. A. Tsenov Academy and implemented in 2017.

Administrative capacity was assessed according to responses along the Likert scale, the scores ranging from 1 to 4. Scores ranging from 1 to 1.75 indicate an unsatisfactory state of the administrative capacity; scores ranging from 1.76 to 2.50 indicate a satisfactory state; scores ranging from 2.51 to 3.25 indicate a good state and scores ranging from 3.26 to 4.00 indicate a very good state of the administrative capacity.

## **2. Findings of the Empirical Research**

The analysis of the research findings indicates that the average score of all components of the administrative capacity for all groups of administration is 2.74, which is above the average for the dimension 1 to 4, i.e. it is above 2.5. The average minimum score for the 44 components of the administrative capacity is 1.33, while the average maximum score is 3.65. This means that the scores given by respondents to the different components of administrative capacity widely differed. This is quite logical since administrative capacity is a composite, rather than a homogeneous value, which cannot be measured directly, but through assessing its parameters.

The administrative capacity of the state administration was assessed by applying 44 criteria in different spheres:

1. Financial and organizational dependence on the central government (Criteria 1 and 2);
2. Management style (Criteria 3 and 4);
3. Planning practice (Criteria 5, 6 and 7);
4. Financial health (Criterion 8);
5. Budgeting process (Criteria 9, 10 and 11);

## THE ADMINISTRATIVE CAPACITY INDEX OF STATE ADMINISTRATION

6. Financial management and control (Criteria 12 to 16);
7. Risk management (Criteria 17 and 18);
8. Human resources management (Criteria 19 to 28);
9. Knowledge management (Criterion 29);
10. Management of internal work processes (Criterion 30);
11. Self-appraisal systems (Criterion 31);
12. Employing other modern management systems (Criterion 32);
13. Cooperation with the media (Criterion 33);
14. Work with target groups and social and economic partners (Criteria 34, 35 and 36);
15. Access to public information (Criterion 37);
16. Implementation of anti-corruption measures (Criterion 38);
17. Monitoring and assessment of public policies (Criterion 39);
18. Electronic governance (Criteria 40 to 44);

The scores for the assessed components of the administrative capacity have been presented in the figure below:

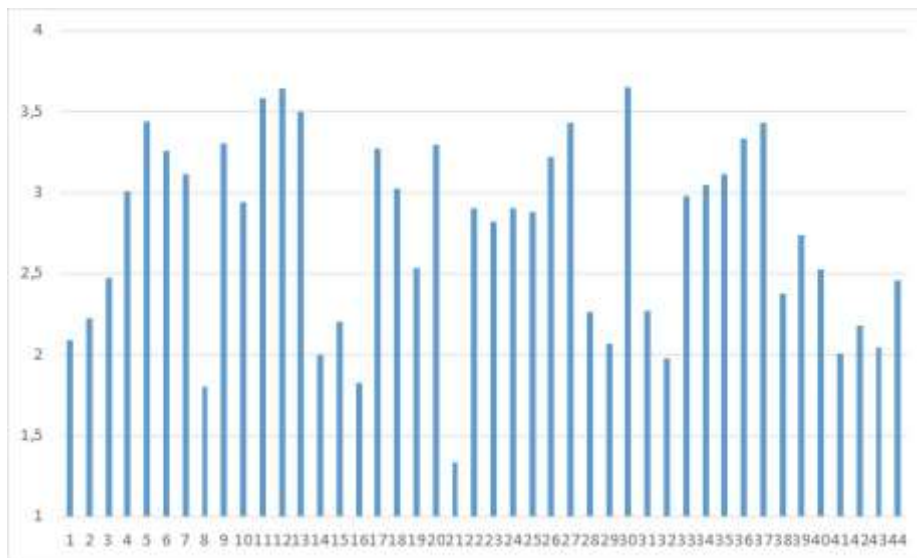
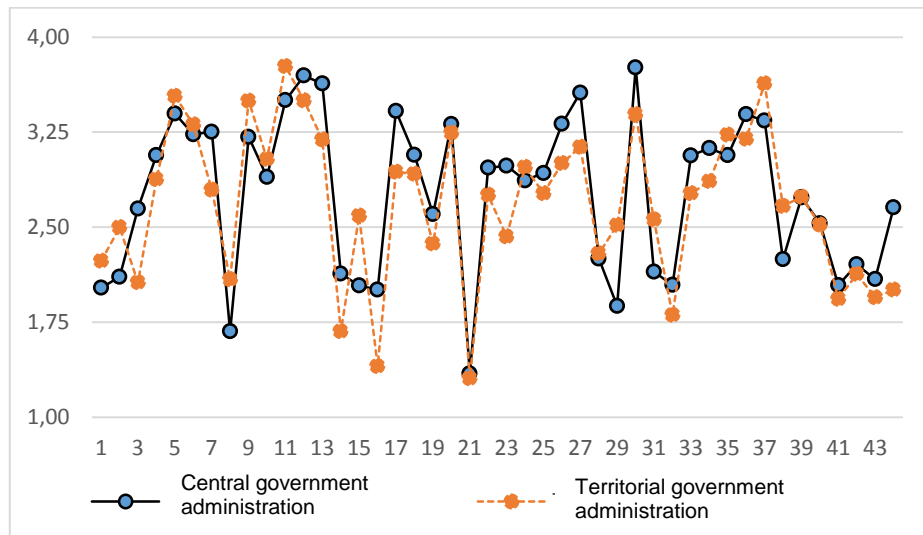


Fig. 1. Scores for the administrative capacity of the state administration by 44 components

The administration units of the executive authority (collectively referred to as a state administration) can be divided into two major groups – a Central Government Administration and a Territorial Government Administration. We sought to establish whether there would be some major differences between the scores of the administrative capacity of those two large groups of administration. The research that has been conducted indicates that the average score of the central government administration is 2.76, while that of the territorial administration is 2.68. The figure below illustrates those differences for the separate administrative capacity components:



*Fig. 2. Scores of the administrative capacity of central and territorial government administration by separate components*

The structures of the central government administration have their advantages over territorial government administration in terms of the management style they employ, their financial situation; exercised financial control, employees' professional qualifications, the training provided to the staff, the transparency of the decision-making process, employees'

## THE ADMINISTRATIVE CAPACITY INDEX OF STATE ADMINISTRATION

---

motivation and their overall management system, the employment of various modern governance systems, cooperation with the media, their focus on target groups, the online integration of inner business processes and customer relations.

In general, the capacity of territorial government administration groups is higher in terms of their autonomy and independence from the central government; the budgeting process; awareness about the essence of financial management and control systems; the knowledge-sharing culture established within the organizations and ensured access to public information.

We have gained a more clear insight after computing the average score of the administrative capacity of the state administration by attributing weights to the average scores in the 10 different groups, since the number of employees in some administration units is very high compared to the number of employees in others. Hence, their weight in the total average score of the administrative capacity is different, too. Therefore, we have approached their weights as the relative share of the number of employees in each structure. The weighted average score of the administrative capacity was 2.76 (see Table 1).

The uncertainty factor computed by applying Shannon and Weaver's formula about the quantity of information, which goes through any techno-economic management system, provides further information about the different levels of the administrative capacity in different administration units by components (Shannon & Weaver, 1964):

$$H(X) = -\sum_{i=1}^n P_i \cdot \log P_i$$

where:

$H(X)$  is the uncertainty of system  $X$ , described through the values of a single index or a number of indices;

$P_i$  is the probability that the system will be in condition  $i$ .

If the four conditions of each criterion are attributed values from 1 to 4, where 1 indicates an unsatisfactory condition, 2 indicates a satisfactory condition, 3 indicates a good condition and 4 – a very good one, the uncertainty factor will indicate the extent to which each aspect of the

administrative capacity is equally or differently developed in all researched administration units. The table below presents the computations of the uncertainty factor for the scores of administrative capacity in different areas:

*Table 1.  
Average score and average weighted score of the administrative capacity of the state administration*

Administration	Average score for the group	Weights	Weighted score
I. CENTRAL GOVERNMENT ADMINISTRATION			
I.1. Ministries and administration of the Council of Ministers	2.8734	7.18%	0.2062
I.2. State agencies	2.7705	3.30%	0.0915
I.3. State commissions	2.4841	0.57%	0.0142
I.4. Executive agencies	2.5334	14.79%	0.3747
I.5. Administrative structures which have been established through a normative act and whose functions relate to exercising executive power	2.7823	24.28%	0.6756
I.6. Administrative structures which have been established through a normative act and which report to the National Assembly	2.7522	7.20%	0.1981
I.7. Structures established in compliance with Art. 60 of the Administration Act	3.1250	0.44%	0.0137
II. TERRITORIAL GOVERNMENT ADMINISTRATION			
II.1. Municipal administrations	2.8814	34.29%	0.9879
II.2. District administrations	2.6250	1.11%	0.0292
II.3. Specialised territorial administrations established as legal entities through a normative act	2.5455	6.84%	0.1741
<b>Total for the entire state administration</b>	<b>2.7373</b>	100%	<b>2.7653</b>



## THE ADMINISTRATIVE CAPACITY INDEX OF STATE ADMINISTRATION

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*Table 2.*  
*Values of the uncertainty factor for the scores of the different components of administrative capacity*

Questi	1	2	3	4	5	6	7	8	9	1	1
Uncertai	0.5577	0.4737	0.4921	0.4440	0.369	0.4858	0.4309	0.5425	0.4769	0.5810	0.2589
Questi	1	1	1	1	1	1	1	1	2	2	2
Uncertai	0.3521	0.3555	0.4138	0.5178	0.4813	0.5061	0.4589	0.4998	0.4443	0.3086	0.5390
Questi	2	2	2	2	2	2	2	3	3	3	3
Uncertai	0.5514	0.46	0.3937	0.4913	0.4191	0.4863	0.5289	0.3547	0.5365	0.4965	0.4774
Questi	3	3	3	3	3	4	4	4	4	4	4
Uncertai	0.4435	0.4789	0.4221	0.5860	0.526	0.4845	0.5541	0.5330	0.5408	0.5904	

As the table indicates, the highest uncertainty factor is that of the scores for:

- The degree to which an administration depends on the government. This could be partially explained with the fact that the operation of central government administration and of deconcentrated state administration structures is presumably more strongly determined by the central government than the operation of decentralized administration structures;
- The financial health and the availability of sufficient funds for the operation of administrations;
- The percentage difference between the planned budget and the budget statement;
- Providing professional development training to employees;
- Implementation of anti-corruption measures;
- The policy towards introducing electronic governance;
- The use of electronic devices for communicating with customers and other stakeholders;

The areas in which the different organizations have similar scores of their administrative capacity are:

- Clearly set strategic and operational goals;
- Adopted internal rules for budget development;

- The practice of assuming financial obligations;
- The practice of exercising internal control on expenditure. We need to point out that the last three areas refer to the implementation of a financial management and control system, which is a requirement set in two Acts and several regulations;
- The practice to register any violations of ethical norms. A more careful examination of the responses to this question reveals that similar answers are not due to the availability of established procedures for registering violations of the Codes of Ethics or available guidelines for dealing with them, but to the lack of such procedures;
- Transparency of the decision-making process and employee's involvement in decision-making;
- Work process management, including the implementation of Business Process Management.

### 3. The Administrative Capacity Index

The different average scores for administrative capacity over the years reflect the changes in that capacity. At the same time, they are not fully indicative of the dynamics of the administrative capacity built over time, as these scores are not registered in comparison to some baseline values but reflect changes in comparison to previous years. Another issue is that of structural changes resulting in changes in the relative share of the number of employees in the different groups of administration as this, too, distorts the scores and renders them difficult to compare.

Employing **the index method** has helped overcome the shortcomings of this method for assessing comprehensively the administrative capacity of the ten groups of administration by all 44 criteria by computing an average weighted score.

We have adopted as a baseline the first year in which the administrative capacity was assessed. The value of that baseline could equal 1, 10, 100 or any other number. Since the computations in this paper are based on real data collected through an empirical survey conducted in

## **THE ADMINISTRATIVE CAPACITY INDEX OF STATE ADMINISTRATION**

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2017, we adopted the year 2017 as a baseline and denoted it by  $T_0$ . Each following year was denoted with an index with a consecutive number, i.e.  $T_1, T_2, T_3$ , etc. or with an index which was the same as the relevant year, for example,  $T_{2018}, T_{2019}$ , etc. After multiplying the baseline by the ratio between current and previous scores, we produced an index of the 'capitalisation' of the administrative capacity score. We will further refer to that index as the **Administrative Capacity Index (ACI)**.

The formula employed to compute the Administrative Capacity Index is:

$$ACI_{T_1} = N \times \frac{\overline{ACV}_{T_1}}{\overline{ACV}_{T_0}},$$

where:

$ACI_{T_1}$  is the Administrative Capacity Index for year  $T_1$ ;

$N$  is the number adopted as a baseline;

$\overline{ACV}_{T_1}$  is the average score of the administrative capacity for year  $T_1$ , computed as the average weighted value for all groups of administration by all capacity assessment criteria;

$\overline{ACV}_{T_0}$  is the average score of the administrative capacity for year  $T_0$ , computed as the average weighted value for all groups of administration by all capacity assessment criteria;

When adopting 100 (units) as a baseline, we computed the index for the year 2018 based on that baseline, and that for the year 2019 – based on the index for the year 2018. The indices for future years can be computed in the same manner. When the index of administrative capacity grows, its value may exceed 100. When the index declines, its value may drop below the baseline of 100 units.

$$ACI_{T_{2018}} = 100 \times \frac{\overline{ACV}_{T_{2018}}}{\overline{ACV}_{T_{2017}}},$$

Where:

$ACI_{T_{2018}}$  is the Administrative Capacity Index for the year 2018;

$\overline{ACV}_{T2018}$  is the average score of the administrative capacity for the year 2018, computed as the average weighted value for all groups of administration by all capacity assessment criteria;

$\overline{ACV}_{T2017}$  is the average score of the administrative capacity for the year 2017, computed as the average weighted value for all groups of administration by all capacity assessment criteria.

Here is an example: let us assume that based on a survey conducted in 2018, the computed average score of the administrative capacity of the state administration is 2.7860. As we know, the real score for the year 2017 was 2.7659. The Administrative Capacity Index for the year 2018 will then be:

$$ACI_{T2018} = 100 \times \frac{2.7860}{2.7659} = 100.7627$$

Should positive reforms be initiated in order to modernize the administration and increase its capacity both on a national scale and within each administration group, this would have a favourable impact on the average score for the year 2019. Let us assume that in our example the average score for the year 2019 is 2.8305. The Administrative Capacity Index for the year 2019 will then be

$$ACI_{T2019} = 100.7627 \times \frac{2.8305}{2.7860} = 102.3721$$

In contrast to other popular methods of assessing the administrative capacity, this method does not rely on fixed criteria, which are not liable to variations or are employed for decades. With the Organisational Capacity Assessment (OCA) and the Holistic Organizational Capacity Assessment Instrument (HOCAI), for instance, assessment is based on fixed criteria. The same applies for Public Expenditure and Financial Accountability (PEFA), although some new criteria were introduced in 2016. Even the Common Assessment Framework (CAF) is based on 28 established criteria.

## THE ADMINISTRATIVE CAPACITY INDEX OF STATE ADMINISTRATION

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*Table 3.*  
*The average score and average weighted score of the administrative capacity for year  $T_{2019}$  (an example)*

Administration	Average score for the group	Weights	Weighted score
I. CENTRAL GOVERNMENT ADMINISTRATION			
I.1. Ministries and administration of the Council of Ministers	2.8734	7.18%	0.2063
I.2. State agencies	2.7705	3.30%	0.0914
I.3. State commissions	2.4841	0.57%	0.0142
I.4. Executive agencies	2.9855	14.79%	0.4416
I.5. Administrative structures which have been established through a normative act and whose functions relate to exercising executive power	2.7755	24.28%	0.6739
I.6. Administrative structures which have been established through a normative act and which report to the National Assembly	2.7522	7.20%	0.1982
I.7. Structures established in compliance with Art. 60 of the Administration Act	3.1250	0.44%	0.0138
II. TERRITORIAL GOVERNMENT ADMINISTRATION			
II.1. Municipal administrations	2.8814	34.29%	0.9880
II.2. District administrations	2.6250	1.11%	0.0291
II.3. Specialised territorial administrations established as legal entities through a normative act	2.5455	6.84%	0.1741
<b>Total for the entire state administration</b>	<b>2.7818</b>	100%	<b>2.8305</b>

When computing the ACI, it is possible to annually change the number and contents of employed criteria, since administrative capacity is not a rigid concept but a dynamic feature whose contents is to be broadened and updated in line with the latest accomplishments in public management. An essential element is computing average weighted scores, which will be employed in the Index formation.

This, however, is not the case when there are structural changes in the shares of employees in different administration groups as such changes will also determine the relative weights employed to compute the average weighted score. A change in the structure of employees in different administration groups will affect the score of the administrative capacity. Here is an example: let us assume that these are the findings of the survey conducted in  $T_{2020}$  (see Table 4).

*Table 4.*  
*The average score and average weighted score of the administrative capacity for year  $T_{2020}$  (an example)*

Administration	Average score for the group	Weights	Weighted score
I. CENTRAL GOVERNMENT ADMINISTRATION			
I.1. Ministries and administration of the Council of Ministers	2.99	8.40%	0.2512
I.2. State agencies	2.7705	3.30%	0.0914
I.3. State commissions	2.4841	0.57%	0.0142
I.4. Executive agencies	2.55	13.54%	0.3453
I.5. Administrative structures which have been established through a normative act and whose functions relate to exercising executive power	2.865	25.25%	0.7234
I.6. Administrative structures which have been established through a normative act and which report to the National Assembly	2.8432	6.76%	0.1922
I.7. Structures established in compliance with Art. 60 of the Administration Act	3.05	0.68%	0.0207
II. TERRITORIAL GOVERNMENT ADMINISTRATION			
II.1. Municipal administrations	2.88	36.18%	1.042
II.2. District administrations	2.85	1.11%	0.0316
II.3. Specialised territorial administrations established as legal entities through a normative act	2.96	4.21%	0.1246
<b>Total for the entire state administration</b>	<b>2.8243</b>	<b>100%</b>	<b>2.8366</b>

## **THE ADMINISTRATIVE CAPACITY INDEX OF STATE ADMINISTRATION**

Clearly, the average score of the administrative capacity increased from 2.8305 in 2019 to 2.8366, i.e. the average score of the administrative capacity went up, if only slightly. Yet, in the period from 2019 to 2020, there were structural changes which affected the relative share of the different groups of administration (the percentage of their employees) in the total number of employees in state administration. In order to render the scores of the administrative capacity for the two consecutive years comparable, we need to employ the same weights. We will therefore introduce into the formula an adjustment ratio equal to the ratio between the baseline score for the year 2019 and the same score, yet computed as the average weighted score with the new relative shares for the year 2020 (see Table 5).

*Table 5.*

*The average weighted score of the administrative capacity for year  $T_{2019}$ , the weights corresponding to the structure of the administration in year  $T_{2020}$*

Administration	Average score for the group	Weights	Weighted score
<b>I. CENTRAL GOVERNMENT ADMINISTRATION</b>			
I.1. Ministries and administration of the Council of Ministers	2.8734	8.40%	0.2414
I.2. State agencies	2.7705	3.30%	0.0914
I.3. State commissions	2.4841	0.57%	0.0142
I.4. Executive agencies	2.9855	13.54%	0.4042
I.5. Administrative structures which have been established through a normative act and whose functions relate to exercising executive power	2.7755	25.25%	0.7008
I.6. Administrative structures which have been established through a normative act and which report to the National Assembly	2.7522	6.76%	0.186
I.7. Structures established in compliance with Art. 60 of the Administration Act	3.125	0.68%	0.0213
<b>II. TERRITORIAL GOVERNMENT ADMINISTRATION</b>			
II.1. Municipal administrations	2.8814	36.18%	1.0425
II.2. District administrations	2.625	1.11%	0.0291
II.3. Specialised territorial administrations established as legal entities through a normative act	2.5455	4.21%	0.1072
<b>Total for the entire state administration</b>	<b>2.7818</b>	100%	<b>2.8381</b>

To compute the Administrative Capacity Index, we use the formula:

$$ACI_{t2020} = ACI_{t2019} \times K \times \frac{\overline{ACV}_{t2020}}{\overline{ACV}_{t2019}},$$

Where:

$$K = \frac{\overline{ACV}_{2019}}{\overline{ACV}_{2019cor}},$$

In which:

$\overline{ACV}_{2019cor}$  is the average score of the administrative capacity of the state administration for the year 2020, adjusted with the relative weights of the number of employees in each group of administration in the year 2021.

Hence:

$$ACI_{t2020} = ACI_{2019} \times \frac{\overline{ACV}_{2019}}{\overline{ACV}_{2019cor}} \times \frac{\overline{ACV}_{t2020}}{\overline{ACV}_{t2019}}$$

or

$$ACI_{t2020} = ACI_{2019} \times \frac{\overline{ACV}_{t2020}}{\overline{ACV}_{t2019cor}}$$

Thus the Administrative Capacity Index for the year 2020, computed by applying the conventional formula, without taking into account structural changes, will be:

$$ACI_{T2020} = 102.3721 \times \frac{2.8366}{2.8305} = 102.5927,$$

which indicates a minimum growth.

Adjusted with the changes in the relative share of the number of employees in the different groups of administration, however, the Index will be:

$$ACI_{T2020} = 102.3721 \times \frac{2.8366}{2.8381} = 102.3180,$$

which indicates a minimum decrease in the value of the Index.

We could compute the Administrative Capacity Index for a particular group of administration or for any administration in a similar manner. Let us now compute the ACI for three groups of administration – municipal administrations, district administrations and executive agencies –



## THE ADMINISTRATIVE CAPACITY INDEX OF STATE ADMINISTRATION

on the basis of data collected through surveys for the year 2017 and assumed data for the year 2018.

$$ACI_{T2018}^{munic.} = 100 \times \frac{2.8700}{2.8814} = 96.6044$$

$$ACI_{T2018}^{district} = 100 \times \frac{2.6250}{2.6250} = 100.0000$$

$$ACI_{T2018}^{exec.ag.} = 100 \times \frac{2.8100}{2.5334} = 110.9181,$$

Where:

$ACI_{T2018}^{munic.}$  is the Administrative Capacity Index of municipal administration in 2018;

$ACI_{T2018}^{district}$  is the Administrative Capacity Index of district administration in 2018;

$ACI_{T2018}^{exec.ag.}$  is the Administrative Capacity Index of executive agencies in 2018;

In this case, the value of the Administrative Capacity Index of municipalities will have declined; that of district administration will have remained stable, while that of executive agencies will have gone up. Depending on the total average score for all groups of administration and their different weights, the total ACI for the year 2018 would equal 100.7627.

### **Conclusion**

In result of the theoretical considerations above, we could draw the following **conclusions**:

1. Assessing the administrative capacity of state administration should not be confined to general descriptions, but must employ relevant indexes;

2. A specific aggregate index for assessing the administrative capacity of state administration (an Administrative Capacity Index) may be designed to indicate the overall system progress in terms of its capacity for good governance capacity. That aggregate index may also be applied to the whole system of state administration;
3. In addition to the aggregate index of administrative capacity, it is possible to compute sector indices applicable to specific groups of structures within the executive authority, as well as organizational indices applicable to specific organisations only;
4. One of the advantages of computing the Administrative Capacity Index for the state administration by applying the model we propose is that it makes possible to compare indices when there are structural changes in the ratio between the different groups of administration. This method also makes it possible to analyse progress in terms of the separate components of administrative capacity and to identify the organisations and groups with the highest indices or with the highest (or lowest) registered growth in the value of the index over the researched period;
5. By computing the administrative capacity indices it is possible to monitor growth in terms of developing the capacity for good governance within the structures of state administration; identify existing weaknesses and provide guidelines for further improvement.

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# **BUSINESS** management

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## **CONTENTS**

### **MANAGEMENT practice**

#### **THE ADMINISTRATIVE CAPACITY INDEX OF STATE ADMINISTRATION**

Prof. Borislav Borisov, PHD..... 5

### **MANAGEMENT**

#### **THE CORE COMPETENCES OF POLISH INDUSTRIAL ENTERPRISES**

Assoc.Prof. Dariusz Nowak, PhD..... 23

### **ACCOUNTING and audit**

#### **PROFESSIONAL COMPETENCE FOR USING ACCOUNTING ESTIMATES IN CORPORATE FINANCIAL STATEMENTS**

Assoc. Prof. Valentina Staneva, PhD ..... 44

#### **POSSIBILITIES FOR OPTIMIZING THE REPORTING OF MONETARY FUNDS IN THE BANK ACCOUNTS OF BUDGETARY ORGANIZATIONS**

Assist. Prof. Radi Stefchov Dimitrov, PhD ..... 54

### **INFORMATION AND COMMUNICATIONS technologies**

#### **HOW TO ADD VALUE TO BUSINESS BY EMPLOYING DIGITAL TECHNOLOGIES AND TRANSFORMING MANAGEMENT APPROACHES**

Natalia Altukhova, Ph.D.

Prof. Elena Vasileva, DEc

Prof. Vitaliy Yemelyanov, DScTech ..... 71

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