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International Consortium on Governmental Financial Management

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"Working globally with governments, organizations, and individuals, the International Consortium on Governmental Financial Management is dedicated to improving financial management so that governments may better serve their citizens"

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General Information

"Working globally with governments, organizations, and individuals, the International Consortium on Governmental Financial Management is dedicated to improving financial management so that governments may better serve their citizens."

Our mission includes three key elements. First, it highlights that, within the international community, the International Consortium on Governmental Financial Management (ICGFM or the "Consortium") is unique - it serves as an "umbrella" bringing together diverse governmental entities, organizations (including universities, firms, and other professional associations), and individuals. At the same time, it welcomes a broad array of financial management practitioners (accountants, auditors, comptrollers, information technology specialists, treasurers, and others) working in all levels of government (local/municipal, and national). Additionally the mission statement emphasizes the organization's commitment to improving government infrastructure so that needs of the people are better met. Our programs provide activities and products to advance governmental financial management principles and standards and promote their implementation and application.

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1. Sustaining Members: organizations promoting professional development, training, research or technical assistance in financial management; willing to assume responsibility for and to actively participate in the affairs of the Consortium. Each Sustaining Member has a seat on the ICGFM Board of Directors. (Dues: $1,000)

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3. Individual Members: persons interested in or dedicated to activities directly related to financial management and who wish to be members in their own right. Six members of the ICGFM Board of Directors will be selected from among all individual members. (Dues: $100/$50*)

4. Student Members: persons enrolled at a college or university who are interested in financial management are eligible and will enjoy the benefits of Individual Members. (Dues: $25/$15*)

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Foreword

The reliability of information and inter-organizational cooperation are the determinants of effectiveness. In this issue of the Journal, we focus attention on issues related to the effectiveness of the individual organization, as well as the macrostructures - the States.

The common denominator of the presented considerations is to improve the functioning of the state, and thus the economy and the lives of ordinary citizens. The presented considerations formulated by European authors are universal, and the problems seem to be current in different parts of our Globe.

The first article addresses theoretical and applicative issues concerning validation, design and implementation of mathematical economic models for forecasting of fiscal policy regional and national effects in an emerging economy (in the case of Ukraine). Such forecasting requires proper data. Meanwhile, economic data can be distorted because of the shadow economy. In such a situation, it is difficult to correct results of modeling of future economic changes.

In the second article, the author notes that an efficient accounting system favors the creation of the accurate information. Reliability of information is also a factor in creating trust, especially when it is realized that the parties to a contract are always characterized by opportunism. This article draws attention to the problem of corruption which interferes with the transmission of information, reduces the level of trust, disturbs the institutional balance and increases transaction costs. The article presents the structured approach to diagnose organizational pathology.

The role of Non-Governmental Organizations in implementing good governance is underlined in the third article. The author notes that NGOs could be helpful in pursuing governments and civil society to implement good governance in public and private sector. However, the NGOs need to reexamine the way they operate - in many societies they need to improve their independence and transparency. Nongovernmental organizations can indeed serve to the society, especially in a time when governmental bodies are withdrawing from direct delivery of public services, goods and programs.

We hope the articles in this issue will stimulate discussion on contemporary problems of public organizations. If you would like to participate in such discussions please start thinking about contributions for the next issue of this Journal, participating in the ICGFM blog, and/or attending future ICGFM events. We would also be pleased to receive reviews and suggestions of other resources that we should refer to in future issues. Send them to icgfm@icgfm.org.

We look forward to hearing from you!

Prof. PWSZ. Zbyslaw Dobrowolski	**Cordell Olive**	**Manuel Pietra**
Editor	*Vice President of Communications*	*President*

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Subnational Public Financial Management in Ukraine: Designing and Implementing Fiscal Decision Support System

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Abstract

The article addresses theoretical and applicative issues concerning validation, design and implementation of mathematical economic models for forecasting of fiscal policy regional and national effects in an emerging economy (in case of Ukraine).

The theoretical framework integrates inductive and deductive epistemological bases. Proceeding from the emerging economy specifics and the mid-term forecasting purpose, a rationale is provided for using the System Dynamics modeling approach rather than AM or CGE in case of sub-nationally detailed economic modeling.

Information distortion challenges due to shadow economy and imperfect national statistics system have required to develop the relevant data adjustment tools, especially in taxation modeling.

The model set presented comprises real sector, financial sector, public sector and population. Particular models and causal chains are specified.

The overall decision support system developed is compliant with MTBF and top-down budgeting as these require accurate disaggregate mid-term fiscal forecasts and advanced policy analysis tools. It enables to create and update databases, to produce and to analyze mid-term scenarios facilitated with visual interface, and, finally, to assess the regional and nation-wide economic impact of various economic and financial regulators.

1. Introduction

Cost-effective and socially equitable fiscal policy is one of the key drivers of steady national development. However, current situation in Ukraine is the following: the state agencies that make decisions on economic legislature and policy change have no tools for calculating economic scenarios and for predicting at least the mid-term consequences of their actions. As the fiscal policies are up to hand control, their results misfit the expectations of the government and public and create the atmosphere of government institutions distrust. The existence of such an atmosphere was demonstrated by the wave of protests of small and middle business representatives that took place in the country in 2010 during the preparation and adoption of the Tax Code of Ukraine.

The scientific foresight of fiscal policies impact cannot be based only on the historic analysis of actual data and given tendencies. It demands the special tools like simulation models. Three classes of models are generally used to simulate the consequences of economic policies: accounting models (AM), computable general equilibrium models (CGE), and system dynamics models (SD). The AM-model examples are Financial Planning Framework (IMF) and Revised Minimum Standard Model-Extended (World Bank) (Model Building: RMSM-X Reference Guide, 1995). Examples of CGE-models are the "Dynamic Revenue Analysis for California"

(USA) (Dynamic Revenue Analysis for California, 2013) and "Russia: Centre - Federal District" (RF). The examples of SD-type of models are World3 (Meadows D.H. and Jorgen R., 2004), (Forrester J. W., 1970) and Threshold 21 (Bassia A.M. and others, 2009).

However the referenced models do not account for the regional specificity and (or) the institutional features of an emerging economy comprehensively. Thus it was crucial to design an information analysis system for sub-national fiscal decision making that would cover the specific features of the Ukrainian economy.

The system should include:

mathematical models of oblast (regional) economies,

databases for model building and checking,

software that facilitates user interface,

and overall system management orgware.

2. Idea of the system

The core idea of the Information analysis system for budget process support (IASBP) lies in creating a coherent set of databases and software for regional and nation-wide fiscal policy impact evaluation.

It is supposed that IASBP users (deputies of Verkhovna Rada, central and regional officials) will get an opportunity to design and analyze the scenarios of regional and national economy dynamics under selected parameters of regulators (e.g. under current and changed taxes, under current and new natural gas prices, etc.) (Figure 1). The system is supposed not to produce recommendations on target-setting and decision making, but to provide the information needed for this[2].

The basic modeling object in IASBP is an oblast economy (Figure 1). An oblast is the main administrative and territorial unit of Ukraine and the largest sub-national territorial unit of the budget system.

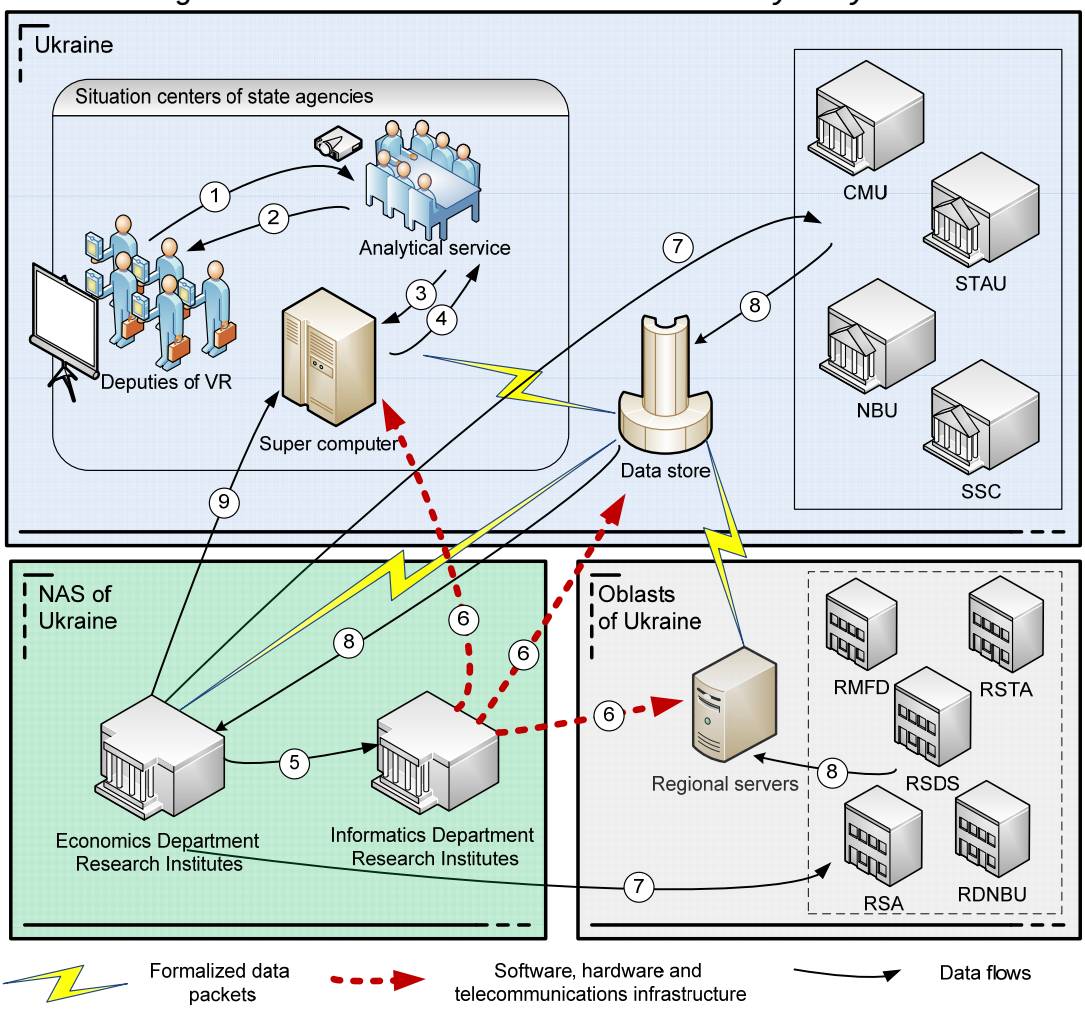
The economy of each oblast is a dynamic system that functions in specific Ukrainian institutional environment, which is characterized by persistent formal and informal rules (legal, social, political, etc). That is why taking into account the peculiarities of the system is a necessary condition for the adequate modeling of its behavior under fiscal policy impacts.

[2] As M. Allais says: "The aims can be revealed only by functioning of political system, in procedures that differ from country to country in one or another epoch. Meanwhile, the same problem is solved – the achieving of compromise between different citizens' aspirations, and as usual, the aspirations are contradictory.

As to an economist, he/she can answer only two questions: 1. Are the aims compatible with each other? 2. Are the used means the best to achieve the aims set? Economics does not define the choice; it only gives the scientific information according to which the reasonable choice of aims should be made.

It is a dangerous error to think that economics can help to work out scientific decisions. The models that are developed under operational research cannot give managers any ready-made solutions. They can just define the consequences of the decisions, given the assumptions accepted. The same is the case for the models that are developed by planning offices for their governments (Allais M., 1964)".

Figure 1. Structure of the information analysis system



Legend

1 – Request for forecast

2, 4 – Forecasts

3 – Scientific specification of inquiries

5 – Mathematical economic models

6 – Software, hardware, telecommunications infrastructure

7 – Primary data inquiry

8 – Primary data

9 – Models parameterization

CMU – Cabinet of Ministers of Ukraine

NBU – National Bank of Ukraine

SSC – State Statistics Committee

STAU – State Tax Administration of Ukraine

RMFD – Regional Main Financial Departments

RSTA – Regional State Tax Administrations

RSDS – Regional State Department of Statistics

RSA – Regional State Administrations

RDNBU – Regional Departments of NBU

In particular, it should be taken into consideration that:

1) Real sector enterprises are the backbone of Ukrainian oblast economies. They create the major part of the added value and make the major contribution to all budgets. In the case of Donetsk oblast, these are large metallurgical, machine building, coal mining and trade

enterprises. That is why the real sector models should make the core of the fiscal policy regional impact research program;

2) Ukraine is a market economy; however, in contrast to developed postindustrial countries, it is an emerging one, and has the relevant institutions in stage of formation, which cannot perform the set of functions typical for developed countries. Hence, inter alia, it makes no sense to model the stock market: the trading volume is not large, and it is not directly related to economic development financing (it is used, to a greater extent, as a property redistribution tool);

3) The economic agents' activities base on the settled informal standards of behavior (tax evasion, using corruption for business issues resolution, etc). In some cases, in addition to the usual transformation costs (resources spent to transform raw materials into finished products), the activities are associated with high transaction costs (intellectual property protection, contract enforcement, search of information, etc.);

4) Besides the formal economy, the results of which are reflected in accounting and financial reports, there exists a large shadow economy, the activities hidden from the state and out of state accounting and control.

3. Modeling methodology

Each method of dynamic systems modeling has its own scope and is used in such situations in which it can give an explanation (why something happens), or understanding (how it happens) of investigated phenomena. However, the scopes may overlap, and then the prerequisites for the synthesis of various methods emerge.

In the study of the forms of human behavior that determine the allocation of scarce resources to alternative purposes (the range of economic science according to L. Robbins, 1935), it is important to note that: "... a mode of existence of "goods" and the mechanisms of their "disposal" are institutional by nature" (Searle J. R., 2005), defined by the settled institutions' features).

Institutions are not something unalterable, given for the last time. They are changeable, inheritable and selectable as well. At the same time, in some economic sectors some social technologies are more developed, in others are less. In particular, it is well evident in transformation economies, where many elements of market system have not formed yet for various reasons.

If economic agents operate under streamlined stable socio-political practical procedures, "within the rules", their mode of behavior is easier (more economical) to simulate using hypothetical and deductive methodology, taking descriptively simplified neo-classical assumptions, including the rational behavior under the condition of full awareness (provided that the results of such modeling are empirically confirmed)[3].

[3] It is important to emphasize that the usual criticism of the neoclassical premises of rational behavior and full awareness of the economic agents, as unrealistic, is not always appropriate. Point is that "unrealistic" may be understood at least in two ways: as unexhaustive description of reality, and as erroneous, false one (Nagel E., [1963]). It is obvious that the above mentioned assumptions not always can be called false, because in certain circumstances, economic agents are really well informed and act rationally. Therefore, these conditions are to be considered incomplete in the sense that they abstract away from the complexity of the empirical world, for a more precise description of which additional conditions are usually required (Kanazawa S., [1988]). This incompleteness makes sense, since a theory is considered to be the more fruitful the fewer premises it uses. As noted by M. Friedman: "A hypothesis is important if it "explains" much by little, that is, if it abstracts the common and crucial elements from

If we consider a sphere of activity where any sustained procedure of social and political practices is absent, and there is the problem of "rules choice", then the best modeling approach is the experimental and inductive one, involving the search for patterns of behavior in the circumstances, that reflect economic realities, rather than some postulated rationality (under the mentioned condition of empirical confirmation)[4].

Again, relatively localized areas with variously developed institutions are present within an evolving oblast economic system. Whereas different research techniques are relevant to model the particular parts of a unified system, therefore different methods are possible and necessary to be used within a unified model of oblast economy. In this sense, the contradiction between the predominantly deductive neoclassicism and the mostly inductive institutionalism is losing its relevance. Therefore, the IASBP modeling of, for example, production output (when usual "industrial" problem of the best use of limited resource supply within the established production rules is solved) is based on aprioristic neoclassical production function; while the modeling of investment (when one needs to choose the avenues for future business development under the increased uncertainty in transformation economy) is based on inductive methods for posterior patterns detection from the primary "chaos" of statistic data.

Three classes of models are generally used to simulate the consequences of economic policies: accounting models (AM), computable general equilibrium models (CGE), and system dynamics models (SD). SD-modeling was used as a basis to develop IASBP. This choice stems from the purpose that is to assess not immediate but midterm (i.e., several years) impact of alternative decisions in fiscal policy. SD-models, as it follows even from their name, fit the purpose better than AM and CGE-models.

Second, whereas the IASBP simulation objects are particular oblast economies, which are obviously more open systems than a national economy (production and consumption are not confined within the regions), therefore the market equilibrium and market clearing assumptions of AM-and CGE-models are not realistic in this case.

Third, the problems of the economic agents' behavior variability and the damping of finite-difference equations have no fundamental significance for mid-term period.

Among the IASBP SD-models there are the models of objects and models of their behavior under the influence of economic and financial regulators.

4. General characteristics of the model set

IASBP model set is divided into two groups: 1) object models (mathematical analogs of objects and phenomena that make up an oblast economy) and 2) models of financial and economic regulators (mathematical equivalents of the regulation entities' actions that affect the social and economic processes in an oblast economy to achieve target parameters).

Object models, in turn, comprise the models of agents and models of markets (Figure 2).

Models of agents. There are four types of economic agents in IASBP: real sector enterprises (A1), financial sector institutions (A2), public sector organizations (A3) and population (A4).

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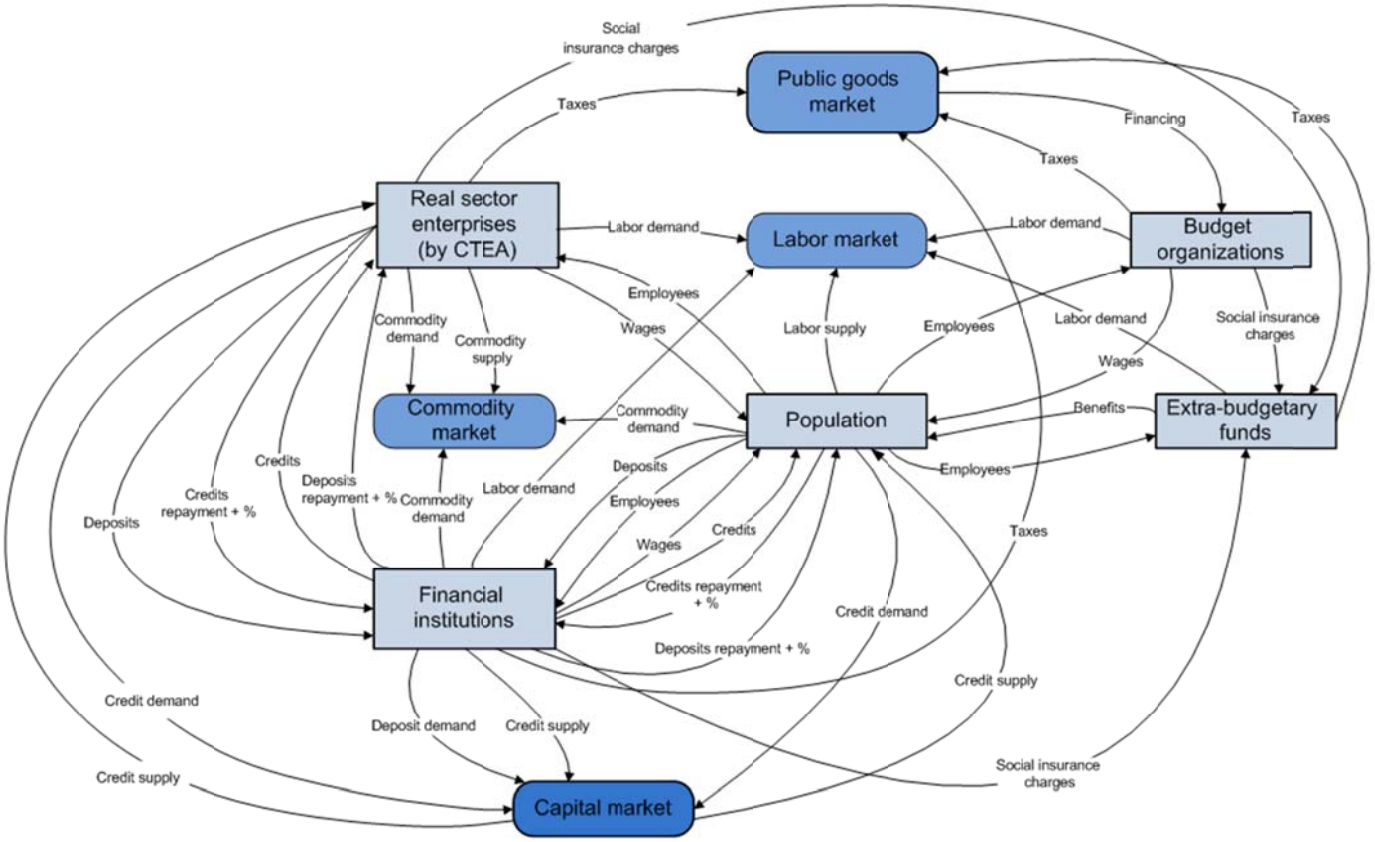
the mass of complex and detailed circumstances surrounding the phenomena to be explained and permits valid predictions on the basis of them alone" (Friedman M., 1953).

[4] For example, agent-based computational economics (using such key terms as bounded rationality, non-equilibrium dynamics, and direct inter-agent interactions) develops modern virtually inductive tools. Furthermore, with computer simulations, "... the properties of a system are derived from the recurrent interactions between simple objects, not from the requirements of rationality and equilibrium established by the modeler" (Fagiolo G., Roventini A., 2008).

(A1) *Real sector* is represented by a range of business entities of all forms of ownership engaged in production and service providing for profit, which are united in industries (according to the Classification of the Types of Economic Activities, CTEA)[5].

Each of the industries is an aggregate of the enterprises engaged in CTEA-defined specific economic activity and located in the oblast. These enterprises use the equipment and technology that are typical for the industry, produce and sell homogeneous products at the commodity market (reference oil, reference rolled metal product, etc.). Within the oblast, the enterprises engage labor in the labor market; buy credits from and sell deposits to financial intermediaries in the money market. A part of the sales profit arrives to the state and oblast budgets in the form of taxes. At budget expense, non-profit organizations provide public services that are necessary (inter alia) for the normal operation of commercial enterprises (law enforcement, education, health services, etc.).

Figure 2. Key economic inter-linkages in oblast economy object models



[5] According to the economic law, an industry is a set of productive statistical units that are engaged in mainly the same or similar economic activity. Further in this paper, the terms "industry" and "economic activity" are used interchangeably.

It is suggested that the industries within an oblast are not interconnected, and each industry's product has its own separate market. Therefore, there is no need to model input-output balance in this case[6].

The enterprises of each industry manufacture products, using capital and labor

$$
\begin{aligned}
&Y_{i\varepsilon} = \gamma_\varepsilon \left[k_\varepsilon^f (K_{i\varepsilon}^{fr})^{-\alpha_\varepsilon} + k_\varepsilon^v (K_{i\varepsilon}^{vr})^{-\alpha_\varepsilon} + k_\varepsilon^l (L_{i\varepsilon}^h)^{-\alpha_\varepsilon} \right]^{\frac{-\nu_\varepsilon}{\alpha_\varepsilon}} \zeta_i, \\
&K_{i\varepsilon}^{fr} > 0,\ K_{i\varepsilon}^{vr} > 0,\ L_{i\varepsilon}^h > 0, \\
&k_\varepsilon^f > 0, k_\varepsilon^v > 0, k_\varepsilon^l > 0, \quad k_\varepsilon^f + k_\varepsilon^v + k_\varepsilon^l = 1,
\end{aligned}
\tag{1}
$$

where $Y_{i\varepsilon}$ is the output of industry ε in period i (without VAT and excise duty, in compatible prices);

$K_{i\varepsilon}^f$ is the net fixed capital in industry ε in period i $(K_{i\varepsilon}^f > 0)$;

$K_{i\varepsilon}^v$ is the working capital in industry ε in period i $(K_{i\varepsilon}^v > 0)$;

$L_{i\varepsilon}^h$ is the labor input (measured in hours) in industry ε in period i;

i is the number of period;

γ_ε is the parameter of neutral technology effectiveness in industry ε;

k_ε^v is the working capital coefficient in industry ε;

k_ε^f is the fixed capital coefficient in industry ε;

k_ε^l is the labor intensity of industry ε;

ν_ε is the return to scale in industry ε (the degree of function's homogeneity) $\nu_\varepsilon > 0$;

$\sigma_\varepsilon = 1/(1+\alpha_\varepsilon)$ is the elasticity of resources substitution in industry ε;

ζ_i is the inflation rate in period *i*.[7]

The duration of a period (time step) is six months[8].

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[6] The exception is the manufacture of food products, beverages and tobacco that are intended primarily for consumption within the oblast, as well as trade, which provides services to sell these goods.

[7] For a forecast we take $\zeta_i = 1$, so the forecast is performed in the prices of the last reporting period. If, for example, the data for 2006-2010 are used for model set parameterization, then the forecast for 2011-2013 will be at the prices and terms of the second half of 2010. It is assumed that inflation does not distort the results of the parameterization, since the same effect will be on both the function value (output) and the argument value (production factors).

[8] The choice of such time step is because a half of a year is the shortest time interval for which the relatively reliable and comparable inter-annual accounting information on the performance of enterprises and organizations is available in Ukraine. As for the quarterly and monthly reported data, it often has significant variations, which are unexplainable in terms of mathematical modeling.

Commodity cost depends on depreciation, labor costs (wages with charges), resource costs and other costs related to production volume, energy prices (for end-consumers), land charge, and credit interest. It is defined by the formula

$$C_{i\varepsilon} = \beta_\varepsilon \left(k_\varepsilon{}^a K_{i\varepsilon}^{fr}\right)^{g_\varepsilon} \left(L_{i\varepsilon}^m (1+t_{i\varepsilon}^l)\right)^{r_\varepsilon} \left(Y_{i\varepsilon}\lambda_{i\varepsilon}^{im} \frac{k_i^c}{k_{i-1}^c} + Y_{i\varepsilon}(1-\lambda_{i\varepsilon}^{im})\right)^{\rho_\varepsilon} \left(\mathrm{E}_{i\varepsilon}\right)^{h_\varepsilon} \left(t_{i\varepsilon}^E\right)^{\pi_\varepsilon} \left(p_{i\varepsilon}^B\right)^{s_\varepsilon}, \tag{2}$$

where β_ε is the industry scale coefficient;

k_ε^a is the average depreciation rate (for one period) in industry ε;

$t_{i\varepsilon}^l$ and $t_{i\varepsilon}^E$ are the effective rates of wage charges (contributions to social insurance and social security funds) and land charge, respectively, in industry ε in period i;

$L_{i\varepsilon}^m$ is the labor costs in industry ε in period i;

λ_ε^{im} is the share of imported materials in the total supply for industry ε;

k_i^c is the exchange rate (to USD) in period i;

$\mathrm{E}_{i\varepsilon}$ is energy costs in industry ε in period i;

$p_{i,\varepsilon}^B$ is credit interest, $p_{i,\varepsilon}^B = \begin{cases} B_{i\varepsilon}^{vr} r_i^B & \Leftarrow B_{i\varepsilon}^{vr} > 0 \\ 1 & \Leftarrow B_{i\varepsilon}^{vr} \le 0 \end{cases}$;

$B_{i\varepsilon}^{vr}$ is the average remaining credit debt of the enterprises of industry ε in period i;

r_i^B is current credit interest rate in period i;

$g_\varepsilon, r_\varepsilon, \rho_\varepsilon, \tau_\varepsilon, \pi_\varepsilon, s_\varepsilon$ are industry intensity parameters.

The energy costs depend on particular energy prices (natural gas, oil products, coal, and electricity). In IASBP, this dependence is presented as a translog cost function (Christensen L., Greene W., [1976]). In this case, this function is

$$\begin{aligned} \ln(E_{i\varepsilon}) &= b_\varepsilon^0 + \ln(Y_{i\varepsilon}) + b_\varepsilon^{coal} \ln(p_{i\varepsilon}^{coal}) + b_\varepsilon^{gas} \ln(p_{i\varepsilon}^{gas}) + b_\varepsilon^{oil} \ln(p_{i\varepsilon}^{oil}) + b_\varepsilon^{el} \ln(p_{i\varepsilon}^{el}) + \\ &+ 0{,}5 b_\varepsilon^{coal} \ln(p_{i\varepsilon}^{coal})^2 + 0{,}5 b_\varepsilon^{gas} \ln(p_{i\varepsilon}^{gas})^2 + 0{,}5 b_\varepsilon^{oil} \ln(p_{i\varepsilon}^{oil})^2 + 0{,}5 b_\varepsilon^{el} \ln(p_{i\varepsilon}^{el})^2 + \\ &+ b_\varepsilon^{coal_gas} \ln(p_{i\varepsilon}^{coal}) \ln(p_{i\varepsilon}^{gas}) + b_\varepsilon^{coal_oil} \ln(p_{i\varepsilon}^{coal}) \ln(p_{i\varepsilon}^{oil}) + b_\varepsilon^{coal_el} \ln(p_{i\varepsilon}^{coal}) \ln(p_{i\varepsilon}^{el}) + \\ &+ b_\varepsilon^{gas_oil} \ln(p_{i\varepsilon}^{gas}) \ln(p_{i\varepsilon}^{oil}) + b_\varepsilon^{gas_el} \ln(p_{i\varepsilon}^{gas}) \ln(p_{i\varepsilon}^{el}) + b_\varepsilon^{oil_el} \ln(p_{i\varepsilon}^{oil}) \ln(p_{i\varepsilon}^{el}), \end{aligned} \tag{3}$$

where $p_{i\varepsilon}^{coal}$ is coal price for industry ε in period i;

$p_{i\varepsilon}^{gas}$ is natural gas price for industry ε in period i;

$p_{i\varepsilon}^{gas}$ is oil products price for industry ε in period i;

$p_{i\varepsilon}^{el}$ is electricity price for industry ε in period i;

$b_{\varepsilon}^{\cdots}$ are industry parameters.

Demand for products depends on the type of a market. Each industry's product has its market. The markets are classified into two types (table 1).

Table 1. Commodity markets in the model

Production of means of production (P1)		**Production of consumer goods (P_2)**	
Market equilibrium models			
$Y_{i\varepsilon}^{d} = Y_{i\varepsilon}^{I} + Y_{i\varepsilon}^{O}$ $Y_{i\varepsilon}^{r} \le Y_{i\varepsilon}^{d}$		$Y_{i\varepsilon}^{d} = Y_{i\varepsilon}^{I} + Y_{i\varepsilon}^{O}$ $Y_{i\varepsilon}^{r} \le Y_{i\varepsilon}^{d}$	
Demand determining factors			
Domestic market (P_{11})	**Foreign market (P_{12})**	**Domestic market (P_{21})**	**Foreign market (P_{22})**
$Y_{i\varepsilon}^{IA} = \varphi_{\varepsilon}(Y_{(i-1)\varepsilon}^{IA}, S_{i\varepsilon}^{d} \cdot T_{j}^{\mathrm{E}})$, $Y_{i\varepsilon}^{I} = (1 - \lambda_{i\varepsilon}^{imp}) Y_{i\varepsilon}^{IA}$	$Y_{i\varepsilon}^{O} = \varphi_{\varepsilon}(Y_{(i-1)\varepsilon}^{O}, S_{i\varepsilon}^{d} \cdot \overline{T}_{j\varepsilon}^{\ imp}) \psi_{i\varepsilon}$	$Y_{i\varepsilon}^{IA} = \varphi_{\varepsilon}(Y_{(i-1)\varepsilon}^{IA}, PS_{i}^{A}, S_{i\varepsilon}^{d} \cdot T_{j}^{\mathrm{E}})$, $Y_{i\varepsilon}^{I} = (1 - \lambda_{i\varepsilon}^{imp}) Y_{i\varepsilon}^{IA}$	$Y_{i\varepsilon}^{O} = \varphi_{\varepsilon}(Y_{(i-1)\varepsilon}^{O}, S_{i\varepsilon}^{d} \cdot \overline{T}_{j\varepsilon}^{\ imp}) \psi_{i\varepsilon}$

Legend

$Y_{i\varepsilon}^{d}$ is the total demand (in domestic and foreign markets) for the product of industry ε in period i

$Y_{i\varepsilon}^{I}$ is the domestic demand for the product of industry ε in period i, that is satisfied by domestic production

$Y_{i\varepsilon}^{O}$ is the foreign demand for the product of industry ε in period i

$Y_{i\varepsilon}^{IA}$ is the total domestic demand for the product of industry ε in period i, that is satisfied both by domestic production and import

$S_{i\varepsilon}^{d}$ is the demand seasonality index for industry ε in period i

T_{j}^{E} is the effective weight-average growth rate of the industries, that consume the commodities produced by industry ε, and therefore influence the demand for its products in year j ($i \in j$)

$\lambda_{i\varepsilon}^{imp} = f(k_{i}^{c}, \overline{T}_{i\varepsilon}^{M})$ is the part of the domestic demand for the products of industry ε in period i, which is satisfied by import

$\psi_{i\varepsilon}$ is the parameter of substitution of Ukrainian enterprises' products by third countries' products at foreign markets (default $\psi_{i\varepsilon} = 1$)

$\overline{T}_{j}^{\ imp}$ is the effective weight-average growth rate of foreign economies that import the products of industry ε in year j

PS_{i}^{A} is the growth rate of population's purchasing power in period i

Domestic demand can be met by domestic production and by imports; the ratio is determined by the available technology and depends on the exchange rate. A fall of UAH to USD exchange rate leads to a decrease in imports purchasing power of Ukrainian enterprises and citizens, and vice versa.

The equilibrium cost of products sold ($Y_{i\varepsilon}^{rz}$) is calculated as:

$$Y_{i\varepsilon}^{rz} = \min\left(Y_{i\varepsilon}^{d}; Y_{i\varepsilon}^{s}\right), \tag{4}$$

$$Y_{i\varepsilon}^{r} = Y_{i\varepsilon}^{rz}\lambda_{i\varepsilon}^{ex}\frac{k_i^c}{k_{i-1}^c} + Y_{i\varepsilon}^{rz}(1-\lambda_{i\varepsilon}^{ex}), \tag{5}$$

where $\lambda_{i\varepsilon}^{ex}$ is the share of the products exported by the industry in their total cost in period i, $\lambda_{i\varepsilon}^{ex} = f(\psi_{i\varepsilon})$;

k_i^c is the exchange rate (to USD) in period i.

The financial result of sales is profit or loss. Each industry can include both enterprises that profit, and ones operating at a loss.

(A2) *Financial sector* is represented by a number of commercial banks. The activities of the other types of financial intermediaries, particularly those that operate in the stock market, are not modeled specifically within IASBP. This is because the Ukrainian stock market is a major source neither of investment in real sector enterprises, nor of private income for a range of reasons (historical, institutional, etc.).

Commercial banks concentrate temporarily free funds from households and enterprises and distribute them on a fee basis among those clients (individuals and legal entities), that impose the effective demand for financial resources. The gross income of banks is formed as the difference between the interests received from debtors and paid to creditors. Other kinds of services that commercial banks usually provide to their customers and get extra-interest income from are not considered in this case.

Individual deposits. Given the large variety of deposits, which individuals have in banks (demand deposits, time deposits and combined ones, replenishable, partially withdrawable, multicurrency, compound deposits, etc.), the model uses a semiannual representative deposit (D_i^L):

$$D_i^L = f_w(\psi_i^L, W_i^A, T_i^G), \tag{5}$$

where ψ_i^L is the population's propensity to invest into bank deposits in period i;

W_i^A is the total regional net private income in period i;

T_i^G is the Ukrainian GDP growth rate in period i.

Taking into account the Ukrainian realities, the population's propensity to invest into deposits depends more on the economic growth rate (T_i^G), than on deposit interest rate[9] and can be described by the following logistic curve:

$$\psi_i^L = y = \frac{1}{\hat{\alpha}\hat{\beta}^{T_i^G} + \hat{\gamma}}, \tag{6}$$

where T_i^G is the intensity parameter in period i;

$\hat{\alpha}, \hat{\beta}, \hat{\gamma}$ are coefficients, $0 < \hat{\beta} < 1, \hat{\alpha} > 0, \hat{\gamma} > 0.$

The logistic curve is a typical S-form curve with asymptotes $\lim_{x\to\infty} y = \frac{1}{\hat{\gamma}}; \lim_{x\to-\infty} y = \frac{1}{\hat{\gamma}}.$

Corporate deposits, which are the legal entities' recourses borrowed by banks (demand deposits, time deposits) depend on their working assets in the previous period $(K_{i-1}^{vr} = \sum_{\varepsilon\in E} K_{(i-1)\varepsilon}^{vr})$ and are calculated by the formula

$$D_i^v = f_d(K_{i-1}^{vr}, T_j^G). \tag{7}$$

Financial intermediaries act as entrepreneurs who sell goods, money in this case. This means that, within available resources, they provide interest-bearing loans to enterprises of all industries and to population.

The following sequence of credit settlement is adopted in IASBP:

1) the funds borrowed by commercial banks (liabilities), that make their credit base, are decreased by legal reserve rate for active operations;

2) the credits are given to legal entities;

3) the credits are given to individuals;

4) the surplus is invested into financial capital (securities, interbank loans, etc.).

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[9] For a number of institutional reasons, the Ukrainian households do not actually have any other access to capital markets than through commercial banks. Yet, the real (inflation-adjusted) bank deposit interest rates may be negative. For example, in each month in 2006, average interest rates (annualized) on individual deposits did not exceed 11%, while the consumer price index (CPI) accounted to 111.6%. Only the individual time deposit interest rates were higher than the CPI. In 2007, weight-average interest rates on retail deposits in national currency did not exceed 14%, while the CPI (2006 = 100%) reached 16.6%. At the same time, the real (i.e. adjusted for GDP deflator) amount of retail deposits increased by 25%. In 2008, the weighted average interest rate on individual time deposits in national currency did not exceed 20%, while the CPI growth rate was 22.3%. A similar situation was observed in 2009-2010.

Thus, at first glance, there is a paradoxical situation: real interest rates are negative, but deposits are increasing.

In fact, there is nothing paradoxical in this. With no real investment alternatives, the households tend to minimize the inflation impact on savings and the risk of cash self-storage through depositing funds in commercial banks. The dominant impact on their decision comes not from the deposit interest rate, but from the availability of temporarily idle cash balances, which, in turn, is determined by the economic growth. The proposed functions of the propensity to invest reflect this fact.

(A3) *Public sector* is represented by a range of legal entities endowed with state or municipal property on operational management basis and performing non-commercial functions. These are budgetary organizations and extra-budgetary funds. All of them are grouped in accordance with the established functional classification of expenditure (CFCE).

They receive funding from the regional and state budgets (budget organizations) and from the payers of social contributions (extra-budgetary funds) to provide public administration, education, healthcare, welfare, etc. Other funding (self-financing and charitable contributions) is not specifically reviewed in this case and is considered to be quasi-permanent.

IASBP uses the approach, which is that, for modeling purposes, budget organizations are considered not as really functioning physical objects but as "black boxes" that input the affordable state funding from, and output public services provision. The internal structure of these «black boxes» (the condition of fixed and working capital, manufacturing process specificity, actual financial needs in terms of sustainable growth, etc.) is not investigated. This approach is technically easier to implement, and it better reflects the specifics of budget process organization in Ukraine, where the financing of budget organizations' costs is determined by not real, but the so-called "optimal" needs, that is, those that are a pragmatic compromise between the demands of organizations for their normal operation and development on the one hand, and the real possibilities of cost coverage from the budget on the other hand.

IASBP uses the second budget organizations modeling approach. In essence, this means modeling not the organizations themselves but their budget functions (purposes).

The degree of the functional disaggregation of the expenditure. IASBP models the basic functions performed by budget organizations. Further expenditure disaggregation of particular functions to sub-functions (e.g., for health care it would correspond to medical specialization) is not provided at the current stage of IASBP development.

A model forecasting the expenditure for item γ (budget expenditure function) can be formally represented as

$$^{-}X_{\gamma i} = f_X\left(^{-}L_{\gamma i}, ^{-}E_{\gamma i}, ^{-}O_{\gamma i}\right) + ^{-}F_{\gamma i}, \tag{8}$$

where $^{-}L_{\gamma i}$ is the general budget fund spending for labor payment with charges in period *i*;

$^{-}E_{\gamma i}$ is the general fund spending for utilities and energy in period *i;*

$^{-}O_{\gamma i}$ is other spending of budget general fund in period *i;*

$^{-}F_{\gamma i}$ is the special budget fund spending in period *i.*

Tax payments by legal entities and individuals are the major source of budget revenue. In accordance with the Budget Code of Ukraine, they are distributed between the state budget and local budgets. Such weighty national taxes, like VAT, profit tax, personal income tax, land charge, excise and customs duties (for import and export) are modeled particularly in IASBP. Some of them come to the State Budget of Ukraine fully or partially (VAT, profit tax, excise and custom duties), while the others get to oblast budget system (personal income tax and land charge). All the other taxes are not specified in IASBP, as being unimportant for public revenue generation.

(A4) *Population* links oblast economy into a whole. On the one hand, the residents of certain area are the source of labor for the real sector enterprises, financial institutions and public sector organizations. On the other hand, people receive income in the form of wages, interest, and

social benefits (pensions, welfare, etc.) that determine the real demand for consumer goods and the amount of savings that can be used to finance the extended reproduction of the economy.

IASBP represents the economically active population, i.e. people aged 15 to 70 years, who provide labor supply to produce goods and services (private and public) in oblast economy. The population consists of two groups: employed and unemployed.

An industry's labor demand is determined by capital maintenance needs

$$Q_{\varepsilon i}^{Ld} = f^{Q}(K_{i\varepsilon}). \tag{9}$$

As already noted, IASBP assumes that oblast labor supply sustainably exceeds the demand, and therefore the equilibrium number of employees is determined by the demand

$$\sum_{\varepsilon \in \mathrm{E}} Q_{\varepsilon i}^{Lr} = \sum_{\varepsilon \in \mathrm{E}} Q_{\varepsilon i}^{Ld}. \tag{10}$$

In turn, the total number of unemployed in period i is defined as

$$U_i = \max\left(U_{i-1} - \sum_{\varepsilon \in \mathrm{E}} \Delta Q_{\varepsilon i}^{Lr}; 0 \right), \tag{11}$$

where U_{i-1} is the number of unemployed in the previous period;

$\Delta Q_{\varepsilon i}^{Lr} = Q_{\varepsilon i}^{Lr} - Q_{\varepsilon (i-1)}^{Lr}$ is the aggregate change of labor requirement in industry ε in period i.

Aggregate average wage determines labor motivation and features the capacity for labor reproduction, professional and cultural development. It depends on the total payroll and the number of employed

$$w_{i\varepsilon} = f_l\left(L_{i\varepsilon}^{m}, Q^{L}{}_{i\varepsilon} \right), \tag{12}$$

where $Q^{L}{}_{i\varepsilon}$ is the number of employed in industry ε in period i.

Net total oblast household income (W_i^A) is defined by the formula

$$W_i^A = f_w\left(\sum_{\varepsilon} (L_{i\varepsilon}^{m} - \Xi_{i\varepsilon}^{w})\right). \tag{13}$$

Consumer purchasing ability growth rate is defined as

$$PS_i^A = \frac{W_i^A}{W_{i-1}^A} \frac{M_i^{pens}}{M_{i-1}^{pens}} \frac{t_{ib}^V}{t_i^V} \frac{t_{ib}^A}{t_i^A} \frac{k_i^c}{k_{ib}^c}, \tag{14}$$

where ib is the ordinal number of the period previous to tax rate change.

5. Models of economic and financial regulators

The state, represented by legislative and executive agencies, influences regional social and economic processes with regulators, by which we will understand the market intervention instruments applied to the commodity, capital, labor and public service markets.

The regulators are divided into economic and financial ones. IASBP includes the following economic regulators:

minimum wage;

energy prices (gas, oil products, coal, electricity).

Among the financial regulators there are:

national currency exchange rate (UAH/USD);

tax rates (including social taxes).

Tax impact on the public service quasi-market. Taxes directly affect the supply (budget revenue) through the changing of compulsory payments bases and rates. On the demand side (expenses by functional classification), tax impact is both direct (wage charges paid by the employees of public institutions), and indirect, through oblast economic growth that depends on the tax impact in commodity markets.

As follows from the above, the tax effects on the behavior of companies that operate in commodity markets are of the key importance. Therefore, they are discussed in more detail further.

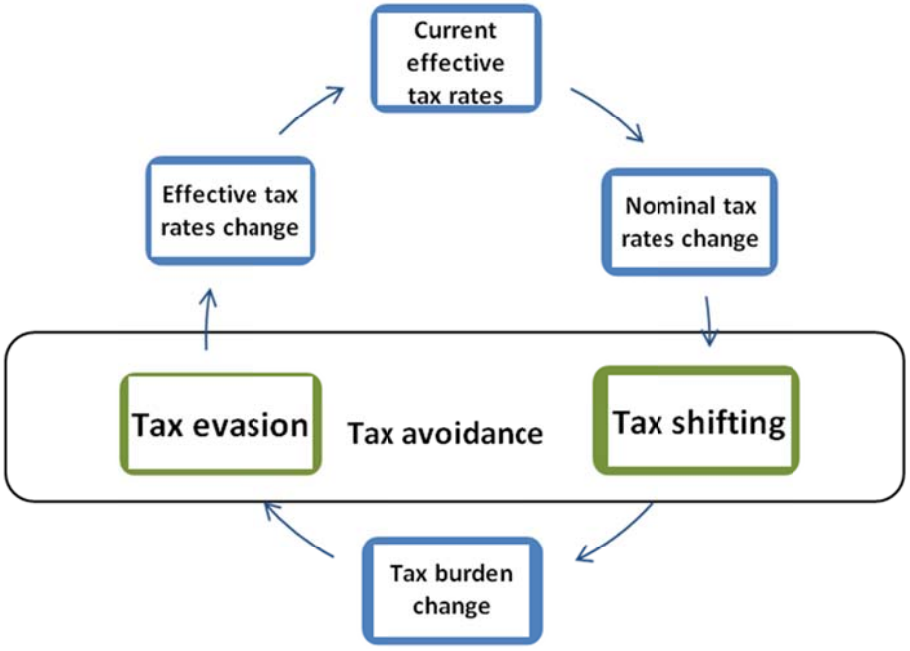
Taxes affect the behavior of corporate taxpayers[10] through the forced nonequivalent seizure of a part of their revenue for public purposes. Therefore, if there were no tax evasion costs, the companies would not pay taxes at all. However, as far there are such costs, so far the rational and fully informed economic agents (as it is considered in neoclassical economic theory) partially pay taxes and partially evade them, having compared the marginal benefits and marginal costs of tax evasion. Institutional and evolutionary theories assume that economic agents are not completely rational and informed. Therefore, the rules (institutions) that prevail in a given place at a given time define the "official payments/corrupt payments/covert tax base" proportion. The rules reflect the "path dependence," i.e. the current events depend on the past circumstances as well as on the current ones.

In any case, the change of the nominal (statutory) rate of any tax runs the chain of economic processes, the sequence of which is presented in Figure 3.

In the initial situation, an enterprise calculates the income tax liability by the rates specified in tax returns (single one as in the case of profit tax, or several returns as in the case of excise duty or customs duty). However, the actual tax payments may be less (due to tax reliefs, credits, exemptions, underpayments) or more (due to the advances, penalties, overpayments) than the rated value. The ratio of the amount actually paid to the declared (legal) tax base is the actual legal average tax rate j ($\tilde{t}_j^n$).

[10] IASBP assumes that all taxes are paid by enterprises, including the personal income tax, which is charged from the source of payment.

Figure 3. Nominal tax rates impact on effective tax rates



At the same time, a total tax base typically includes both declared (legal) and undeclared (illegal, unreported) components. This means that actual total average tax rate $(\tilde{t}_j^r)$ is calculated as the ratio of actual tax payment *j* to the total tax base and is different from the legal average $(\tilde{t}_j^r \neq \tilde{t}_j^n)$.

Ukrainian tax system comprises several different taxes, including the interrelated ones. Therefore, businesses are interested not in any single tax rate raise or reduction, but in the total tax burden change.

Overall tax ratio describes the total enterprise-borne tax burden, emerging from all statutory taxes.

Let the actual legal tax ratio $(\mathrm{T}_{i\varepsilon}^n)$ denote the ratio of the total amount of tax payments to the value-added declared by all the enterprises in industry ε in period *i*

$$\mathrm{T}_{i\varepsilon}^n = {}^{+}\Xi_{i\varepsilon}^{\mathrm{T}} / V_{i\varepsilon}^A, \tag{15}$$

and the actual total tax ratio $(\mathrm{T}_{i\varepsilon}^r)$ denote the ratio of the total tax payment to the total value-added (including the covert tax base) in industry ε in period *i*

$$\mathrm{T}_{i\varepsilon}^r = {}^{+}\Xi_{i\varepsilon}^{\mathrm{T}} / \bar{V}_{i\varepsilon}^A. \tag{16}$$

If the law provides, for example, an increase of some tax rate, then, at the given tax base, this leads to the planned increase of tax liabilities. These additional liabilities can either make an additional burden on an enterprise, and can be shifted (in whole or in part) to the resource suppliers or product buyers through the price mechanism. Such a shift, other things being equal, is the easiest and most economical way of avoiding taxes.

If tax shifting opportunities are limited, then at least a part of the additional tax burden falls on an enterprise resulting in the increase of planned total tax ratio and, consequently, planned legal tax ratio. We refer to it as "planned" because a rational (bounded rational) economic agent seeks to evade state-imposed additional liabilities using all available opportunities. Such actions reduce the increase of actual total tax ratio (which is the purpose of evasion), and, consequently, of actual legal tax ratio. The latter is important because shadow business income is not specified in IASBP models, and enterprises' reactions to the government's actions in the field of taxation are tracked through the legal tax ratio. The reverse reaction is expected from an enterprise if the planned total tax liabilities are reduced.

The composition of tax coefficients (ratios) is determined by IASBP specifics of economic processes modeling and depends on the type of tax. All taxes are divided into two types:

(H1) taxes that act as a product price surcharge (VAT and excise duties[11]);

(H2) taxes, which constitute a part of product price (corporate profit tax, wage charges, land charge, import customs duty[12]).

This distinction is important from the standpoint of the tax shifting modeling. Tax shifting varies across the particular commodity markets (see P_{11}, P_{12}, P_{21} and P_{22} in Table 1).

6. IASBP formation and maintenance technology

The practical implementation of IASBP model set has required:

1) establishment of the information support, i.e. to develop the methodical provisions and datasets of socioeconomic indices, that characterize the operation of oblast economy in retrospective;

2) parameterization of the models using these actual data, i.e. to calculate the numerical values of the variables and constants in the formulas that mathematically describe the processes simulated;

3) implementation of the developed mathematical models in system dynamics environment, to check their stability (the ability to maintain the current state in the presence of external influences) and adequacy (the ability to reproduce the main features of the system's behavior (Forrester J. W., [1970], Forrester J. W., [2007]);

4) development of IASBP software based on system dynamics principles;

5) development of the organizational support for IASBP.

Checking the model set for adequacy was performed by comparing the estimated values of the targets for the planning period (i = n+1) to their actual values (Table 2).

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[11] Export customs duty is a price surcharge too. However, in Ukraine it is applied to a limited range of goods and has a small share in the total amount of taxes. Thus, its influence on the behavior of economic agents is not considered in IASBP.

[12] Group H1 does not include personal income tax. This tax is neutral for enterprises: it reduces personal incomes of individuals, but does not apply to any costs or profits of legal entities. Of course, in practice, there are no completely neutral taxes at all, and personal income tax touches the economic interests of enterprises. The tax reduces the real wages of workers. This may lead to labor outflow if labor market situation is adverse to the employer, so he is forced to hold staff by incurring at least a part of personal income tax load. However, in this case, we do not take this into account, based on the realistic assumption that labor supply is excessive in Ukraine.

Table 2. Comparison of the estimated and actual values of Donetsk oblast economic indicators for the first half of 2010[13]

Real sector, UAH million						
CTEA	Y_i	$\hat{Y}_i$	Error	L_i^m	$\hat{L}_i^m$	Error
CA	13 573	13 239	2.5%	2838	2941	3.6%
CB	2259	2166	4.1%	244	240	1.6%
DA	7231	7131	1.4%	421	410	2.6%
DJ	65 009	66 840	2.8%	1647	1788	8.6%
DK, DL, DM	13 878	12 667	8.7%	884	871	1.5%
G	74 927	74 838	0.1%	762	662	13.1%
I	9747	9707	0.4%	1428	1578	10.5%
X	38 885	38 729	0.4%	3082	3801	23.3%
Total	**225 509**	**225 317**	**0.1%**	**11 306**	**12 291**	**8.7%**
Financial sector, UAH million						
	D_i	$\hat{D}_i$	Error	B_i	$\hat{B}_i$	Error
Individuals	21 267	20 203	5.0%	14 089	16 219	15.1%
Legal entities	11 539	12 654	9.7%	35 033	37 630	7.4%
Total	**32 806**	**32 857**	**0.2%**	**49 122**	**53 849**	**9.6%**

Public sector, UAH million							
Revenue section of the oblast budget				**Expenditure section of the oblast budget**			
Revenue items	${}^{+}\Xi_i$	${}^{+}\hat{\Xi}_i$	Error	CTEA	${}^{-}X_i$	${}^{-}\hat{X}_i$	Error
${}^{+}\Xi_i^w$	2647	2648	0.0%	${}^{-}X_{01,i}$	253	253	0.2%
${}^{+}\Xi_i^E$	492	492	0.0%	${}^{-}X_{07,i}$	1840	1978	7.5%
${}^{+}\Xi_i^{\mathrm{T}}$	3386	3686	9.0%	${}^{-}X_{08,i}$	1557	1550	0.4%
				${}^{-}X_{09,i}$	182	189	3.8%
Official transfers	2440	2422	0.6%	${}^{-}X_{10,i}$	193	288	48.7%
				${}^{-}X_{11,i} + {}^{-}X_{13,i}$	283	282	0.3%
Total revenue	**3911**	**3911**	**0.0%**	**Total expenditure**	**6031**	**6048**	**0.3%**

***Legend*:** $\hat{Y}_i, \hat{L}_i^m, \hat{D}_i, \hat{B}_i, {}^{+}\hat{\Xi}_i, {}^{-}\hat{X}_i$ are the estimated values of indicators; $Y_i, L_i^m, D_i, B_i, {}^{+}\Xi_i, {}^{-}X_i,$ are the actual values of indicators.

[13] The variables and constants used to calculate the predicted values of the indicators for the second half of 2010 had been parameterized with 1HY 2006 to 2 HY 2009 dataset.

The IASBP model set's ability to reproduce the trends of the regional economic dynamics is illustrated in Fig. 4.

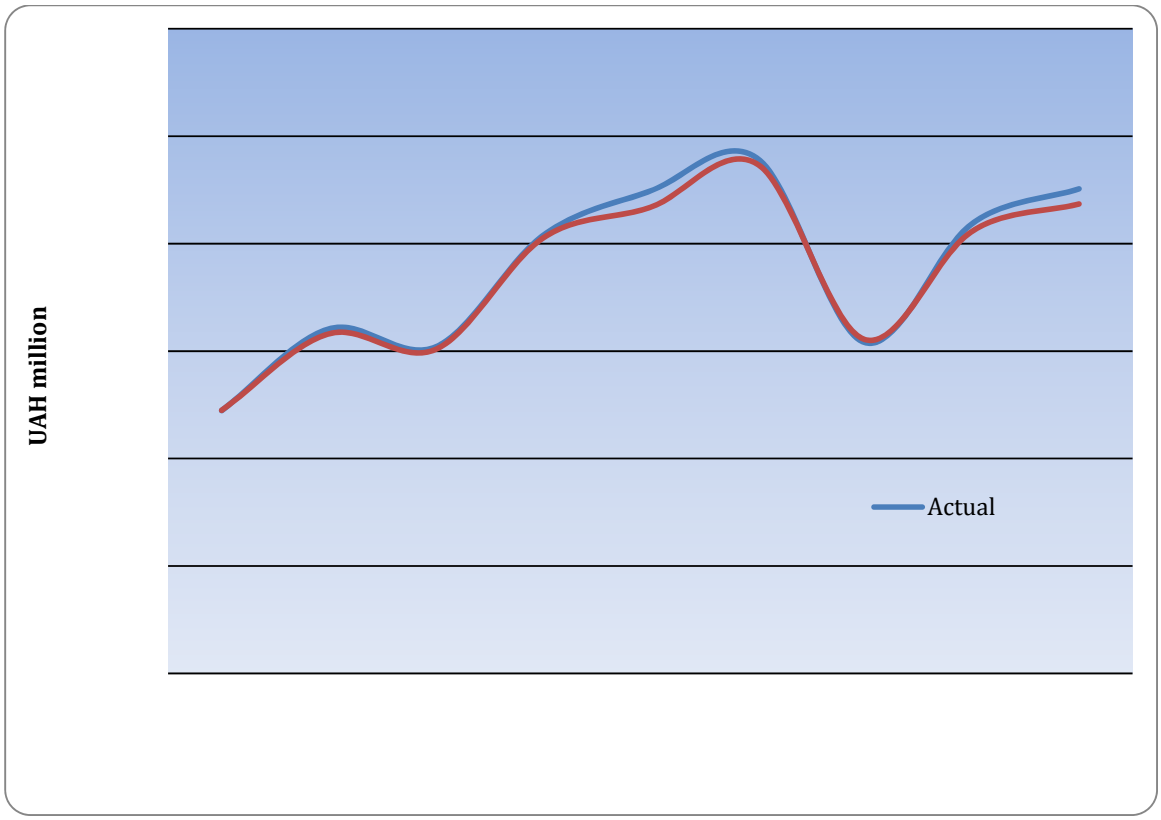
As follows from the figure, the estimated sales trend matches the actual one well. As far as many other key economic indicators depend on sales, so far the test for adequacy can be considered as passed.

Checking the stability of the model set. The stability in this case refers to the ability of the models to maintain their properties under the influence of changing the values of input variables. The following algorithm is used: 1) select the input variables; 2) set a rule of their values change (random variable distribution function); 3) select the current value of a variable within the tolerance region[14] using random number generator; 4) calculate the targets of a model; 5) repeat steps 3 and 4 several times. When the procedure is complete, the parameter spread analysis leads to a conclusion about the model set stability.

Economic and financial regulators, i.e. minimum wage, energy prices, tax rates, UAH to USD exchange rate, were used as the input variables. The model has demonstrated a sufficient stability after 1000 experiments: the main targets' deviation from their initial values (commodity sales and labor costs in the cost) does not exceed 25%.

IASBP is implemented as a software tool based on information technology. It belongs to the class of decision support systems, the subclass of situation centers. The purpose of a situation center is to support the real time analysis of actually occurring and hypothetical situations and forecasting their evolution under the planned management actions.

Figure 4. Actual and estimated aggregate sales revenue trends in Donetsk oblast



[14] It is set by experts with regard to realistic considerations (e.g., profit tax rate cannot exceed 50%, annual economic growth rate does not exceed 20%, etc.).

The following basic tools are used in IASBP software:

Microsoft Excel application package applied for raw data processing and model parameterization;

PowerSim system dynamics environment, for the implementation and configuration of the mathematical economic model set;

Microsoft Visual Basic.NET programming environment, which integrates Basic syntax and the elements of object-oriented and component-oriented programming languages, is used to create the user interface and to arrange the data access;

Microsoft SQL Server database management system is used for storage and structuring of, and to provide a reliable and secure access to IASBP data stores;

database query language of TRANSACT-SQL programming environment, which implements ANSI/ISO standard is used to perform structured queries with extensions.

The main elements of IASPB software are:

database, the statistical data about the activities within the real, financial and public sectors and population, regulatory and reference information, model estimates;

import utility to input statistical data from Microsoft Excel templates into the database;

interpretative program for Powersim SD models presentation in IASBP;

IASBP user interface implemented in Microsoft Visual Basic.NET programming environment.

7. Conclusion

When the primary problem of IASBP creation was set, there were serious concerns that it would not be solved. But this was neither because the authors were skeptical about the feasibility of mathematical models and information technology in economics (although the "presumption of guilt" in mathematical formalism has a right to exist) nor because ones do not have a sufficient experience in solving complex scientific problems. There was another reason, namely that the simulation object is very complex and, just as important, only partially open to observation: shadow economy accounts for, according to various estimates, 40-50% of GDP in Ukraine.

It turns out that the behavior of the object must be judged only by the behavior of its explicit part. If we draw a physical analogy, we have to predict the movement of an iceberg by the observations of the above-water part. Physicists by some indications can identify the shape and weight of iceberg's underwater part, and, accordingly, make scientific predictions (verifiable statements) about the direction and speed of the whole body's movement by the forces of wind and water. In the case of an economic system, as the experience of IASBP creation shows, reliable scientific predictions of development trends are theoretically possible. However, the usual tools based on the assumption of agents' rationality (bounded rationality) alone are insufficient. This is not because agents behave irrationally (unpredictably), but because the actual rationale for their behavior is hidden from the observer.

The solution of this difficult problem is partly facilitated with the 'inside' knowledge of the situation and understanding of the fact that human behavior is usually not arbitrary but framed by the institutional rules prevailing in a given place and at a given time. In view of this circumstance, one cannot expect a drastic transformation of economic system to occur in a small time interval (while the existing institutions remain). The way to solve the problem of scientific predictions based on incomplete information proposed and tested in IASBP is to construct an

inductive analogue of such rules in the form of relatively stable relationships identified between the official economic indicators, which indirectly reflect the "underwater" part of the economy.

In practice, this tool really works. In conjunction with other economic, mathematical and information processing tools, it enabled us to develop and practice IASBP buildup and support technology. It allows for creating and updating the databases describing the economic processes in oblast and national economy; producing and analyzing various scenarios for their mid-term dynamics; performing computational simulations aimed to assess the extent of various economic and financial regulators' impact on particular oblast economies and the overall economy of Ukraine.

But, of course, this does not mean that all major problems have been solved.

First, in order to properly delineate the scope of IASBP and understand when it predicts correctly, and when it already begins to make mistakes, one should know the country-specific "half life" of the dominant rules. Obviously, in our case it is more than a year (during this time new rules can appear, but it is difficult to distribute them across the region or country), but less than twenty years (two decades ago, Ukraine was a quite different socialist country inhabited by people with moral norms and rules of economic behavior, that are distinct from modern ones). So a three-year forecast period, adopted in IASBP, in principle, can be considered as one of the acceptable options.

Secondly, it is not enough to identify the period; we must also know the general trends of rule change. For this, it should be noted that behavior patterns, varying in time and space, are not only determined by external forces (e.g., punishments and rewards), but depend on the internal biological nature of man as well, "External signals and ontogenesis of each person interact with genetic predisposition in each specific situation, creating myriads of complex patterns of behavior" (Palmer J., Palmer L, 2002). It means that the complete research program for the problem should include the methods of evolutionary economics, aimed at identifying the long-term trends of economic populations' development. This is a school of economic thought, which emerged rapidly in recent decades (Stoelhorst J.W., 2008), but its scientific principles have not yet been fully exploited in the design of the IASBP presented here.

Thirdly, we need a mechanism to anchor the mid-term forecast parameterization to the vector of long-term evolutionary trends.

Obviously, these will be very difficult things to do. The work in this area is ongoing.

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The Analysis of Organizational Pathologies

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Abstract

Reliability of information is crucial for the functioning of civil society, private and public organizations. A lot of attention was already devoted in previous issues of ICGFM Journal about the issue of reliability of information. An efficient accounting system favours the creation of the accuracy of the information. Reliability of information is also a factor in creating trust, especially when it is realized that the parties to a contract are always characterized by opportunism. The article draws attention to the problem of corruption, which interferes with the transmission of information, reduces the level of trust, disturbs the institutional balance, which increases transaction costs.

1. Diagnosis of Organizational Pathology

Corruption and fraud can be considered as organizational pathologies. For the purposes of this article, the following definitions are formulated. Z. Dobrowolski defines trust as the willingness of stakeholders to collaborate and to share of information. Corruption is defined in the Civil Law Convention on Corruption, (Strasbourg on 4 November 1999) as requesting, offering, giving or accepting, directly or indirectly, a bribe or any other undue advantage or prospect established in thereof, which distorts the proper performance of any duty or behaviour required of the recipient of the bribe, the undue advantage or the prospect thereof. F.W. Messier, Jr. defines fraud as actions taken with knowledge and intent to deceive[15]. Fraud is also defined as a deception deliberately practiced in order to secure unfair or unlawful gain[16]. It is the intentional concealment, omission, or perversion of truth, to (1) gain unlawful or unfair advantage, (2) induce another to part with some valuable item or surrender a legal right, or (3) inflict injury in some manner[17]. The definition of fraud applied by the International Auditing and Assurance Standards Board, and also adopted by INTOSAI is the following – an intentional act done by one or more individuals among management, those charged with governance, employees, or

[15] W.F. Messier Jr., *Auditing and Assurance Services. A systematic approach*, Third edition, McGraw-Hill Irwin, New York, 2003, p. 703.

[16] http://www.thefreedictionary.com/fraud.

[17] http://www.businessdictionary.com/definition/fraud.html.

third parties, involving the use of deception to obtain an unjust or illegal advantage[18]. A similar definition has been applied by the Institute of Internal Auditors, the American Institute of Certified Public Accountants and the Association of Certified Fraud Examiners – fraud is any intentional act or omission designed to deceive others, resulting in the victim suffering a loss and/or the perpetrator achieving a gain[19].

The Convention on the protection of the European Communities' financial interests[20] has introduced a definition of fraud as an offence violating the financial interests of European Communities (the Communities). In Article 1a of the Convention, financial abuse in respect to Community expenditures is described as any intentional act or omission relating to:

(a) expenditures:

– the use or presentation of false, incorrect or incomplete statements or documents, which has as its effect the misappropriation or wrongful retention of funds from the general budget of the European Communities or budgets managed by, or on behalf of, the European Communities;
– non-disclosure of information in violation of a specific obligation, with the same effect;
– the misapplication of such funds for purposes other than those for which they were originally granted;

(b) revenues:

– the use or presentation of false, incorrect or incomplete statements or documents. which has as its effect the illegal diminution of the resources of the general budget of the European Communities or budgets managed by, or on behalf of, the European Communities;
– non-disclosure of information in violation of a specific obligation, with the same effect;
– misapplication of a legally obtained benefit, with the same effect.

It is aptly notes that it is better to prevent than to detect corruption and fraud. The methods to prevent these pathologies include:

- implementing mechanisms for transparency and accountability in public life,

[18] See: www.issai.org/media (734,1033)/ISSAI_1240_E_Endorsement.pdf [Accessed on 11 January 2011], p. 241.

[19] See: www.acfe.com/documents/managing-business-risk.pdf [Accessed on 12 January 2011], p.5.

[20] Dz. U. [Journal of Laws] of 2004, No. 273, item 2699.

- implementing and constantly improving an internal control system,
- raising public awareness of the harm corruption and fraud bring to citizens
- implementing professional ethical standards[21].

Like any rational activity, the analysis of corruption and fraud should also be an organised activity. The multiple factors conducive to corruption and fraud require a high measure of flexibility in the adopted analysis approach. What should also be borne in mind is selectivity of tests. Such approach rests on the assumption that it is not worth "wasting" material and human resources to study issues with a small risk of irregularities consisting in a breach of specific rules. Instead, our resources should be focused on analysing these areas of activity which are of key importance to the operations of an agency and are most susceptible to irregularities.

First, it is necessary to analyse the overall activity of the organization, taking into account its operational environment and the fact that any organisation is a system of interrelated technical and social components and contains specific subsystems, such as:

- Subsystem of objectives and values. The organisation impacts on its operational environment and on the components it comprises.
- Psycho-social subsystem, i.e., incentives, values, attitudes, culture of the organisation's members, social bonds between the organisation's members.
- Structural subsystem, i.e., the rules for the distribution of work, authority, information, responsibility within the organisation.
- Management subsystem that comprises coordination and decision-making mechanisms.
- Technical subsystem, i.e., the technologies, skills (*know-how*), machinery, devices, buildings used by the organisation[22].

For instance, an analysis of the structural subsystem helps to determine if and what discrepancies exist between the formal and actual organisational structures. The formal organisational structure laid down in the rules & regulations and organisation charts defines the distribution of authority and responsibility within an agency. Based on observation and interviews with staff members, the actual relationships within the agency should be identified.

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[21] Z. Dobrowolski, *Korupcja w państwie. Przyczyny, skutki, kierunki przeciwdziałania,* PWSZ Sulechów 2005, pp. 83-95; Z. Dobrowolski, *Oszustwa w życiu publicznym,* Wydawnictwo Organon Zielona Góra 2008, pp. 14-102

[22] M. Bielski, *Organizacje: istota, struktury, procesy,* Wydawnictwo Uniwersytetu Łódzkiego, Łódź 1992, p. 86; A.K. Koźmiński, W. Piotrowski (ed.), *Zarządzanie. Teoria i praktyka,* PWN Warszawa 2001, p. 30; Z. Dobrowolski, *Organizacja i zarządzanie. Zarys problematyki i metod,* PWSZ Sulechów 2008, pp. 12-13

This will help to derive certain conclusions not only on how far staff members are familiar and comply with the organisation's official documentation, but also on interpersonal relations (important in looking for corruption and/or fraud).

The analysis of the psycho-social subsystem should look into the organisational culture, understood as a collection of rules and values to stimulate and regulate the behaviour of the organisation members that is important for the attainment of a specific objective[23]. It should be borne in mind that there are rules and values declared (e.g. a code of ethics, rules & regulations), and rules and values actually adhered to, whereas the latter are not necessarily consistent with the former.

Organisation culture depends on many external and internal factors. It is shaped by the national culture, the norms and values shared by those comprising the organisation, its ownership form, technologies used, scope of operations, age, history and size. For instance, where the autocratic management style prevails, organisational culture is centred around such values as discipline, obedience, loyalty. The partnership management style prefers open culture, autonomy and responsibility of the staff.[24]

The person involved in analysis of fraud and corruption occurrence (named in this article as evaluator) should therefore get familiar with how the organisation's subsystems operate, because it will be helpful in defining what tactics to employ to obtain information from organization's staff.

During the planning phase of analysis, evaluator should understand and assess of risk and prepare the analysis approach for dealing with the risks identified. First, evaluator should identify how the risk potentially evolves through the organization. The techniques of analysis include:

- mapping of organization's past experience,
- interviews,
- questionnaires,
- comparison with other organizations,
- brainstorming, discussion with auditors.

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[23] Z. Dobrowolski, *Organizacja i zarządzanie.., op.cit.,* p. 167

[24] A. Czermiński, M. Czerska, B. Nogalski, R. Rutka, J. Apanowicz, *Zarządzanie organizacjami*, Dom Organizatora Toruń 2001, p. 597

p. 597; Z. Dobrowolski, *Organizacja i zarządzanie.., op.cit.,* p. 167-174

Getting familiar with the organisation's subsystems and its operational environment allows the evaluator to determine the risk of irregularities, which informs the way how the organisation is further analysed. The following pattern can be used to determine the risk of fraud and corruption occurrence (F&C) within the organisation/agency or programs:

- Determine, if the agency/program is susceptible to fraud and/or corruption.
- Establish the symptoms of fraud and/or corruption in the operations of the agency/program.
- Find out how the agency's management acts to prevent fraud and/or corruption.

It should be noted that is it difficult to precisely define the relative weights of the above-mentioned variables in determining such risk. More in-depth research is needed to find these weights.

Susceptibility of Agency/Program to Fraud and/or Corruption

Before the methodology of testing the vulnerability of the organization/ program on the occurrence of illegal practices will be presented it is necessary to note that during the detection process, evaluators may use external and internal tip-off as a source of information. It is worth mentioning that tips were by far the most common means of detection of fraud since 2002 when Association of Certified Fraud Examiners (ACFE) began tracking the data. ACFE showed in its research that employees were the most common source of fraud tips (40,2 % of all detected cases of fraud). Tips were initial means of detection of fraud in 46,3 % all detected cases in government, 41,1 % all detected cases in public companies, 35,8 % all detected cases in private companies, and 43,2 % all detected cases in non-profit organizations. However, customers, vendors, competitors and acquaintances (i.e., non-company sources) provided at least 34% of fraud tips, which suggests that fraud reporting policies and programs should be publicized not only to employees, but also to customers, vendors and other external stakeholders[25].

To find out how far an agency or programme is susceptible to fraud and/or corruption, the following should be established:[26]

- Is there a potential for the entities which spend funds to derive advantages from the malfunction of the agency/programme? What are the sanctions for irregularities as compared with the potential benefits from the malfunction of the agency/programme?

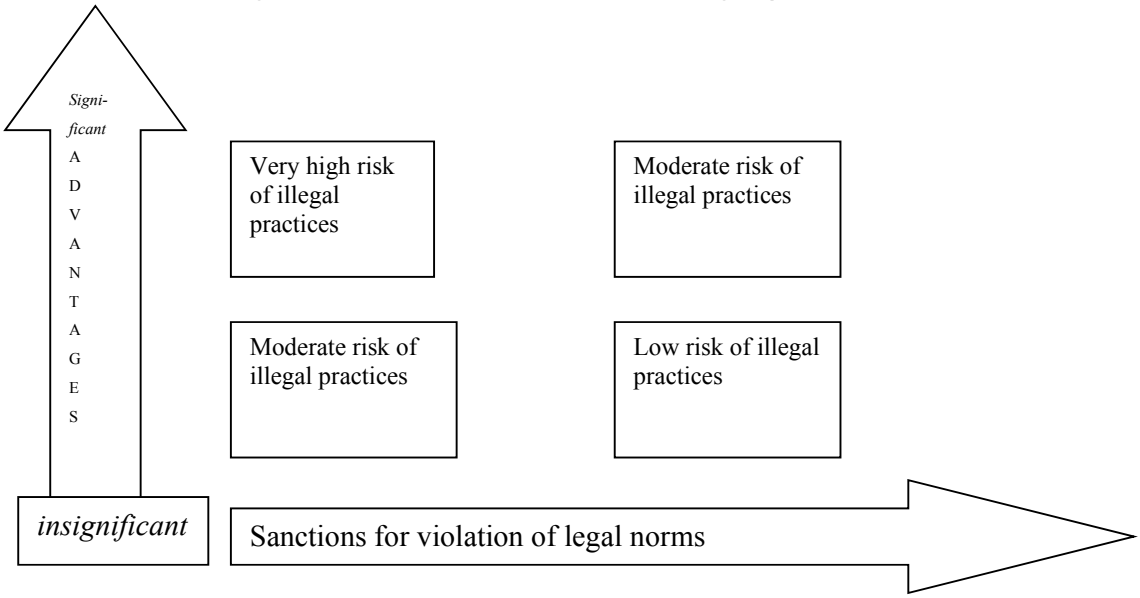
[25] *Report to the Nations. On occupational fraud and abuse. 2010 Global Fraud Study*, Association of Certified Fraud Examiners, 2011, pp. 16-19

[26] Z. Dobrowolski, *Korupcja w państwie.., op.cit.,* p. 92

- Has authority been delegated to and are public tasks performed by non-public entities? If yes, is there an appropriate supervision in place over how these tasks are performed?

Based on the results of three-year (anonymised) surveys of several hundreds of university students, including extramural students, which included employees of the private and public sectors, a matrix of the risk of illegal practices has been developed. The answers provided by respondents suggested that the more severe the sanction for a breach of rules relative to the expected advantages is, the lesser the temptation to breach these rules. In parallel, the less severe the sanctions relative to the expected advantages from breaching the rules, the more people declare they would be inclined to breach these rules. Obviously, this research has to continue and extend to a broader group of respondents. Nonetheless, the following matrix can be used for an initial diagnosis whether or not the agency/programme is susceptible to irregularities.

Figure 1. Matrix of the risk of illegal practices



Source: *Developed by Z. Dobrowolski*

a) Organisational Structure and Workplace

In diagnosing the susceptibility of an organisation and its staff to corruption and fraud, it seems appropriate to note the following issues. The functioning of a public agency or private organization depends on many factors, one of which is its organisational structure, which can be defined as the entirety of the defined functional and hierarchical dependencies between the

system's components, grouped within organisational units,[27] or the entirety of relationships bonding its constitutive parts. The evaluation should focus on any potential discrepancies between the assumptions of the organisational structure and its actual functioning. These differences usually arise from mistakes in the process of establishing the formal structure or transformations within the agency itself, most often under the influence of changes in the environment. Organisational chart named "organigram", is a graphic representation of the organisational structure. This structure should be compared to the actually binding one, called the "sociogram". By comparing these two structures, the following information can be obtained:

- extent to which the formal organisational structure is respected,
- actual leadership,
- informal links, including any instances of nepotism or cronyism.[28]

Evaluator should pay attention to the regularity of construction of workplaces, which requires the consistency between that three elements:[29]

- tasks for which the workplace has been established and the resulting duties of the staff member who occupies the workplace,
- authorisations and equipment necessary for the performance of the tasks,
- extent of responsibility of staff members.

It is also worth analysing if there is a practice of establishing workplaces specifically for certain individuals. If a workplace is established that allows to employ a specific individual, this can be a sign of nepotism, or political or environmental patronage. Someone close to the offender is being "settled in" regardless of their qualifications (this applies not only to recruitment, but also to unwarranted, e.g., unduly quick, promotion). However, it should be remembered that establishing a new workplace for a specific person can be justified. This involves the recruitment of a high-class specialist who should be given autonomy of action within their workplace.[30]

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[27] Z. Dobrowolski, *Organizacja i zarządzanie. Zarys problematyki i metod,* PWSZ Sulechów 2008, p. 123; J.A.F. Stoner, Ch. Wankel, *Kierowanie*, PWE Warszawa 1992, p. 208

[28] Z. Dobrowolski, *Organizacja i zarządzanie…op.cit.*, p. 64-65; Z. Mikołajczyk, *Techniki organizatorskie w rozwiązywaniu problemów zarządzania,* PWN Warszawa 1998, pp. 227-230; Z. Dobrowolski, *Korupcja w państwie.., op.cit.,* p. 86

[29] W. Kieżun, *Sprawne zarządzanie organizacją.,* SGH Warszawa 1997*,* p. 282

[30] W. Kieżun, *Sprawne zarządzanie organizacją.., op.cit.,* p. 283

Evaluator should also pay attention to the following issues:[31]

- Is the recruitment process conducted in such a way as to ensure that the best candidate for the workplace is employed?
- Are the entity's staff members provided with equal opportunities to develop their professional skills?
- Are transparent and intelligible rules in place for the assessment and remuneration of staff members?
- Has the written scope of responsibilities of individual staff members been dispensed with, and if yes – then why? Absence of a written scope of responsibilities supports diluted responsibility.
- Are specific duties, tasks assigned (in whole or in part) to several organisational units? Such situation can potentially lead to competence disputes or diluted responsibility.
- Is a case handled by a single staff member despite that the organisational chart and the scope of responsibilities say that it should be handled by several persons?
- Have there been instances of cases being handled by unauthorised persons, including those lacking relevant knowledge and qualifications?
- Have there been instances of staff members performing tasks that give rise to a conflict of interest?
- Have there been instances of cases being handled by a specific staff member despite that, according to the adopted organisational rules, the case should be handled by collegial bodies? What was the reason for such practices?
- Have there been instances of cases that should be handled by specific persons being handled by collegial bodies? What was the reason for such practices?
- How staff members are motivated to diligently perform the duties assigned to them?
- Do the persons responsible for irregularities bear appropriate liability? If not, then why not?

b) Decision-making Process, Functioning of Internal Control System

In addition to the final decision-maker, several entities participate in the decision-making process on its different stages and to a different extent. As a result, the contribution of the final decision-maker in the decision-making process can prove to be small.[32] Important role is played by these entities participating in decision-making which draw conclusions based on the information analysed and send these conclusions further without the underlying data. On the

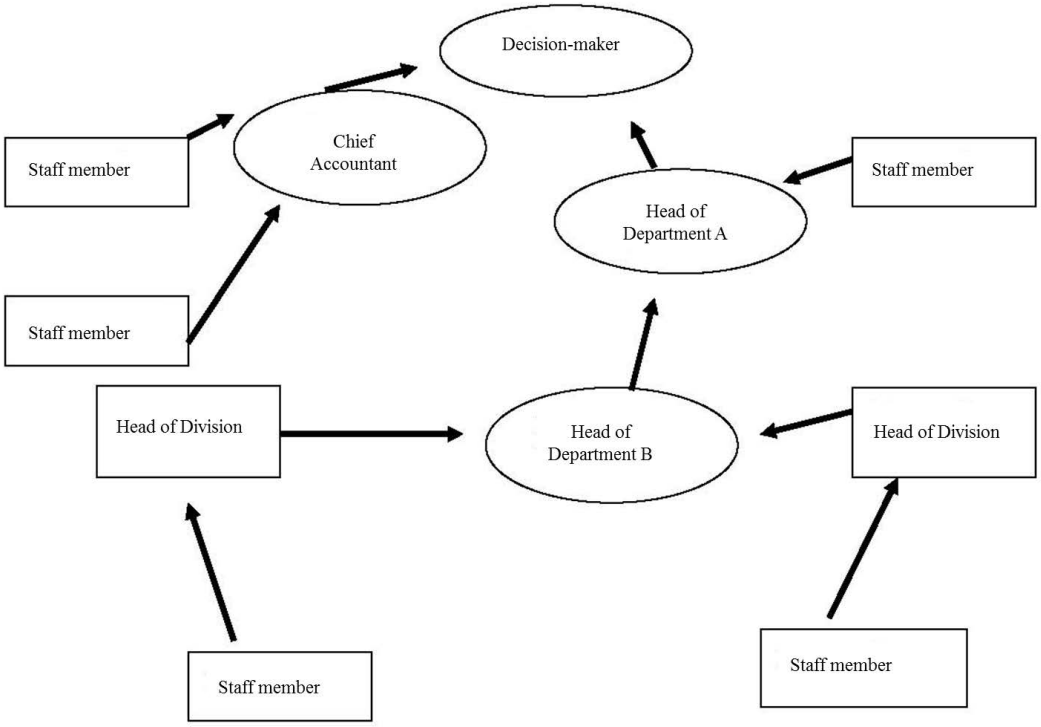
[31] *NIK wobec korupcji. Założenia strategiczne,* Kontrola Państwowa nr 1, NIK Warszawa 2003; Z. Dobrowolski, *Korupcja w państwie. Przyczyny, skutki, kierunki przeciwdziałania,* PWSZ Sulechów 2005; Z. Dobrowolski, *Oszustwa w życiu publicznym,* Wydawnictwo Organon Zielona Góra 2008, pp. 34-49

[32] Z. Dobrowolski, *Prakseologiczne uwarunkowania sprawowania władzy na szczeblu lokalnym* [in:] W. Sługocki (ed.) *Polityka regionalna w Polsce jako przestrzeń aktywności samorządu terytorialnego,* DW Elipsa Warszawa 2009, pp. 165-175; L. Habuda (ed.), *Proces decyzyjny w administracji publicznej,* Wydawnictwo UW Wrocław 2000, pp. 11-41, 77-94; H.A. Simon, *Podejmowanie decyzji kierowniczych. Nowe nurty,* Warszawa 1982, p. 373

latter stages of the decision-making process, these conclusions can be accepted or rejected. The underlying information can be examined on rare occasions and only based on a sample. This is due to, among other things, the complexity of the problem, limited amount of time, significant number of entities participating in information processing.[33]

The number of these entities (i.e. information processing stations) and the place occupied by them affect how influence is distributed within the organisation. Consequently, if the final decision-maker, i.e., the one who takes the formal decision, wants to preserve their dominant position within the organisation, they have to ensure due operation of the information processing stations.[34] Reliability of information affects the proper performance of the decision-making process.[35]

Figure 2. Example of information flow in a decision-making process



Source: *Developed by Z. Dobrowolski*

[33] L. Habuda (ed.), *Proces decyzyjny w administracji publicznej, op.cit.,* pp. 11-41, 77-94; Z. Dobrowolski, *Prakseologiczne uwarunkowania sprawowania władzy na szczeblu lokalnym*, *op.cit*., pp. 165-175

[34] Z. Dobrowolski, *Prakseologiczne uwarunkowania sprawowania władzy na szczeblu lokalnym*, *op.cit*., pp. 165-175

[35] *Ibidem*, and W. Kieżun, *Sprawne zarządzanie organizacją., op.cit.,* p. 238

Any decision should be rational, because this is the *sine qua non* for other attributes of performance, such as: effectiveness, economy, efficiency.[36] In practice, some risks are inherent in rational decision-making, and these can result from: multiple entities participating in the collection and transfer of information, potential for these entities to pursue their own objectives which are not necessarily consistent with the objectives of the final decision-maker or the organisation as a whole, difficult or impossible verification of information, inability to exactly predict future conditions that may be different from the conditions considered when the decision is taken. The choice does not necessarily involve a single objective, but multiple objectives at once, which inclines the decision-maker to take a compromise decision.[37] Given that a decision may arise from gradual adjustment of the decision-making process to changing conditions, several stages can be distinguished in this process, whereas the degree of decomposition of the decision-making process depends on the complexity of the problem to be solved. These stages include the following:

- decision initiation stage, i.e., inserting assumptions to the programme;
- decision content formulation stage, i.e., presentation of proposals for solutions;
- solution implementation stage;
- and decision evaluation stage.[38]

On the first stage, the problem is structured, in other words, one of the many problems that need solving are being selected. Various entities are involved in this process. The initiative to turn the decision-maker's attention to a specific problem can originate from internal entities, such as heads of certain departments of a city council, or external ones, such as civil-society organisations, media, interest groups, for instance persons interested in acquiring certain council property.[39]

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[36] T. Kotarbiński, *Traktat o dobrej robocie*, Ossolineum Wrocław 1975, p. 134; Z. Dobrowolski, *Prakseologiczne uwarunkowania sprawowania władzy na szczeblu lokalnym, op.cit*., p. 165-175; L. Habuda (ed.), *Proces decyzyjny w administracji publicznej, op.cit.,* pp. 11-41, 77-94

[37] T. Pszczołowski, *Zasady sprawnego działania. Wstęp do prakseologii,* edition V, Wydawnictwo Wiedza Powszechna Warszawa 1976, p. 93; . Dobrowolski, *Prakseologiczne uwarunkowania sprawowania władzy na szczeblu lokalnym*, *op.cit.,* pp. 165-175; L. Habuda (ed.), *Proces decyzyjny w administracji publicznej, op.cit*., p. 11-41, 77-94

[38] Z. Dobrowolski, *Prakseologiczne uwarunkowania sprawowania władzy na szczeblu lokalnym*, *op.cit.,* pp. 165-175; L. Habuda (ed.), *Proces decyzyjny w administracji publicznej, op.cit*., pp. 11-41, 77-94

[39] Z. Dobrowolski, *Prakseologiczne uwarunkowania sprawowania władzy na szczeblu lokalnym, op.cit*., p. 165-175; L. Habuda (ed.), *Proces decyzyjny w administracji publicznej, op.cit*., pp. 11-41, 77-94

On the second stage of the decision-making process, i.e., the stage when the proposal for how to solve the problem is put forward, the entities to participate in preparing a proposal for how to deal with the problem have to be assigned, and one of the many options for how to solve the problem has to be chosen. The relationship between the entities participating in the decision-making process can be consensual, which means that the decision is taken through negotiation with various entities, or non-consensual, where the decision-maker imposes his solution on other entities.[40]

The next stage of the decision-making process, i.e. decision implementation, involves primarily executors rather than decision-makers. The size of the administrative machinery, the multiple and complex public tasks, and the high cost of full control of the implementation process force the decision-maker to allow executors some defined scope of discretionary powers. This, in turn, gives rise to the risk of "administrative drift", i.e., the actual outcomes being different from the intended ones. It should be noted that also on this stage of the decision-making process, interest groups can play a significant role. They can influence the decision executors.[41]

The final stage of the decision-making process evaluates the decision taken and the effects of its implementation. The decision-maker should have current and reliable knowledge of the intended and unintended effects of his decision. This knowledge is essential, because there is a risk of decisions to be modified or specific measures not being taken in future. On this stage, interest groups can influence the process of information generation and distribution. For instance, essentially sporadic mistakes in the decision implementation can be exaggerated, and positive effects of the measures can be ignored.[42]

In making a decision, the decision-makers can pay no attention to public interest. In such instances, the decision-making powers will be used to pretend that rational measures are taken. For instance, SAI audit revealed that a company partially owned by a municipal authority acquired, appraised and sold a real property in such a way that only a specific person could buy it.[43]

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[40] *Ibidem*

[41] *Ibidem*

[42] *Ibidem*

[43] NIK audit no. S/08/002

It is also worth noting that the culture of a society my affect the way in which tasks are performed by agencies. The culture of a society defined in the internalised meaning[44] affects the organisational culture, and therefore how public interest is pursued.[45] The impact of social attitudes on how the government and its agencies function (including on the organisational culture[46]) was emphasised by, among others, the World Bank.[47]

The course taken by the agency, the type of tasks it performs, is the result of action of multiple socio-political, and economic/technical factors.[48] The manager's decisions are influenced by expectations of dispositional nature formulated by decision-makers, legal, economic, social, political settings, the mass media, civil-society organisations, informal pressure groups. Also the organisational culture can influence the agency's activities. One additional variable should be added to the above-mentioned considerations – personality of the managers, their response to incentives arising from the variable.

Certainly, even more variables can be identified, but this is not the purpose of this study. Instead, it should be noted that the general course the agency has taken as a result of the decisions taken by its head should be seen as resulting from the optimisation of managerial behaviours at the given setting of variables.[49] Figure 3 presents a model of relativism of managerial decisions. Considering the above, the following should be identified:[50]

- With a focus on the entities participating in the decision-making process, the following should be established: Were conclusions from information analysis derived properly? Were the conclusions modified on the stage of transferring them to the decision-maker? If yes, by whom? Who and to what extent verifies whether information is processed accurately in the decision-making process? The evaluator should therefore establish who has drafted the decision and based on what information.

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[44] i.e., consisting in the assimilation of normative patterns and models or values, which is manifest in how individuals behave.

[45] A. Czermiński, M. Czerska, B. Nogalski, R. Rutka, J. Apanowicz, *Zarządzanie organizacjami,* Dom Organizatora Toruń 2001, pp. 585-608; Z. Dobrowolski, *Organizacja i zarządzanie. Zarys problematyki i metod, op.cit.,* pp. 167-171

[46] Which comprises assumptions, norms and values and artefacts, i.e. artificial creations of culture – myths (job security, insecurity, etc.), ceremonies, etc., see Z. Dobrowolski, *Organizacja i zarządzanie. Zarys problematyki i metod, op.cit.,* pp. 167-171

[47] Z. Dobrowolski, *Korupcja w państwie.., op.cit., pp.* 17-18

[48] Z. Dobrowolski, *Organizacja i zarządzanie. Zarys problematyki i metod, op.cit*., p. 166; W. Kieżun, *Sprawne zarządzanie organizacją, op.cit.,* p. 162

[49] Z. Dobrowolski, *Organizacja i zarządzanie. Zarys problematyki i metod, op.cit.*, pp. 164-165; W. Kieżun, *Sprawne zarządzanie organizacją, op.cit*., pp. 161-165

[50] Z. Dobrowolski, *Korupcja w państwie.., op.cit.,* pp. 86-90; *Zagrożenie korupcją w świetle badań kontrolnych NIK,* Najwyższa Izba Kontroli Warszawa 2000 (reproduced typescript)

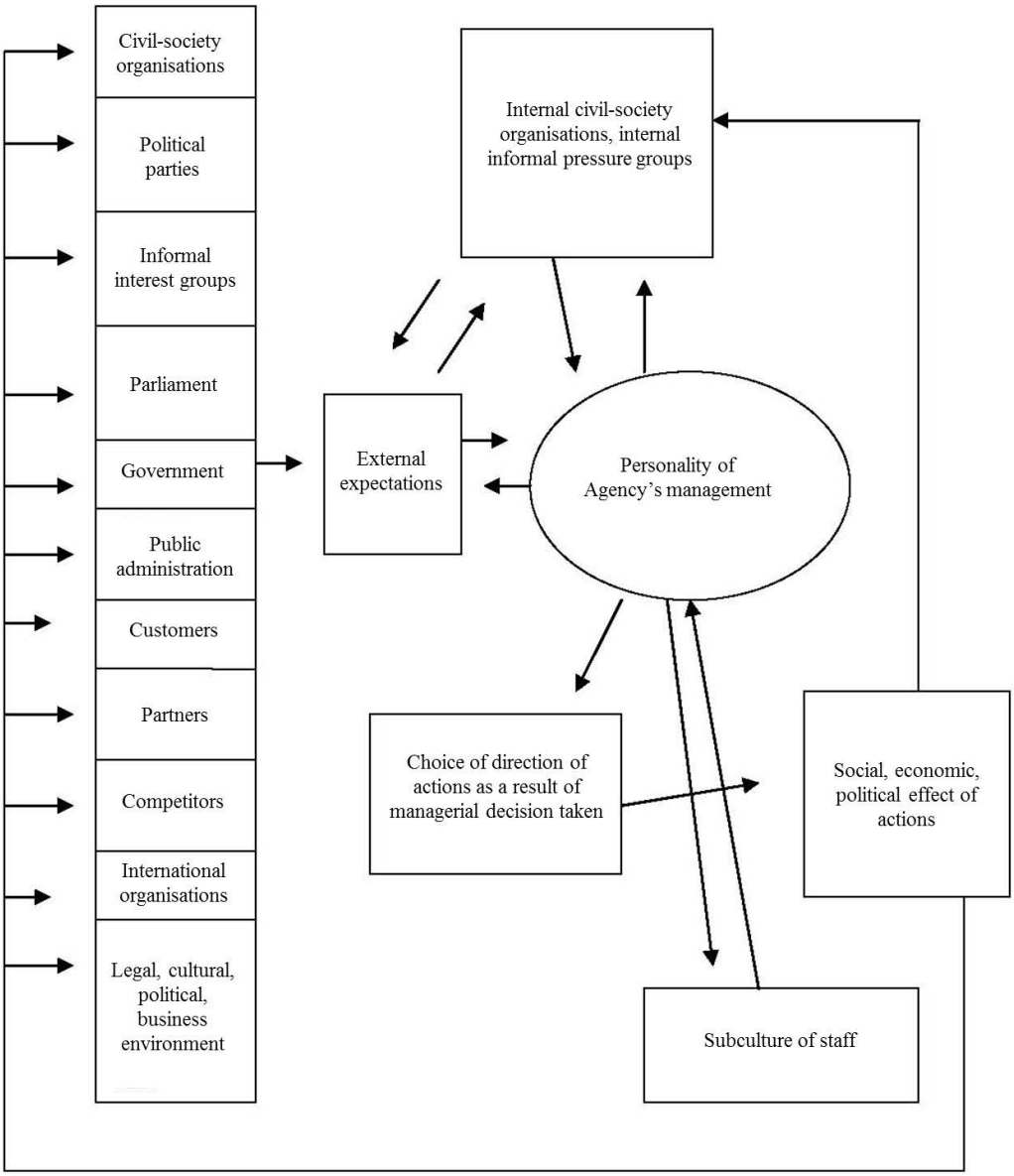
- Was the applicable procedure for agreeing the final decision ignored, and if yes – why?
- Was the applicable procedure for seeking opinion or expert study prior to taking the final decision ignored, and if yes – why?
- Was there a situation where the decision taken was inconsistent with the opinions submitted on the stage when the case was handled? If yes – why?
- Was the case handled at the time and place designed for this purpose?
- Are decisions being taken on a discretionary basis, and if yes – is the decision-making procedure intelligible and are all stakeholders bound by the same criteria by which to take a decision?
- Are the decision-making criteria known to the stakeholders, is there a possibility of getting familiar with these criteria, or else only some entities have access to them? If yes – why?
- Are cases handled according to verifiable criteria or else according to the decision-maker's subjective judgement?
- Is it possible to establish and verify the reasons why the case was decided on in a certain way in a situation where the case was decided on according to the decision-maker's subjective judgement?
- Had the addressees of the decision been informed about how the case was decided on, and if yes – how? Did the decision-maker present to the stakeholders the reasons underlying the decision? It should be remembered that any decision should be substantiated in such a way as to allow for its verification. This applies not only when the decision is likely to be appealed against, but also in the case of decisions favourable to the applicants. Transparency of the decision-making process supports the fight against corruption and fraud.

To identify whether the parties to proceedings conducted by public entities are treated equally, the following should be established, among other things:[51]

- Are the requirements the same for all those who seek the same business to be resolved? In other words, is there a situation where some people are requested to submit many documents while others are not required to do so?
- What is the order of dealing with cases? Are there instances of unreasonable speeding up of some cases, handling them out of turn, or delaying the handling of others? Why were cases handled out of turn? Why was case handling delayed? It is worth bearing in mind that if the handling of a case is delayed, this can be aimed at disrupting the entity's operations or even eliminating it from participation in certain projects.
- Were there cases of different resolution of identical cases? If yes – why?
- In addition, considering the above questions, it should be identified whether the decision-making procedure offers to all stakeholders the same criteria for resolving the case; and whether the decision-making criteria are known to all the stakeholders and if there is a possibility to get familiar with these criteria.

[51] Z. Dobrowolski, *Korupcja w państwie.., op.cit.,* p. 88; *Zagrożenie korupcją w świetle badań kontrolnych NIK,* Najwyższa Izba Kontroli Warszawa 2000 (reproduced typescript);

Figure 3. Relativism of managerial decision



Source: *Developed by Z. Dobrowolski*[52]

Information technology is used nowadays in the decision-making process. With the development of IT, including increasing use of the Internet, there can be attempts to steal or purposefully alter the data held. With this in mind, answers to the following questions should be sought:

- Are there solutions in place to secure the data in the IT system against theft, alteration or destruction? What is the effectiveness of these solutions?
- How is access to the password allowing for bank transfers protected? Are bank transfers

[52] Based on: Z. Dobrowolski, *Organizacja i zarządzanie. Zarys problematyki i metod*, *op.cit*., p. 166; W. Kieżun, *Sprawne zarządzanie organizacją, op.cit*., p. 164

carried out by authorised individuals? (the date of transfer should be checked and compared to the employee time sheet. For instance, transfers made by the chief accountant can be compared to the timesheet certifying her presence at work).

- Is software modification preceded by appropriate training to prevent chaos and alteration of information?

The risks related to the use of IT systems are discussed in a subsequent part of this study.

Weakness of the internal control system – manifest, e.g., in poor organisational capacity and staffing of audit or internal-control units, and in their mainly ad-hoc, rather than planned activity, can be conducive to corruption and fraud. The audit should identify the following:[53]

- Does the agency have an internal-control unit, and if yes – who do internal controllers report to, and to what extent? Is there a situation where internal controllers report to a mid-level manager whose activities they are due to control? If such situation exists, how this affects the reliability of performance of tasks by internal auditors? Are there mechanisms in place to allow them to perform their duties diligently?
- Is there a relationship between the internal controller and their supervisor that affects the impartiality of the control procedure? (for instance, resulting from nepotism or cronyism)
- Is the capacity of the internal-audit unit, including its staffing, adequate for the size of the agency and for the scope of its tasks?
- How are control plans developed? Are control activities conducted on a systematic, or rather *ad-hoc* basis?
- Does internal control, as part of verification of regularity of the decision-making process, address already resolved cases, especially those which are resolved favourably to the applicant?
- Are the results of internal control used by senior or mid-level management, and to what extent?

The research carried out by Certified Fraud Examiners found that the main weaknesses of the internal control system include, among others:

- inadequate supervision,
- failure to apply ethical rules among managers,
- inadequate control of the agency's activities,
- lack of training on combating fraud, on proper functioning of the internal control system,
- inadequate distribution of powers,
- incorrect reporting,

[53] *Zagrożenie korupcją w świetle badań kontrolnych Najwyższej Izby Kontroli przeprowadzonych w roku 2004,* NIK Warszawa 2005, p. 7; Z. Dobrowolski, *Korupcja w państwie.., op.cit.,* p. 89; *Zagrożenie korupcją w świetle badań kontrolnych NIK,* Najwyższa Izba Kontroli Warszawa 2000 (reproduced typescript)

- failure to apply the applicable procedures,
- lack of a system to prevent irregularities in the organisation.[54]

It should be noted that in 80.6 % of all entities at which fraud was detected, the internal control system was modified in order to eliminate this practice. However, 19.4% of such entities failed to take measures to strengthen the internal control system despite that fraud had been detected.[55] More in-depth research is needed to identify why appropriate measures have not been taken. Out of all entities which took corrective measures in response to fraud being detected in their activities, 16.4% conducted training of their staffs on combating fraud, and 14.8% included the managers in such training. 61.2 % of the entities introduced what is called the "many eyes" rule, and 8.7% introduced professional ethical standards. In 7.9% of these entities, an irregularity reporting system ("*hot line system*") was introduced, whereas in 12.3% – audit units have been established.[56]

In studying the problems of internal control it should be borne in mind that an internal control system involves procedures, policies, rules, mechanisms adopted by an entity, which provide reasonable assurance that the entity's objectives will be achieved.[57] The International Organization of Supreme Audit Institutions (INTOSAI) considers audit to be an internal or external institutional verification, whereas internal control means functional verification. INTOSAI defines internal control as measures whereby the entity's management seeks assurance from internal sources that the processes it is responsible for minimise the risk of fraud, error, or uneconomic or ineffective practices.[58] Internal control is also defined as an integral component of the business's or agency's management that provides reasonable assurance that the following objectives are achieved: effectiveness and efficiency of operations, reliability of financial reporting, and compliance with applicable laws and regulations.[59]

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[54] Z. Mladenovic, *The Role of SAI In Fighting F&C,* Slovenian Court of Audit, Lubjana 2011 (typescript), p. 106

[55] *Ibidem*

[56] *Ibidem*

[57] *Glosariusz terminów dotyczących kontroli i audytu w administracji publicznej [Glossary of Terms Related to Audit in Public Administration],* NIK, Kancelaria Prezesa Rady Ministrów, Ministerstwo Finansów, Ministerstwo Spraw Wewnętrznych i Administracji, Warszawa 2005, p. 38

[58] *Standardy kontroli INTOSAI,* NIK Warszawa 2000, pp. 73-77

[59] D. Walker, *Standards for Internal Control in the Federal Government,* GAO Washington D.C. 1999; Z. Dobrowolski, *Organizacja i zarządzanie, op.cit.,* p. 251

It should be also borne in mind that audit carried out by an internal auditor comprises all measures whereby the manager obtains objective and independent evaluation of the entity's financial management in terms of legality, sound management, efficacy, integrity, transparency and disclosure. Internal audit covers, in particular: checking supporting documents and entries in the books of account (financial audit), evaluation of the system of obtaining and managing public resources and of managing public property (system audit), assessment of efficiency and soundness of financial management (performance audit).[60]

In analysing whether operations are properly documented and reported on, the following should be identified, among other things:[61]

- Have the documenting and reporting rules been laid down, and how is the system of control of compliance with these rules organised? What is the effectiveness of this system? What measures have been taken to eliminate the potential for forging or altering documents?
- Are all essential acts, taken as part of a specific activity, documented? Who verifies the documents produced, and to what extent?
- How are the rules for storing and securing documentation, raw materials, merchandise, products against unauthorised access defined; are these rules adhered to?
- Is documentation complete?
- Are translations of foreign-language documents verified? How?
- In the case of organisational changes, are documents, merchandise, products transferred in compliance with applicable regulations?

c) Supervision in Companies

To prevent corruption and fraud in companies, e.g., limited-liability companies partially owned by local authorities, an effective supervision system has to be applied. In these companies, the activities of supervisory boards should be analysed.

Based, among other things, on the rules & regulations of supervisory boards and minutes of their meetings, the following should be identified:

- Have supervisory board members who represent the State Treasury been appointed in compliance with specific legal regulations?
- Have supervisory board members who represent local authorities at the company passed the examination in accordance with the legislation on commercialisation and privatisation? If not – why not?

[60] See *Glosariusz terminów dotyczących kontroli i audytu w administracji publicznej [Glossary of Terms Related to Audit in Public Administration],* NIK, Kancelaria Prezesa Rady Ministrów, Ministerstwo Finansów, Ministerstwo Spraw Wewnętrznych i Administracji, Warszawa 2005, p. 12

[61] Z. Dobrowolski, *Korupcja w państwie.., op.cit.,* pp. 88-89; *Zagrożenie korupcją w świetle badań kontrolnych NIK,* Najwyższa Izba Kontroli Warszawa 2000 (reproduced typescript);

- How the rules & regulations of the company's supervisory board define its supervisory powers over the company's management-board members?
- Has the supervisory board conducted ad-hoc audits of the company's business? How? How information was obtained? Are supervisory measures limited only to reviewing the findings of the audit of company's financial statements prepared by an independent auditor?

The findings of audits of financial statements conducted by independent auditors are a valuable source of information. However, reviewing these finding does not relieve the evaluator from the duty to independently analyse specific issues. Polish SAI audits found cases where supporting documents were unreliable despite that the independent auditor issued a favourable opinion on financial statements and did not question the reliability of the supporting documents, or the functioning of the company's internal control system. It was also found that members of the supervisory board of one company partially owned by a local authority failed to take effective measures to elucidate an issue even though they received information from the company's chief accountant that the President of the Management Board could commit an offence.[62]

d) Unequal Access to Information

Evaluation into the risk of corruption and fraud should be conducted in two areas. First, the making of regulations and the potential for this process being appropriated by interest groups,[63] second, the conduct of tendering procedures. In order to find out whether there is a scope for fraud and/or corruptive mechanisms arising from unequal access to information, the following should be identified, among other things:[64]

- What was the part played by the entities interested in specific regulations in working out these regulations?
- Have legal regulations been properly promulgated?
- Was there a practice in the agency's activities of providing selective access to information, issuing instructions to ensure advantages to selected entities?
- Does the entity inform about its operations? If yes – how? Is the information reliable?
- Were the applicable legal regulations on timely announcement of notices complied with?
- Were the notices reliable?

[62] NIK audits no. S/08/002 and no. I/09/008

[63] This problem is addressed by the theory of public choice

[64] Z. Dobrowolski, *Korupcja w państwie.., op.cit.,* pp. 89-90; *Zagrożenie korupcją w świetle badań kontrolnych NIK,* Najwyższa Izba Kontroli Warszawa 2000 (reproduced typescript);

In dealing with some matters, public authorities not always inform all stakeholders about the available opportunities. The information can be deliberately distorted to eliminate "unwanted" entities from participating in the procedure. Those editing the content of tendering notices can aim to mislead potential "unwanted" investors. For instance, posting a notice of a tendering procedure for a contract to build a landfill for municipal waste, where in fact what is meant is a hazardous waste landfill, may to a significant degree alter the course of the future procedure, because the tendering may be ignored by the entities interested in the construction of a storage-place for hazardous waste.

Another example is the notice of a tendering procedure for the sale of municipal real properties. Publishing in local newspapers a notice that the plot of land to be sold is partially overgrown with trees is, from the point of view of the entities interested in buying it, a totally different information from the notice that the plot is a historical park. Especially when municipal real property is to be sold, it should be investigated whether the tendering notice had any information about the requirement for potential investor to submit a development concept for the real property offered for sale. Such requirement can be aimed at eliminating "unwanted" bidders from the tendering procedure, especially in circumstances where one of the bidders was able to submit such concept already prior to the announcement of the tendering procedure.

e) Lack of Anti-corruption Solutions

One corruption-facilitating mechanism identified by the Supreme Audit Office is the absence of anti-corruption solutions.[65] In order to investigate whether or not anti-corruption measures are taken by a specific agency, the following issues have to be noted:

- What is the level of understanding of corruption-facilitating mechanisms among the auditee's managers and staff?
- Are measures in place to prevent an official from handling a case that he or those close to him may be interested in?
- How managers or staff of the public agency are prevented from performing tasks inconsistent with their public function? (For instance, an employee of a Town Municipal Office participating in a procedure to issue a building permit develops a construction design as an architect in private time. Another example: One of the appointed Contract Award Committee members is a person who two years earlier acted as site engineer for a contractor bidding for a public contract and failed to disclose this fact in the statement – form ZP-11). What measures are taken against those who are involved in a conflict of interest?

[65] *Zagrożenie korupcją w świetle badań kontrolnych Najwyższej Izby Kontroli przeprowadzonych w roku 2004,* NIK Warszawa 2005, p. 7

- What is the process of verification of asset disclosure statements for those required to provide such statements?
- What measures are taken against those who fail to provide asset disclosure statements or provide fraudulent asset disclosure statements?

2. Conclusion

It is difficult to describe the diagnosis of organizational pathology in a single article. Therefore the article focuses on selected issues related to the analysis of corruption and or fraud. The analysis should be carried out further to determine the symptoms of corruption or fraud, and to find out how the agency's management prevent irregularities. The issue of combating corruption, fraud, money laundering, should be the subject of subsequent articles. Combating these pathologies, such as providing reliable accounting, aims to improve public life.

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Good governance and the Non-Governmental Organizations

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Abstract

In this article I would like to concentrate on connections between the values of good governance and the activities of non-governmental organizations, how these two entities interact with each other. First of all, I went through the definition, what does the term good governance mean and how it is understood in different environments. Why it is so important for many societies to implement the values of good governance in all sectors of public and privet life, besides that they have different meaning in almost every culture. Secondly, I analyzed the role of NGOs in promoting value of good governance and how this role is understood at the international fora.

Good governance and the Non-Governmental Organizations

Before getting into a discussion on the role of Non-Governmental Organizations in today's world, it is worth defining the term non-governmental organizations (NGOs) and good governance. Non-governmental organizations (NGOs) are legally constituted corporations created by natural or legal people that operate independently from any form of government. The term originated from the United Nations, and normally refers to organizations that are not a part of a government and are not conventional for-profit businesses.

There is no single and exhaustive definition of "good governance," nor is there a delimitation of its scope, that commands universal acceptance. The term is used with great flexibility; this is an advantage, but also a source of some difficulty at the operational level[66]. Very often the term "good governance" is connected to the public affairs and way to manage public resources. Governance is a decision making process and their way of implementation. It's not only about making "correct" decisions, but about the best possible process for making those decisions. In practice good governance is used in many sectors and areas of activities and to describe interactions between different groups of society.

It is not possible to list the different forms of governance because there are many standards that vary in different societies and countries. A variety of country level initiatives and international movements put emphasis on various types of governance reform. Each movement for reform

[66]http://www.ohchr.org/en/Issues/Development/GoodGovernance/Pages/GoodGovernanceIndex.aspx,7.01.14

establishes criteria for what they consider good governance based on their own needs and agendas. At these places it is worth to remember that cultural differences can cause conflicts with the heterogeneous standards of the international community. The conclusion should be that the meaning of good governance should be tackled individually in every country, at least in region, especially when the implementation is meant.

Good governance and human rights are mutually reinforcing. Human rights principles provide a set of values to guide the work of governments and other political and social actors. They also provide a set of performance standards against which these actors can be held accountable. On the other hand, without good governance, human rights cannot be respected and protected in a sustainable manner. The implementation of human rights relies on a conducive and enabling environment. This includes appropriate legal frameworks and institutions as well as political, managerial and administrative processes responsible for responding to the rights and needs of the population[67].

There are some international bodies such as: The International Monetary Fund[68], The United Nation[69], the World Bank[70] or the OSCE[71], which promote, in general terms, implementation of good governance standards. The aim of it is to bring different countries on the same/relevant level of implementation of principles of, inter alia, transparency, accountability, anti-corruption, rule of law. All these values complement and reinforced each other. But for all countries, which are members of the above mentioned organizations, stronger political will is needed in order for commitments to be met and reflected in national legislation and practices. What is more, all stakeholders from private and public sector as well as civil society should be included in the decision making process to make it more beneficial and effective.

N. Al-Rodhan proposed eight minimum criteria for ensuring good national governance. These are: 1) participation, equity, and inclusiveness, 2) rule of law, 3) separation of powers, 4) free, independent, and responsible media, 5) government legitimacy, 6) accountability, 7) transparency, and 8) limiting the distorting effect of money in politics. In the book, he argues that good national governance is an important component in creating a history of sustainability

[67]http://www.ohchr.org/en/Issues/Development/GoodGovernance/Pages/GoodGovernanceIndex.aspx,7.01.14

[68] The IMF promotes fighting corruption and ensuring rule of low, accountability, balance between too much or too less regulations in certain good governance policy.

[69] The United Nations promotes development through political institutions reform.

[70] The World Bank promotes reform of economic and social resources control.

[71]The OSCE promotes principles of transparency and good governance as well as the necessity to address transnational and cross – border challenges to security.

for the human race. For Al-Rodhan, the eight minimal criteria of good governance are expressions of the fundamental values of democracy and more liberal constitutionalism[72].

According to the World Bank, good governance has to have three aspects[73]: first, the form of political regime; second, the process by which authority is exercised in the management of a country's social and economic resources for development. Third, the capacity of the government to design, formulate and implement policies and discharge functions. Good governance can be defined as a mechanism of managing resources, either in substances or implementation that is purposing to achieve an efficient and effective development fairly[74]. Thus, good governance will be achieved when there's a balanced system between state's element and societal institution (societal organization, NGO's, and mass media, etc.) in the process of checks and balances, and there's no one of them who has an absolute control of it.

The EU promotes values of good governance, which in the EU Sustainable Development Strategy (EU SDS) is defined as objective promoting coherence between local, regional, national and global actions in order to enhance their contribution to sustainable development[75].The EU monitored mainly the principles of good governance such as: implementation of rule of law, participation in elections, e-governance, in order to ensure and empower the sustainable development not only in the EU region. The EU achievements in these activities are growing, mostly because the UE bodies are more trusted in the society.

Non-governmental organizations are often used as bodies promoting the broad scope of the good governance. But in different circumstances, NGOs may be used in a various way. What does the term NGO really mean in different areas of good governance methodology? Kofie Annan said that NGOs are the "conscience of humanity"[76]. Some people think that NGOs are "pressure groups" or "lobby groups". NGOs may be considered as bodies which could have great legitimacy, sometimes more than national authorities. Economists sometimes refer to NGOs and the broader, non-profit part of the economy as the "Third Sector", to distinguish it

72 N. Al-Rodhan, *Sustainable History and the Dignity of Man: A Philosophy of History and Civilisational Triumph, 2009.*

73 L. Prakash, *Good Governance: As If People Matter*, accessed from http://www.jesuit.ie/ijnd/ goodgovernance.pdf on May 9th 2008.

74 *Kompilasi Bahan Diskusi Rutin 'Good Governance',* accessed from http://www.goodgovernance-bappenas.go.id/informasi.htm on May 8th 2008.

75 http://epp.eurostat.ec.europa.eu/portal/page/portal/sdi/indicators/theme10, 13.01.2014

76 Speech of Kofi Annan in 2002, accessed from Global Policy Forum, http://www.globalpolicy.org/component/content/article/185/40406.html, 13.01.2014

from government and private business[77]. At the other hand NGOs create "public goods", needed by citizens, which are not ordinarily created in the profit market place.

In the past NGOs were treated as panacea for all illness such as poverty, lack of democracy or lack of economic growth. Most believed that NGOs could be part of civil society and that they can contribute to good governance. But to keep these points of view as credible notions the NGOs should reform themselves in order to increase transparency, accountability and efficiency. Nowadays the role of NGOs is seen unfortunately in different way, rather negative or biased.

Some governments and international organizations at times find NGOs a nuisance or even threatening to their interests. But officials nonetheless look to NGOs for innovative ideas and information. Officials also grudgingly recognize that consultation with (and support from) NGOs gives their public decisions more credibility[78]. At the other hand the officials and the international organization know that non-governmental organizations influence citizen participation in governance through advocacy, capacity building and education in order to create or strengthen civil society and the rule of democracy.

So, all those bodies (government, private sector companies, officials) juggle with the NGOs and use them for various purposes whenever they need it. The NGOs know as well that they need support from either officials or international society so they are ready to play these games. That's why NGOs are often meant as serving donor's interests.

In specific areas such as environment and good governance policies, the NGOs create networks in order to strengthen their efforts to achieve a common goal. Only with coordination and working together they become a good negotiation position at the local, regional or international level. Due to globalization the NGOs have to represent the cross border community and reflect their needs. Networks of NGOs can be better recognized by international communities and international organizations.

It is worth mentioning that besides all accusations to the world of NGOs, for the time being, they constitute the strongest allies and trusted agents of the Western governments and international development organizations.

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[77]J.A. Paul, Executive Director, Global Policy Forum, http://www.globalpolicy.org/component/content/article/177/31611.html; 8.01.2014

[78]J.A. Paul, Executive Director, Global Policy Forum, http://www.globalpolicy.org/component/content/article/177/31611.html; 8.01.2014

Countries around the world are seeking to encourage the growth of an independent, voluntary not-for-profit sector, sometimes known as civil society, to serve as a partner with the government and for-profit sectors for social and economic development. NGOs are moving beyond charity and self-help activities, and are increasingly being asked to perform important services once the exclusive province of the government. They are being encouraged to seek funding for their expanded activities not only from charitable contributions and volunteer services, but, increasingly, from government grants and contracts and by encouraging business sponsorship and cooperation in new social and development-oriented activities[79]. Increasing cooperation between government and NGOs could lead to better understanding, what the society really needs and complement work of both sides.

NGOs relationship with development partners - like the other local non-for-profit organizations, international NGOs, national and international governments, international development agencies, and the private sector need to be redefined. The present practice where NGOs are merely seen used as implementing agents and consultants by the international donor agencies, for instance, does not seem to have yielded enough result[80].

Conclusion

Taking into account above mentioned arguments, it is easy to understand, that NGOs could be helpful in persuading governments and civil society to implement good governance in public and private sector. But the NGOs need to reexamine the way, how they are working. In many societies they need to improve not only their independence and transparency. Nongovernmental organizations can indeed serve society. Especially in a time when governmental bodies are withdrawing from direct delivery of public services, goods and programs.

[79] A. E. Ezeoha, Can NGOs Aid Good Governance and Sustainable Development in Africa? Some Theoretical Insights, http://www.jsd-africa.com/Jsda/Fall2006/PDF/Arc_Can%20%20NGOs%20Aid%20Good%20Governane.pdf, 8.01.2014

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Format and Style

The manuscripts should include:

- no more than 20 single spaced pages (or 10,000 words);
- an abstract not exceeding 150 words - it should summarize the purpose, methodology, and major conclusions of the article;
- the title, the authors name(s), position/post and institutional affiliation (ministry, university, etc.), email address and any acknowledgements;
- authors should write in a non-sexist and non-discriminatory style, using, for example, "her/him"; or "s/he"
- limited use of abbreviations to improve ease of reading, appropriate references (see below) to the literature on the subject to support facts, assertions and opinions; all quotations should be fully referenced;
- footnotes, identified in the text by a numeral that is superscripted, should not include literature citations, and should be listed at the end of the paper, before the bibliography.

Referencing the text

References in the text to books, articles etc. should include the authors' names, the year of publication, and the specific page numbers if direct quotations are provided (e.g., Mickey & Donald, 1968, p.24). For more than two authors, the citation should be abbreviated as follows: (Kramdon and others, 1988, p.1). Multiple citations of the same author(s) in the same year should be distinguished in the text (and in the bibliography) by a, b, c, etc. following the year of publication. Latin terms, for example, et al, ibid or op cit should be avoided.

Bibliography

A bibliography should be included at the end of the text containing details of all books, articles papers, etc. which have been referenced in the text. The bibliography should only include references cited in the text. These should be arranged in alphabetical order according to the surname of the first author. The following details should be included: author and initials, full title and subtitle, place of publication, publisher, date, and page references (for direct quotations). References to journal articles must include the volume and number of the journal.

Where possible, details should be provided of the web address for material which is available on the Internet. In this case the date the material was read should be provided.

The layout should adhere to the following convention:

- articles:

  Schick, A (1998) 'Why Most Developing Countries Should Not Try New Zealand Reforms', *The World Bank Research Observer*, Vol.13, No.1, February. pp.123-31

- books:

Guthrie, J. Humphrey, C. Jones, L R. & Olson, O., (2005), *International Public Financial Management Reform*, Greenwich, Information Age Publishing

- citations from edited books:

  Flynn, N (2002) 'Explaining New Public Management: The Importance of Context', in K McLaughlin, S Osborne and E Ferlie (eds.) *New Public Management: current trends and future prospects,* London, Routledge

- translated books

  Adorno, T. W. Negative Dialektic (Frankfurt: Suhrkamp, 1966). *Negative Dialectics*, E. B. Ashton (trans) (1973) New York, Seabury Press

- reference to a report.

  World Commission on Environment and Development (1987) *Our Common Future* ('The Brundtland Report') Oxford, Oxford University Press

- references to material on the Internet

  Dorotinsky, Bill (2008) *Public Financial Management Reform: Trends and Lessons*, ICGFM DC Forum, June
  http://icgfm.blogspot.com (6 September 2008)

Charts, Diagrams, Figures and Tables

These should all be called figures, numbered consecutively in arabic numerals, with a brief title in capitals, labeled, axes, etc. The text should indicate where the figure is to appear.

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We would also like to hear from other individuals who would be willing to assist with the editorial work of the Journal. The work would consist of reviewing potential contributions, suggesting whether they should be accepted for publication and making editorial recommendations to improve the quality of submissions.

Please contact the editor, Zybslaw (Peter) Dobrowolski - peterdobrowolski@pro.onet.pl - if you would like to discuss the role of the editorial board and any input you could provide.

International Journal of Governmental Financial Management - www.icgfm.org/journal.htm

Invitation aux Auteurs Potentiels

Le *Journal International sur La Gestion des Finances Publiques* [*International Journal on Governmental Financial Management* (IJGFM)] organise un forum pour les praticiens, les universitaires et le public général pour discuter des différentes disciplines impliquées dans la gestion des finances publiques. Ces disciplines comprennent la comptabilité, l'audit, la budgétisation, la gestion des dettes, la technologie de l'information, la fiscalité et la gestion de la trésorerie.

Nous aimerions être en mesure de publier des articles et des commentaires qui vont :

- encourager la collaboration entre les professionnels et autres concernés par la gestion des finances publiques
- contribuer à la promotion des principes et normes de la gestion des finances publiques, en particulier par le biais de la description des bonnes pratiques existantes
- identifier les problèmes ou les faiblesses à travers la critique des points de vue actuellement dominants dans le domaine des reformes de la gestion des finances publiques; et
- assister les gestionnaires financiers du secteur public à identifier leurs propres solutions aux défis courants.

Nous réservons un accueil particulier aux contributions venant de personnes ou groupes de personnes travaillant dans les pays en développement. Nous invitons les auteurs potentiels à consulter les anciens numéros du journal à l'adresse : http://www.icgfm.org/journal.htm

Le Journal ne fait pas de commentaires avec identités voilées (où à la fois l'identité de l'auteur et celle de la revue ne sont pas révélées) comme l'approche standard. L'objectif est d'offrir des commentaires confidentiels sur les contributions soumises et de faire des suggestions éditoriales (aussi détaillées que possible) afin d'aider l'auteur à produire un article pouvant être publié. La revue avec identité voilée peut être offerte à tout auteur individuel sur demande.

Le Journal publie essentiellement en anglais. Toutefois, pour la période d'essaie tout au moins, nous allons accepter pour publication des articles en français et en espagnole. Ces articles ne seront pas traduits. Ils seront publiés dans leur langue d'origine. Tous commentaires de la part de nos lecteurs sont les bienvenus.

Soumission de manuscrits

Nous ne faisons pas payer la soumission ou la publication d'articles.

Les manuscrits devront être adressés en fichiers attachés au directeur de publication : Zbyslaw (Peter) Dobrowolski - peterdobrowolski@pro.onet.pl avec copie à : icgfm@icgfm.org

Les idées d'articles sont les bienvenues et peuvent être discutées avec le directeur de publication avant la soumission du texte de l'article. Le directeur de publication est heureux de répondre aux demandes de renseignements informels sur la pertinence des articles en vue de leur publication éventuelle.

Les auteurs doivent garantir que le travail ne porte atteinte à aucun droit d'auteur et ne contient pas de matériel de nature diffamatoire ou scandaleuse. Par la soumission d'un article au Journal, l'auteur exempte le directeur de publication et les éditeurs contre toute violation d'une telle garantie ou des restrictions de droit d'auteur.

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Format et Style

Les manuscrits doivent inclure :

- pas plus de 20 pages à interligne simple (ou 10.000 mots)
- un résumé n'excédant pas 150 mots – il doit récapituler l'objectif, la méthodologie et les principales conclusions de l'article
- le titre, le(s) nom(s) de(s) auteur(s), la position/le poste et l'institution d'affiliation (ministère, université, etc.,), l'adresse email et les remerciements éventuels
- l'auteur ne doit pas utiliser des termes ou styles sexistes ou discriminatoires, comme par exemple "elle/lui" ou "il/elle"
- un usage limité des abréviations pour faciliter la lecture
- des références appropriées (voir ci-dessous) à la littérature sur le sujet pour soutenir les faits, les affirmations et les opinions ; toutes citations doivent être référencées correctement
- les notes de bas de page, identifiées dans le texte par un numéro en exposant, ne doivent pas comprendre des citations, et doivent être listées a la fin de l'article juste avant la bibliographie

Référencement du texte

Les références aux livres, articles, etc., à l'intérieur du texte doivent inclure les noms des auteurs, l'année de publication, et le numéro de page s'il s'agit de citation directe (par exemple : Mickey & Donald, 1968, p.24). Pour les articles dont le nombre d'auteurs est supérieur á deux, la citation doit être abrégée de manière suivante : (Kramdon et autres, 1988, p.1). Plusieurs citations du/des même(s) auteur(s) dans la même année doivent être distinguées dans le texte (et dans la bibliographie) par a, b, c, etc., après l'année de publication. Les termes latins tels que : *et al*, *ibid*, ou *op cit* doivent être évités.

Bibliographie

Une bibliographie doit être incluse à la fin du texte, et contenant les détails de tous les livres, articles, etc., dont il a été fait référence dans le texte. La bibliographie doit contenir uniquement les références citées dans le texte. Ces références doivent être ordonnées alphabétiquement suivant le nom de famille du premier auteur. Les détails suivants doivent être inclus : l'auteur et ses initiales, le titre complet et les sous-titres, le lieu de publication, l'éditeur, la date, et les références des pages (pour les citations directes). Les références aux articles de journal doivent inclure le volume et le numéro du journal.

Dans la mesure du possible, les détails des adresses internet des matériels disponibles sur l'internet doivent être fournis. Dans ce cas, la date à laquelle le matériel a été lu doit être mentionnée.

La présentation doit répondre à la convention suivante :

1. articles :

   Corkery, J., (1995) 'Réforme du service public: Obstacles et aides' *Bulletin DPMN*, Vol. 3, No.1, août, pp.9-11

2. livres :

   Conso, P., & Hemici, F., (1999), *Gestion Financière de l'entreprise,* Paris, Dunod

3. citations provenant de livres publiés :

   Verley, P. (1995) 'Histoire économique et théorie économique', dans R Boyer et Y Saillard (eds) *Théorie de la régulation. L'état des savoirs*, Paris, Éditions La Découverte

4. livres traduits

   Carnegie, D. The Leader in You (New York: Dale Carnegie & Associates, 1993). *Comment trouver le leader en vous*, D. Weyne (trad) (1994) Paris, Hachette

5. reference à un rapport :

   Banque Mondiale (2007) *Rapport sur le développement dans le monde 2007 – Aperçus régionaux : Afrique subsaharienne* ('Rapport sur Développement et Générations Futures'), Washington DC, The World Bank

6. références aux matériels sur l'Internet

   Yahyaoui, Thami (2007) *L'économie politique de la réforme des pensions au Maroc,* Conférence de la Banque Mondiale, Décembre http://info.worldbank.org/etools/docs/library/241514/YAHYAOUICHYPRE911decembre2007.pdf (12 mars 2009)

Graphiques, Diagrammes, Figures, Tableaux

Ils doivent être tous appelés figures, numérotés de manière consécutive en chiffre arabique, avec un bref titre en majuscule, libellés, axes, etc. Le texte doit indiquer le lieu d'emplacement de la figure.

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Toutes autres personnes disposées à nous assister dans les travaux d'édition du Journal peuvent nous contacter. Les travaux consistent en la révision des contributions potentielles en suggérant si elles peuvent être acceptées pour publication et en faisant des recommandations éditoriales qui permettront d'améliorer la qualité des soumissions.

Veuillez prendre contacte avec Zbyslaw (Peter) Dobrowolski - peterdobrowolski@pro.onet.pl – si vous souhaitez discuter du rôle du comité de rédaction et de quelque proposition d'amélioration.

Invitación a posibles Autores

La revista *International Journal on Governmental Financial Management (IJGFM)* es un foro para académicos, profesionales y el público en general para el debate de las muchas disciplinas involucradas en la gestión financiera gubernamental. Éstas incluyen la contabilidad, la auditoría, el proceso presupuestario, la gestión de la deuda, la tecnología de la información, la gestión impositiva y la del tesoro.

Nos gustaría publicar artículos y comentarios que:

- alienten la colaboración entre profesionales y otros que están preocupados por la gestión financiera.
- contribuyan al avance de los principios y normas de la gestión financiera gubernamental, especialmente al describir las buenas prácticas existentes.
- identifiquen problemas o debilidades a través de una crítica de las opiniones actualmente dominantes sobre las reformas de la gestión financiera en el sector público; y
- ayuden a los gerentes financieros del sector público a identificar sus propias soluciones a los retos comunes.

Sería de interés especial recibir contribuciones de individuos o equipos que trabajan en los países en desarrollo. Invitamos a los potenciales autores a consultar los números anteriores de la revista en: http://www.icgfm.org/journal.htm

Los trabajos son aceptados y publicados en ingles, francés o español.

Actualmente la revista no dispone de un sistema de revisión de doble ciego (en que la identidad tanto del autor como del revisor no se revele) como norma usual. El objetivo es brindar un comentario confidencial de las contribuciones enviadas y ofrecer sugerencias editoriales (detalla si fuera necesario) para ayudar al autor a producir un trabajo digno de publicación. Sería posible proveer una revisión de doble ciego si un autor individual la solicitara.

Entrega de manuscritos

No cobramos tasas por la entrega o publicación de artículos.

Los manuscritos deberán ser enviados como anexo a un mensaje electrónico dirigido al redactor, Zbyslaw (Peter) Dobrowolski - peterdobrowolski@pro.onet.pl con copia a icgfm@icgfm.org.

Serán bienvenidas ideas para artículos y éstas podrán ser comentadas con el redactor antes de entregar el texto completo. El redactor está dispuesto a responder a indagaciones informales sobre la conveniencia de trabajos para posible publicación.

Los autores deben asegurar que el trabajo no viola cualquier derecho de autor existente y que no contiene material de una naturaleza difamatoria o escandalosa. Al entregar un trabajo a la revista, el autor exonera a la editora y a los redactores contra cualquier violación de tal garantía o restricciones de derecho

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Los manuscritos deben incluir:

- no más de 20 páginas en espacio sencillo (o de 10.000 palabras);
- un sinopsis de no más de 150 palabras – que debe resumir el propósito, la metodología y las principales conclusiones del artículo;
- el título, el(los) nombre(s) del (de los) autor(es), el cargo que ejerce(n) y la afiliación institucional que tiene(n) (universidad, ministerio, etc.), su dirección electrónica y cualquier mención necesaria.
- los autores deberán escribir de una manera no sexista o discriminatoria, utilizando, por ejemplo, *(para) él/ella, él o ella*, etc.
- un uso limitado de abreviaturas para facilitar la lectura
- referencias apropiadas (vea abajo) a la literatura sobre el tópico para respaldar los hechos, las aserciones y las opiniones; todas las citaciones deben venir acompañadas de una referencia completa.
- las notas de rodapié, identificadas en el texto con un número superescrito no deben incluir citaciones a la literatura, y deben estar ubicadas al final del trabajo, antes de la bibliografía.

Referencias en el texto

Las referencias en el texto a libros, artículos, etc. deben incluir el nombre del autor, el año de publicación y las páginas específicas de las citaciones directas (p. ej., Mickey & Donald, 1968, p. 1). Para más de dos autores, la citación debe ser abreviada así: (Kramdon y otros, 1988, p. 1). Citaciones múltiples al mismo autor en el mismo año deben ser diferenciadas dentro del texto (y en la bibliografía al final) por las letras a, b, c, etc. después del año de publicación. Términos en latín, por ejemplo, *et al*, *ibid* o *op. cit* deben evitarse.

Bibliografía

Debe incluirse una bibliografía al final del texto con los detalles de todos los libros, artículos y otros trabajos que hayan sido referenciados en el texto. Estos deben ser puestos en orden alfabético de acuerdo al apellido (patronímico) del primer autor. Deben incluirse los siguientes detalles: nombre (apellido, nombre de pila e/o iniciales), título y subtítulo completos, lugar de publicación, editora, fecha y referencias a páginas (para citaciones específicas) Las referencias a artículos de revistas deben incluir el volumen y el número de la revista.

Donde sea posible, los detalles de la dirección electrónica deber incluirse para materiales disponibles en el Internet. En este caso, la fecha de consulta del material debe ser indicada.

La presentación de las referencias debe seguir la siguiente convención:

1. artículos:
   Schick, A (1998) 'Why Most Developing Countries Should Not Try New Zealand Reforms', *The World Bank Research Observer*, Vol.13, No.1, febrero. pp.123-31.

Barrientos, Eduardo Gana (1994) 'Procesos de integración subregional y coordinación de políticas macroeconómicas', *Información del Comercio Español*. 732:8-9. pp. 131-142.

Bekinschtein, José A., Maizal, Nélida. (1994) 'La integración regional en Asia-Pacífico: Vías de participación.' *Integ. Latinam.* 19:1-2. pp. 31-42.

2. libros:
   Guthrie, J. Humphrey, C. Jones, L R. & Olson, O., (2005), *International Public Financial Management Reform*, Information Age Publishing, Greenwich.

   Stolovich, Luis. (1993) *El poder económico en el MERCOSUR*. Centro Uruguay Independiente, Montevideo.

3. citaciones de libros compilados:
   Flynn, N (2002) 'Explaining New Public Management: The Importance of Context', en K McLaughlin, S Osborne y E Ferlie (eds.) *New Public Management: Current Trends and Future Prospects,* Londres, Routledge.

   Haug, G. (2005) 'Pluralidad e intereses compartidos de las Universidades Europeas', en F. Toledo, E. Alcón, y F. Michavila. (eds) *Introducción a la contabilidad Financiera: un Enfoque Internacional.* Barcelona: Ariel. pp. 35-49.

4. libros traducidos:
   Adorno, T. W. Negative Dialektic (Frankfurt: Suhrkamp, 1966). *Negative Dialectics*, E. B. Ashton (trad.) (1973) Nueva York: Seabury Press.

5. referencia a un informe:
   WCED (World Commission on Environment and Development) (1987) *Our Common Future* ('The Brundtland Report'); Oxford: Oxford University Press.

6. referencias a material del Internet:
   Dorotinsky, Bill (2008) *Public Financial Management Reform: Trends and Lessons*, ICGFM DC Forum, Junio

   http://icgfm.blogspot.com (6 Septiembre 2008)

Cuadros, diagramas, figuras e tablas

Todos estos deben denominarse "figuras" y ser numerados consecutivamente en números arábicos con un breve título en letra mayúscula, con etiquetas, etc. El texto debe indicar donde aparece la figura.

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Oficina Nacional de Auditoría de China

Nos complacería también recibir correspondencia de otros que estén dispuestos a ayudar con el trabajo editorial de la Revista. El trabajo consistiría en revisar potenciales contribuciones, indicando si deben ser aceptadas para publicación y haciendo recomendaciones editoriales para mejorar la calidad de los materiales enviados.

Tenga la bondad de contactar al redactor, Zbyslaw (Peter) Dobrowolski - peterdobrowolski@pro.onet.pl – si le gustaría comentar sobre el papel de la junta editorial y cualesquier sugerencias que usted pudiera ofrecer.