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The “Taste of Life” as a Mechanism of Overcoming Corruption

Abstract

The issue of measuring the “taste of life” is one of the main tasks in the process of management decentralization in the state. The term “taste of life” is considered to be the degree of an individual’s satisfaction from living, functioning and carrying out his own activity in society in accordance with economic rules and orders. To solve this problem, three approaches were applied by considering the “taste of life” as a function of state authorities’ services, shadow activity and communal budget. Based on mathematical modelling and the results of expert surveys in 50 communities in the Ukrainian environment, authors made an attempt to identify the degree of state’s regularities in society and to test the constructed models. According to the results, a higher “taste” on the basis of state services caused a decrease in the likelihood of a person returning after the possibility of working and living abroad. The higher “taste” caused the smaller sensitivity to institutes of the shadow economy. At the same time, the “taste” on the basis of shadow services correlates negatively with sensitivity to the state’s official engagement in business and penalties for informal activity. So, the higher this segment, the smaller the sensitivity. The behavior of those who consider communal services and the work of the community as a basic variable is quite different. The “taste” on the basis of community services cannot explain the sensitivity to the shadow institutes and dynamics of emigration. Consequently, decentralization is a way of overcoming corruption.

Keywords: *taste of life, shadow economy, decentralization, state authority services, community*

JEL: *C01, D02, H7, H26, P21*

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1. Introduction

Most authors trying to measure the shadow economy still face the difficulty of a precise definition of this term (e.g., Gerxhani 2003, pp. 295–318). According to one commonly used definition, it comprises all currently unregistered economic activities that contribute to the officially calculated Gross National Product¹. The shadow economy includes all market-based legal production of goods and services that are deliberately concealed from public authorities for the following reasons: to avoid income payments, value added or other taxes; to avoid payment of social security contributions; to avoid certain legal labor market standards, such as minimum wages, maximum working hours, safety standards, etc.; and to avoid complying with certain administrative obligations, such as completing statistical questionnaires or other administrative forms. That is to say, the shadow economy influences the rising corruption level in a state.

The quality of public institutions is another key factor in the development of the informal sector (Dreher & Schneider 2009, pp. 215–277). Considering empirical analysis of the relationship between the underground economy and institutions introduced by Singh, Jain-Chandra, and Mohommad (2012) in their work “Inclusive Growth, Institutions, and the Underground Economy,” their main findings are as follows:

- *Better institutions are associated with a significantly lower share of the shadow economy.* If overall institutional quality improves by one standard deviation, an almost 11 percentage point reduction in the size of the shadow economy is achieved. Furthermore, a one standard deviation improvement in the rule of law score is associated with an 8 percentage point reduction in the share of the shadow economy.
- *Institutions are the most important determinant of the size of the underground economy.* Businesses have an incentive to go underground not to avoid high taxes but rather to reduce the burden of regulation. This is consistent with the findings of Friedman et al. (2000).
- *Countries with a larger level of corruption tend to have larger underground economies.* A one standard deviation decrease in the corruption index leads to a 7 percentage point increase in the size of the shadow economy.

The work of Edelenbos, van Meerkerk, and Schenk (2016) entitled “The evolution of community self-organization in interaction with government institutions. Cross-case insights from three countries” deals with the evolution of community self-organization in public administration. The scientists analyzed three cases of community self-organization in three different countries, the United Kingdom, the

¹ This definition is used by, e.g., Feige (1989, 1994), Schneider (2005) and Frey & Pommerehne (1984), and Dell’Anno, Gomez-Antonio & Alanon Pardo (2007). For estimates of the shadow economy and the do-it-yourself activities for Germany see: Böhn, Karmann und Schneider (2009).

United States, and the Netherlands, and found that community self-organization initiatives are strongly embedded in governmental environments. This leads to different modes of interaction that change from phase to phase and in response to the receptiveness (or lack thereof) among government counterparts. These modes of interaction strongly influence the evolution of community self-organization efforts. Moreover, the authors conclude that it is important that self-organized citizen initiatives represent and capture the perspectives and interests of large groups of citizens. This condition positively influences the evolution and duration of citizen initiatives. Those who manage to link with other citizens, including via community and volunteer organizations, can succeed. Those who do not can lose their legitimacy and fail.

The main issue among scientists concerning the institutional system in Ukraine is: why has Ukraine, unlike most of its European neighbors, not managed to go beyond the transformation period and move from institutions of the command system to institutions of a market economy. As a result of this imbalance, according to the estimations of the American Association of Accountants, it is proposed that the Ukrainian system be described as a totalitarian or upgraded oligarchy. Moreover, institutional interaction becomes an illustrative framework for explaining the sources, causes and consequences of the system's functioning.

Considering the issue of interaction, some simplified models should be pointed out. Among others, Wan Abdul Aziz, Shuib, Nawawi & Tawil (2015) concentrate on the mathematical models of optimizing the efficiency of the budget planning and realization of a faculty in a local public university. Martin Dlouhý (2014) proposes analyzing the subsidy allocation process, which might help to understand the nature of the subsidy allocation problem and its potential weaknesses.

The problem of institutional interaction is clearly presented in the writings of Friedman, Gibbons, Grossman, Stiglitz, Hart, Moore, Charnes, Cooper, Rhodes, Dlouhý and Bilotkach. The value of these approaches is their complexity. However, all these models are not institutionally adaptable for separate unstable national systems, as in the case of Ukraine.

2. The purpose, assumptions and methodology of the research

The relevant theoretical basis for our analysis is the innovative work of Hall Varian (2010) entitled “Microeconomics”, which combines the tools of game theory, institutional economics, mathematical analysis, innovation and behavioral economics.

The aim of our research is to determine the “taste of life” as an aggregate indicator for three types of individuals who function in society. They are based on (1) state support, (2) the shadow economy support, and (3) the community's self-organization.

We consider the term “taste of life” to be the degree of an individual’s satisfaction from living, functioning and carrying out his own activity in society in accordance with its economic rules and orders.

According to the results of our study, we would like to demonstrate the optimal way of overcoming systematic problems (like corruption) in the economy, as well as society as a whole. The framework for determining the “taste of life” would be mathematical models, constructed and tested thanks to the results of expert surveys in 50 communities in Ukraine. It should be noted that in the current investigation we do not focus on the private sector, as in the case of Ukraine, property rights are not fixed, which is why such an analysis would be not adequate and be not reflect reality.

The results of the expert survey for further modelling procedures were obtained based on answers to the following questions:

- 1.1. How important are the community’s services and community’s production in general for your community?
- 1.2. What is the quality of communal services and goods in your community?
- 2.1. How important for your community are the state authorities’ services?
- 2.2. How good are the state authority services in your community?
- 3.1. How important are services of private organizations for your community?
- 3.2. How good are the services of private organizations in your community?
- 4.1. How important are unofficial rules and practices for your community? Here we mean mutual support, collusion mode, and so on.
- 4.2. How good is unofficial community support, or are these traditions harmful?
- 5.1. What percentage of your community members have returned and work in the homeland after having the possibility of working and living abroad?
- 6.1. How important is the community budget in your community’s provision of communal services and communal products?
- 6.2. What is the quality impact of your community’s own budget on the communal services in your community?
- 7.1. How much are government subsidies important for communal services and communal products provision?
- 7.2. What is the quality impact of government subsidies on communal services?
- 8.1. To what extent do you think bank loans are important for providing community services and communal products in your community?
- 8.2. How much do bank loans affect the quality of communal services in your community?
- 9.1. To what extent are households’ own funds important, in your opinion, for the emergence and operation of a private business?
- 9.2. How much do households’ own funds have a qualitative impact on the emergence and functioning of private businesses in your community (do richer people invest more in their own community)?

- 10.1. How important are bank loans, in your opinion, for the emergence and operation of private businesses in your community?
- 10.2. How effective are bank loans on the appearance and functioning of private businesses in your community?
- 11.1. How much money is it important to have in the shadow sector, in your opinion, for the emergence and operation of private businesses in your community?
- 11.2. How much does the quality of the money received in the shadow sector affect the emergence and functioning of private businesses in your community (does money of unknown origin not prevent the launch of a community-friendly business, even a socially-oriented one)?
- 12.1. How relevant is the actual ownership of a business in the hands of state authority officials and local government officials, in your opinion, for the functioning and development the shadow economy in your community? (e.g., if an official, such as the head of the regional administration, has an informal business, then the payment of taxes in the community is “not too mandatory”).
- 12.2. What qualitative impact does the actual ownership of a business by government officials and officials of local self-government (indirectly or directly) have on the functioning and development of this sector for the economy?
- 13.1. How much are punishments or penalties important, in your opinion, for functioning and development of the shadow economy in your community?
- 13.2. What qualitative impact does the level of punishment or fines have on the functioning and development of the shadow sector in your community?
- 14.1. How important are specific rules and practices in the informal economy, in your opinion, for the development of the shadow sector?
- 14.2. Do specific rules or customs of the shadow sector have a positive or negative impact on its development in your community? (If the environment is criminalized then it is obviously negative. If cronies’ economy acts, then “shadow” in the conditions of state bodies dysfunctions gets rich).
- 15.1. To what extent are the size and distribution of the state budget important for the provision of public services and the work of state-owned enterprises in your community?

Is there a perception of change – positive or negative – depending on changes in the size and distribution of the state budget?

3. Models and study's assumptions

Let's assume LSL – Life Satisfaction Level; EC_p – expected community production; EPR_p – expected private sector production; ESH_p – expected shadow economy production; ESS_p – expected state sector production; $EMSH$ – expected migration shock (percentage of migrants returning to the homeland at a higher level of wealth).

In the study, we consider that sensitivity is calculated as the ratio between the *quality of the factor* and the *importance of the factor*.

According to the ratio of time for work / time for rest, the *Life Satisfaction Level* can be presented as follows:

$$LSL = e^{-(\delta_c \cdot EC_p + \delta_s \cdot ESS_p + \delta_{pr} \cdot EPR_p + \delta_0)^2} \cdot EMSH; \quad (1)$$

δ_0 – the community's sensitivity to unofficial rules and practices; δ_c – the community's sensitivity to communal services; δ_{pr} – the community's sensitivity to the services of private organizations; δ_s – the community's sensitivity to state authority services.

The maximization of the function could be written as:

$$\max_{C_p, S_p, PR_p} LSL,$$

while:

$$EC_p = \alpha_B \cdot C_B + \alpha_S \cdot S_d + \alpha_{BLN} \cdot BL_n + \alpha_{BLF} \cdot BL_f; \quad (2)$$

$$EPR_p = \gamma_h \cdot HB + \gamma_{BLN} \cdot BL_n + \gamma_{SH} \cdot SHE_B; \quad (3)$$

$$ESH_p = e^{-(\omega_{OP} \cdot OP_B + \omega_{PL} \cdot PL + \omega_{IIE} \cdot IIE)^2}; \quad (4)$$

$$ESS_p = \rho_{BSD} \cdot BSD; \quad (5)$$

(2) – (5) – some linear restrictions.

The first approach [1] can be explained based on the central limit theorem that asserts: a normal distribution occurs when a random variable is the sum of a large number of independent random variables, each of which plays a minor role in the formation of the whole sum. In reality, we have identified such a case.

Let's simplify this model.

If we consider the state, with a huge level of paternalism, the “taste of life” could be presented in the following way:

$$LSL = F(S_s)$$

$$= \exp(-[\delta_c \cdot \alpha_s \cdot S_s + \delta_s S_s + \delta_{pr} \cdot \gamma_{Sh} \cdot \left(\frac{w_{op}}{w_{pl}} + w_{iie}\right) \cdot S_s + \delta_o]^2), \quad (6)$$

where: δ_o – the community’s sensitivity to unofficial rules and practices; α_s – the sensitivity of communal services to government subsidies; δ_c – the community’s sensitivity to communal services; δ_s – the community’s sensitivity to state authority services; δ_{pr} – the community’s sensitivity to the services of private organizations; w_{op} – sensitivity to the existence of actual ownership of businesses in the hands of state authority and local government officials and its influence on the development and functioning of the shadow economy in your community; w_{pl} – sensitivity to the level of punishment or fines applied to the development and functioning of the shadow sector; w_{iis} – the informal sector’s sensitivity to specific rules and practices in the informal economy.

Let us assume:

$$SIGMA = \frac{w_{op}}{w_{pl}} + w_{iie}, \quad (7)$$

After the simple transformation of the LSL maximum [6], we are able to find the “taste of life” by using the formula:

$$TASTE = \delta_o / [\delta_c \cdot \alpha_s + \delta_s + \delta_{pr} \cdot SIGMA \cdot \gamma_{Sh}]. \quad (8)$$

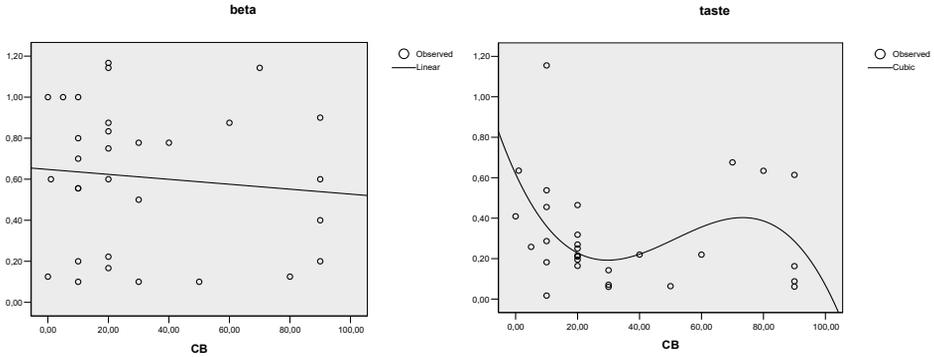
Assuming that sensitivity is calculated as the ratio between the *quality of the factor* and the *importance of the factor*, *TASTE* is the level of S_s that maximizes *LSL*.

Secondly, we shall estimate the “taste of life” on the basis of the dependence of the *community budget* and the *shadow budget*. We assume that the sum of sensitivities to the shadow, state, communal and private services are equal to 1. Other sources are not considered.

$$TASTE_C = \left(\frac{NO_q}{NO_i}\right) / \left(\delta_c \cdot alfa_b + \delta_s \cdot \frac{d_q}{d_i} + \left(1 - \frac{h_q}{h_i} - \frac{Sh_q}{Sh_i} - d_q/d_i\right)\right) \quad (9)$$

$$TASTE_{SH} = (NO_q/NO_i) / \left(\delta_c \cdot \frac{Sh_i q}{Sh_i} + \delta_s \cdot \frac{ofp_q}{ofp_i} + \delta_{pr} \cdot Shp_q/Shp_i\right) \quad (10)$$

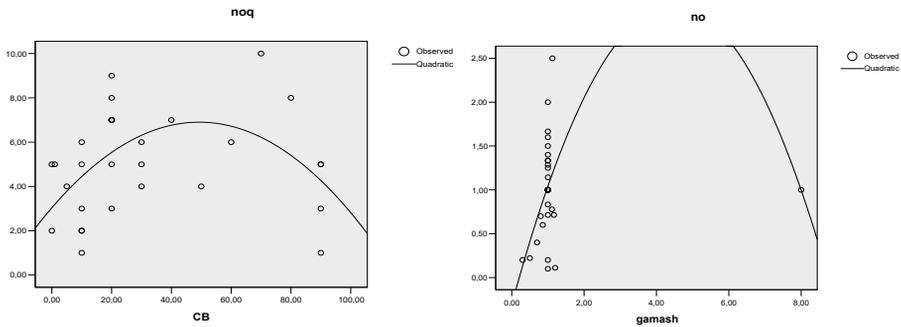
On the basis of the constructed models above, we can present the results shown in Graph 1.



Graph 1. Institutional interaction

Notes: beta is calculated as the importance of the community budget divided by the impact of the community budget quality; CB – some of your community members that have returned and work in their homeland with the possibility to choose work and life abroad. Left model: linear regression; $R^2 = 0.01$; $F = 0.304$; no significant influence. Right model: cubic regression; $R^2 = 0.188$; $F = 1.93$; presence of influence.

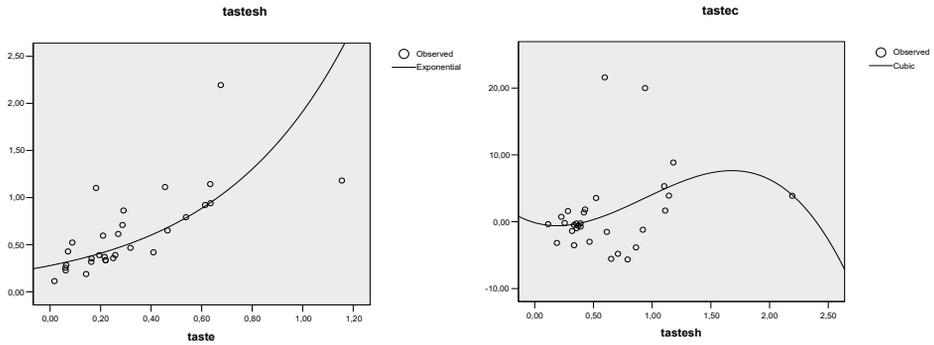
Source: authors' own research.



Graph 2. Unofficial economy influence

Notes: noq – quality of unofficial community support; no – the need for intervention to solve the problem of insufficient unofficial community support; gamah = hq/hi – household money sensitivity of the community. Left model: cubic regression; $R^2 = 0.247$, $F = 2.84$; presence of influence. Right model: cubic regression; $R^2 = 0.162$; $F = 2.712$; presence of influence.

Source: authors' own research.



Graph 3. Main indicators interaction

Notes: Left model: cubic regression; adjusted $R^2 = 0.56$; $F = 13.286$; $Sig. = 0.000$; no significant influence. Right model: cubic regression; adjusted $R^2 = 0.007$; $F = 1.071$; $Sig. = 0.379$; significant influence.

Source: authors’ own research.

By using the sensitivity coefficients obtained by interviewing experts and further mathematical accountants (Table 1), we have the opportunity to calculate the numerical values of the variables of life-skills on the basis of different approaches: when such an indicator is a function of public services (centralized state as a priority), community services (decentralized state as a priority), shadow activity (no organized or effective state power), and private services (striving for a liberal economy).

Table 1. Matrix of correlations

	tastesh	taste	tastec	gamah	budq	CB	SIGMA
Tastesh		0.664 ¹	0.168	-0.020	0.130	-0.232	-0.247
Sig.*		0.000	0.193	0.883	0.336	0.092	0.056
taste	0.664		-0.048	0.095	0.179	-0.248	-0.482
Sig.	0.000		0.708	0.485	0.185	0.072	0.000
tastec	0.168	-0.048		-0.191	-0.156	-0.025	0.127
Sig.	0.193	0.708		0.152	0.240	0.856	0.316
Tastesh		0.808 ²	0.274	-0.016	0.218	-0.258	-0.305
Sig.*		0.000	0.142	0.934	0.248	0.176	0.102
taste	0.808		-0.030	0.134	0.274	-0.301	-0.653
Sig.	0.000		0.877	0.480	0.142	0.112	0.000
tastec	0.274	-0.030		-0.274	-0.179	-0.062	0.163
Sig.	0.142	0.877		0.135	0.334	0.745	0.380

Notes: ¹ – Kendal I correlation in upper part of table; ² – Spearman correlation in the lower part of table; gamah = h_d/h_i – household money sensitivity of the community; * – level of significance

Source: authors’ own research.

4. Results of the study and concluding remarks

The results of our study are as follows:

1. The “taste of life” *on the basis of state services* correlates with the taste of life on the basis of the activity of the shadow economy. The larger the “taste”, the smaller the percentage of “coming back”. The larger the “taste”, the smaller the sensitivity to shadow institutes.
2. “Tastesh” *on the basis of shadow economy services* correlates negatively with sensitivity to shadow institutes.
3. The “tastec” *on the basis of community services* cannot explain the sensitivity to shadow institutes and dynamics of emigration. The model is not compatible with the existing model.
4. SIGMA (private businesses’ sensitivity to unofficial instruments) correlates with “coming back”: sensitivity to shadow institutes is a source for getting work and living abroad.
5. Dependence on the state and dependence on the shadow economy have peacefully coexisted.
6. The model with “taste” and “tastesh” is the best mechanism to explain the “coming back” estimation, because changes in these indicators negatively correlate with the “coming back” shift.
7. Household investment does not correlate with banking credit.
8. The existing banking system is not oriented towards any of these models’ activities.

Consequently, the behavior of those individuals who want everything to be taken over by the state and those who do not want to change anything (shadow budget is approximately equal to the official budget in Ukraine) is similar, because the shadow sector works very effectively (from their point of view) and therefore the efficiency of the state and the community should be built through the effectiveness or inviolability of the shadow sector.

The behavior of those individuals who consider communal services and the work of the community in general as a basic variable is completely different. In this case, the “taste of life” indicator does not correlate with the percentage of those who, after being able to work and live abroad, returned to their native community. The explanation of this fact is that community-oriented thinking is not common among Ukrainians, and the decentralization process looks like an imitation of such process.

Furthermore, in order to the results that were received due to estimates of the “taste of life” based on state services or the shadow economy services functions (the proper level of state services and shadow services that maximizes the level of life satisfaction) revealed the negative correlation with the percentage of those who returned to their homeland. That is why, if a smaller influence of the state or shadow economy is observed, then more people would like to return and get

their own “taste of life” in the own community and home state. Moreover, for such “statesmen” with preferring the role of state – the greater the sensitivity to shadow rules in private business is observed, the lower the percentage of return.

The final conclusion of the study is that shadow activity and state services that guarantee the maximum “taste of life” correlate. That is, in practice, Ukrainians get by with these rules and skillfully use them. “Shadowmen” with preferring role of shadow market correlates negatively with sensitivity to shadow rules (the business of officials, penalties and punishment when they are detected, the effectiveness of shadow mechanisms).

In the case of correlation analysis based on non-employees of local governments, and only community activists representing different sectors of professional activity, we received a positive correlation of the “taste to life” based on community services and the “coming back” indicator.

On this basis, we would like to argue that decentralization is a real instrument of corruption minimization. Likewise, the solution to the problem of refugees from a variety of states, except for military issues, is a development of local self-government based on European standards.

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Streszczenie

„SMAK ŻYCIA” JAKO MECHANIZM PRZEWYCIĘŻENIA KORUPCJI

Kwestia pomiaru „smaku życia” jest jednym z głównych zadań procesu decentralizacji zarządzania w państwie. „Smak życia” definiowany jest jako stopień zadowolenia jednostki z życia, funkcjonowania i prowadzenia własnej działalności w społeczeństwie zgodnie z zasadami ekonomicznymi.

W celu rozwiązania problemu tego pomiaru, zaproponowano trzy podejścia, biorąc pod uwagę „smak życia” w zależności od usług organów państwowych, działalności szarej strefy i budżetu komunalnego. Na podstawie modelowania matematycznego przetestowano modele w oparciu o wyniki eksperckich badań przeprowadzonych wśród 50 ukraińskich gmin. Zgodnie z wynikami, autorzy stwierdzili, że wyższy poziom zależności „smaku życia” od usług organów państwowych powoduje spadek powrotu osób przy możliwości pracy i zamieszkania za granicą. Im wyższy jest „smak”, tym mniejsza jest wrażliwość na instytucje szarej strefy. Jednocześnie „smak życia” w zależności od działalności szarej strefy koreluje negatywnie z wrażliwością na urzędowe zaangażowanie w sprawy przedsiębiorstw i karą za nieformalną działalność. Im wyższy jest ten segment, tym mniejsza jest wrażliwość. Innym jest zachowanie tych, którzy uważają usługi komunalne i pracę społeczności za podstawową zmienną. „Smak życia” na podstawie usług społecznościowych nie wyjaśnia wrażliwości na instytucje szarej strefy i dynamiki emigracji. W konsekwencji decentralizacja jest sposobem na przewyższenie korupcji w państwie.

Słowa kluczowe: smak życia, szara strefa, decentralizacja, organy państwowe, wspólnota