

# ORGANIZATION-MANAGERIAL MECHANISM OF THE COUNTERACTION TO NON-OBSERVABLE ECONOMIC PROCESSES IN THE AGRICULTURAL SPHERE OF UKRAINE

<sup>1</sup>Olena O. MOROZ, <sup>1</sup>Vladimir M. SEMTSOV, <sup>2</sup>Nataliia B. SAVINA, <sup>1</sup>Irina V. SHVARTS,  
<sup>1</sup>Oksana V. BEZSMERTNA, <sup>1</sup>Tetiana M. BILOKON, <sup>1</sup>Tetiana M. PILIAVOZ  
<sup>1</sup>Vinnitsia National Technical University, Vinnitsia, Ukraine  
<sup>2</sup>The National University of Water and Environmental Engineering

**Abstract.** The paper substantiates the author's approach to the problem of the counteraction to non-observable economic processes in the agricultural sphere of Ukraine. The approach is based on the monitoring of the actions of the risk groups on the market. It is demonstrated the essence of the problem, characteristic features and possible consequences of the non-observable economic processes in the agricultural sphere. The attention to universal principles-guidelines as the basis of the system of counteraction to non-observable economic processes is focused. It is established that the modern system of state regulation of the national economy does not provide the sufficient risk management. Main risks of non-observable economic processes occurrence in Ukrainian economy (information, political, social, financial economic) are defined, lack of the possibility to form the stable social economic system without the efficient risk management is established. Special attention is paid to the necessity of the improvement of the institutional environment in the context of the counteraction to non-observable economic processes context.

**Key words:** non-observable economy, non-observable economic processes, counteraction to non-observable economic processes, agricultural economy.

## Introduction and literature review

Separate aspects of the counteraction to the non-observable economic processes are considered in the works of such modern scholars as V. Avdiysky [1], O. Auzan [2], T. Bekzhanova [3], O. Brandelev [4], Y. Latov [5], V. Mandibur [6], A. Oliynyk [7], F. Schneider, D. Enste [8] and others. However, in spite of the depth of the research, carried out, still the tools of the organization-managerial mechanism, aimed at the counteraction to the non-observable economic processes in the agricultural sphere are not sufficiently developed. In practical terms all this requires the development and modeling of the institutional technologies, aimed at the obstruction of the non-observable economic processes in the agricultural sphere of Ukraine. To reach the target goal, the given research solves the complex of the following mutually connected tasks: explore the essence of the problem, characteristic features and possible consequences of the non-observable economic processes in the agricultural sphere; determine the methods of the institutional stimulation of the recipient groups of the economic agents regarding the constructive type of the organizational behavior, directed at the prevention of the non-observable economic processes in the course of market modernization. All this stipulated the choice of the subject of the research.

## Materials and Methods

Rapid progress of the Ukrainian society, its motion in the direction of the development of the market relations in modern internal and international conditions is impossible without the solution of the problems, emerging as a result of non-observable economic processes.

Under the definition "non-observable economy" we mean economic activity which is not completely or partially controlled (or monitored) by the organs of power, thus, economic relations of the market agents, participating in the economic activity are not regulated in economic-legal context and, as a result, are not statistically taken into account due to the miscalculations of organization-managerial mechanism. Also, using the expression "non-observable economic processes" we imply the actions, based on deliberate and/or unconscious understatement and/or hiding of the results of own activity.

Modern state-of-art of the national economy shows that nowadays it is necessary to improve the organization-managerial mechanism, aimed at the counteraction to the non-observable economic processes. Improvement of the system of interaction between the organs of power, local self-government and the economic entities – is the prerequisite for the obtaining the additional resources and maximization of the total cost.

It is obvious that the problem of the realization of the institutional modernization can be solved only on the condition when scientific proposals and recommendations will be closely connected with the real life. Scholastic theoretical assumptions, regarding non-observable economic processes slow down the development of our state. That is why, practical studies, concerning the identification of the mechanisms of the counteracting the non-observable processes in the context of the institutional modernization of the agricultural sphere require special attention.

We have to take into account the extreme complexity of the task of counteraction to non-

observable economic processes, as it has been demonstrated globally. These phenomena are observed both in capitalist and communist states. For instance, in the family of the former Minister of Public Security of the communist China Zhou Yun Can in 2019 law enforcement authorities seized \$14.5 billion assets [9, 24].

Proceeding from the fact that Ukraine is an agrarian country, special attention is paid to the non-observable economy in the agricultural sphere, taking into account its specific character. All the more, namely the Ukrainian businessmen establish the largest agricultural companies of Europe [10, p.22].

To illustrate the example of the non-observable economic processes we propose the data regarding the land use in Vinnytsia region in 2017-2018 (fig. 1). [25, 26]

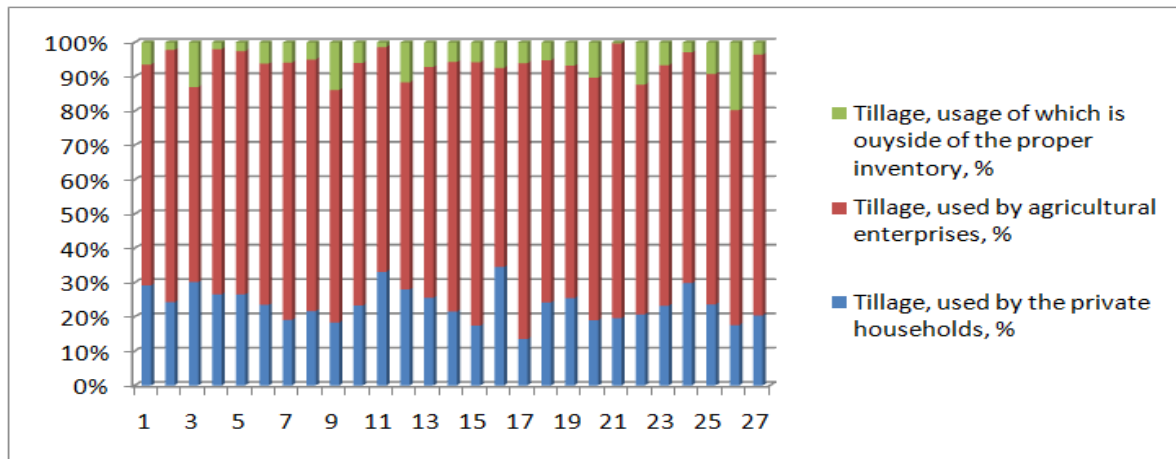


Fig.1 .Share of the non-observable sector of the economy in the context of the land use agricultural branch of Vinnytsia region in 2017-2018 (Source: authors' studies)

The figure contains data, regarding the land area, used by the personal households (region average – a little more than 23.0%) and agricultural enterprises of the different organization forms (on the average approximately 69.0%). At the same time mathematical calculations show that certain area of the lands of agricultural designation (up to 7.0%) is used by the unknown economic agents. Practically, in every administrative district of the region there are farming lands which are used but the community does not know the official owner (proprietor).

Only in one district out of 27 this index is 0.3 % but it is rather the exception from the rule, whereas the average index in the districts of region was 6.9 %. The fluctuation range of this index was from 0.3 % to 20%; in the six districts this value exceeded 10 %; the highest index was observed in Shargorod district – 19.8%.

Thus, certain part of business is in the “non-observable zone”, with the corresponding consequences concerning tax payment, inappropriate accounting of expenses, depreciation, products etc. At the same time the community knows that certain part of business (probably, close to the authority) is in the “non-observable zone” due to favorable conditions, inaccessible for the others. In our opinion, mathematical index in the given case can serve as the indirect indicator of the corruption and the reflection of the losses as a result of the imperfection of the system of the monitoring and control.

In our view, the basis of the system of counteraction to non-observable economic processes must be not all-embracing norms (institutions), but the universal principles-guidelines. Naturally, due to various reasons it is impossible to eliminate completely the corruption and non-observable economy. In this connection we must agree with D. Zubrytskyi, who, studying the problem of the Province Committees in the context of the serfdom wrote as far back as in 1858 “bribes were, are and will be always and everywhere. The Savior has chosen only 12 apostles and one of them was bribe taker” [11, p. 489]. Then, we do not claim for the exhaustive solution of the problem, aimed at the counteraction to the non-observable economy, but we must concentrate the attention on these targeted priorities /principles of social economic development which are able to provide rapid effect and considerable return.

We consider that such basic principles should be:

- 1) strong system of the law enforcement organs;
- 2) fair justice;
- 3) scientifically validated system of the monitoring of the social-economic state.

We are convinced that as a result of the realization of these principles the level of the non-observable economy will decrease, however this requires clear scientific substantiation of the mechanism for the counteraction to the non-observable processes as well as empirical analysis of the real economic relations. The simplified attitude to the non-observable economy as to the extremely negative phenomenon stipulates the cost approach of the authorities in the process of the introduction of the counteraction measures. In our opinion the

non-observable economy roots both in the attempts to organize the dysfunctional schemes and in superimposed phenomena institutions, world outlook, and ideology. These are interconnected phenomena.

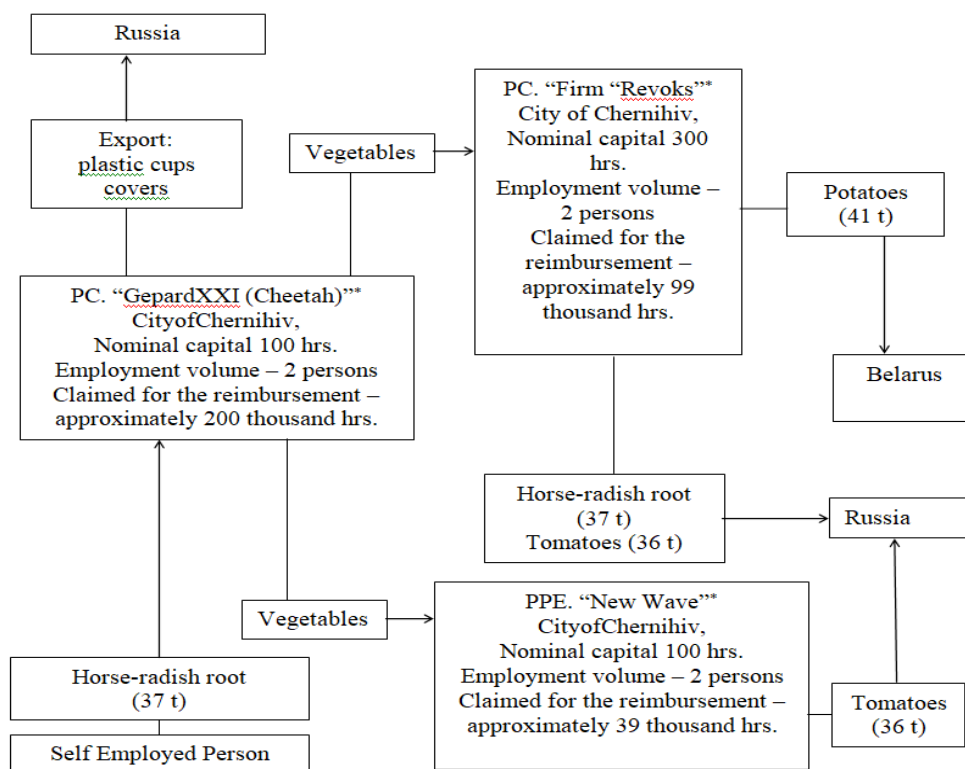
The problem of the non-observable processes is analyzed in the society with great caution[12, 23].

The impression is that the representatives of the authority do not want to notice the non-observable economy, meanwhile the society suffers considerable losses because of it. For instance, the scaling down of the customs duties for the imported agricultural products is widespread in Ukraine. For instance, in September of 2012 Zhytomyr customs procured 95 tons of the Swedish margarine (price 15.7 hrs/kg), whereas Kyiv customs procured the margarine of the same company in the volume of 120 tons (price 21.4 hrs/kg). There are many such examples. The result of this doubtful customs cost – loss of the state financial resources.

Unfortunately, the plundering of the national resources, groundless usage of privileges, shady transactions with the taxes is widespread phenomenon in national agricultural sphere. In order to exclude the dysfunction models of the economic behavior, attention should be paid to the relations between the agents of the market.

The necessity to improve the organization – managerial mechanism and control over the operations with VAT reimbursement to the business entities becomes very important. But the control measures must not depend on the sum of the reimbursement claim. Nowadays the situation when one business entity (or the agents) creates the system of the enterprises in order to realize the policy of the tax minimization and obtaining the financial resources from the state budget.

For instance, (Fig 2) in 2013 the top management (founder) of the enterprises PE "Repard XXI" PE "Company "Rovoks", PIE "New Wave" declared VAT reimbursement for the sum of almost 340 thousand UAH. Although nominally everything was in accordance with the law however it is worth mentioning the fact that the enterprises with the statutory capitals of 100-300 UAH, carry out rather successful export operations, avoiding minor expenses (director and accountant general at the enterprises is a joint position; in August 2013 37 tons of the horse-radish was bought from the self-employed person, who, by the way, was a single tax payer by the interest rate of 5 %).



Note: \* - connected persons.

Fig. 2 Model of the dysfunctional economic behavior in the agricultural sphere (on the example of VAT reimbursement) (Source: author's research)

Thus, one of the drawbacks of the acting legislation is that it does not take into account the economic essence of the transactions (agreements) but only provides the carrying out of the verification of certain documents (tax invoices, bank statements, etc)[13].

The problem of the correct analytical interpretation of the essence of the operations is of primary importance.

In our opinion the authorities do much harm in the struggle with the non-observable economy. This becomes apparent in the random policy of the state regulation of the economic activity.

Permanent influxes and refluxes in the actions of the authorities block the economic development. For instance, in 2013 according to the Decree of the President of Ukraine "On the Ministry of Revenue and Duties" of 18.03.2013 №191 /2013 [14]. Ministry of Revenue and Duties of Ukraine was founded. It should be noted that this organ was one of the basic in the system of the struggle with the non-observable economy. However, Ministry of Revenue and Duties of Ukraine functioned about a year because as a result of the aggravation of the political situation in Ukraine it was liquidated in accordance with the Decree of the Cabinet of Ministers of Ukraine "On the liquidation of the Ministry of Revenue and Duties" of 01.03.2014 № 67 [15].

Thus, as a result of political changes "Strategic plan of the development of the Ministry of Revenue and Duties for the period of 2013-2018", approved by the Order of the Cabinet of Ministers of Ukraine of 23.10.2013 № 869-p [16], which was developed with the participation of the international advisers, for instance, company "Pricewaterhouse Coopers" and approved by the World Customs Organization (WCO) became out-of-date. It is worth mentioning that one of the aims of this plan was the enhancement of the efficiency of the methods of the counteraction to the minimization of the tax payment [16], which, in its turn, provided the following measures: control over the cash payment, introduction of the electronic methods of the verification, remote control over the production of the tobacco products and alcoholic drinks, etc.

We are convinced that such ill-considered decisions are not only erroneous but destructive as these decisions put the state on the road of neopopulism. It is also obvious that the reformation of the top staff of the organs of power does not lay any profound foundation for the qualitative institutional changes in the society and achievement of the efficient results.

The approaches to the study of the real relations, interests of the main agents of the market should be elaborated. As it was already mentioned the authorities actively realize measures, aimed at the decentralization [17]. At the same time we must get rid of the abstract, weakly determined in the economic plan assessments that the local self-government is able to solve economic problems. It is obvious that economic problems are not possible to solve autonomously without coordination with the political, moral and social imperatives [18].

We cannot help seeing the potential danger, hidden in the random process of the self-government development. The essence of the danger may be in the possibility of the opposition of the idea of the self-government to the interests of the state. The decentralization of the power creates obstacles for the concentration of the resources (financial, material, labor, etc) for the solution of the specific problems, in particular, rapid economic growth. Moreover, decentralization of power without well-considered system of control may fuel corruption and contribute to the separatism, etc. We are convinced that the obligatory condition for the decentralization of power must be the control (so-called "testing"), proceeding from the criteria and principles of the economic safety.

There is no doubt that the development of the self-government creates the advantages over the centralized mechanisms of government in the context of the adequate usage of local information and decreases resources, needed for the decision-making. But in practice the self-government is complex system that does not guarantee either efficient managerial decisions or sustainable social-economic development of the region. Motion in the direction of the decentralization development provides the enhancement of management quality in the communities. If the quality and control in the system of management does not improve, then the self-government will inevitably cause the aggravation of social-economic situation.

We should not console ourselves with the illusions that the dismantling of the bureaucratic pyramid enables to provide economic progress of the country. The success of the sustainable social-economic development, in our opinion, greatly depends not on the development of the system of power decentralization, but on the adequate and rapid reaction on those challenges which create hardly foreseeable opportunistic actions of the agents of the market. Thus, decentralization of the power in Ukraine without distinct and subordinated in advance goals dooms to failure. Collective decision making which can be considered as the foundation of the local self-government does not make corruption component impossible. That is why, it is not necessary to overestimate the role of the self-government. It must not be as an end in itself. We must fight the injustice and corruption in the administrative staff but not the state directives.

In other case, decentralization of power will inevitably lead to the creation of new opportunistic, by its content, system of stimulo-counterbalance.

One of the problems of Ukrainian economy is that the determining role is played by the politicized power-business relations.

Thus, the success of business is formed under the impact of political institutions and depends, as a rule, not on knowledge, skills, construction of the system of the efficient management at the enterprises but on the political orientations and tastes, prevailing at a certain period of time.

The realities of the present time show that the self-government sometimes may distort and enhance the self-will in the sphere of management of the financial resources. Self-government can develop in the context of the imitation democracy where the problem of the electivity is formal. Decentralization is able to mask real personal interests of the separate representatives of the local self-government.

We are sure that only the activity of the business combined with the struggle against non-observable economy and corruption are the key symptoms of the social-economic development in Ukraine.

Low level of the salaries of the public servants in combination with the power is nutrition medium for the corruption. Efficient struggle against the corruption is impossible without the solution of the problem of stimulation. The motive of the public servant and/or representative of the organs of local self-government must play main role in the counteraction both to the corruption and non-observable economic processes. In other case the corruption will erode economic-political organism of the state. What is more the elements of the “social decay” as the practice shows often penetrate the higher levels of power. Numerous facts of the attempts of the representatives of the authorities to use the power for the personal enrichment are shown the mass media [19].

### Experiment, Results and Discussions

Taking into account the data of the Fig. 1 and using the multivariate correlation-regression analysis technique, two multiple regression models were developed [20; 21]. They determine the dependence of the percentage of tillage usage of which is outside of the proper inventory on, first, the percentage of tillage used by the private households, and, second, the percentage of tillage used by agricultural enterprises (Table 1).

Table 1  
Multiple regression models' data

Index	Model that determines the dependence of the percentage of tillage usage of which is outside of the proper inventory on the percentage of tillage used by the private households	Model that determines the dependence of the percentage of tillage usage of which is outside of the proper inventory on the percentage of tillage used by agricultural enterprises
<b>Model data:</b>		
Multiple R	0,219461	0,555738
R-square	0,048163	0,308845
Standardized R-square	0,01009	0,281199
Mean-square error	4,361805	3,716831
Observation count	27	27
Index Y-intersection, a	11,42621	35,56083
Index b <sub>1</sub>	-0,19188	-0,41296
<b>Multiple regression model</b>	<b><math>y=11,426-0,192 \cdot x_1</math></b>	<b><math>y=35,56-0,413 \cdot x_2</math></b>

Agraph of remains (Fig. 3), a graph of normal distribution (Fig. 4) and agraph of selection (Fig. 5) were drawn on the basis of the fig. 1 data.

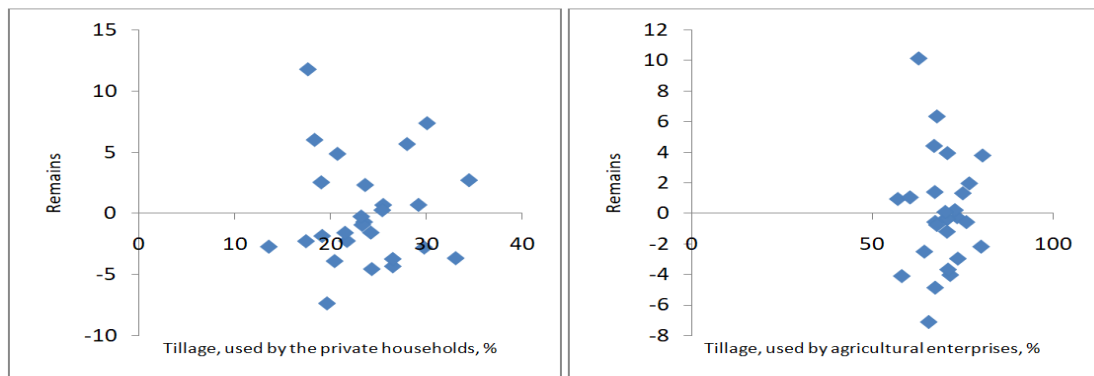
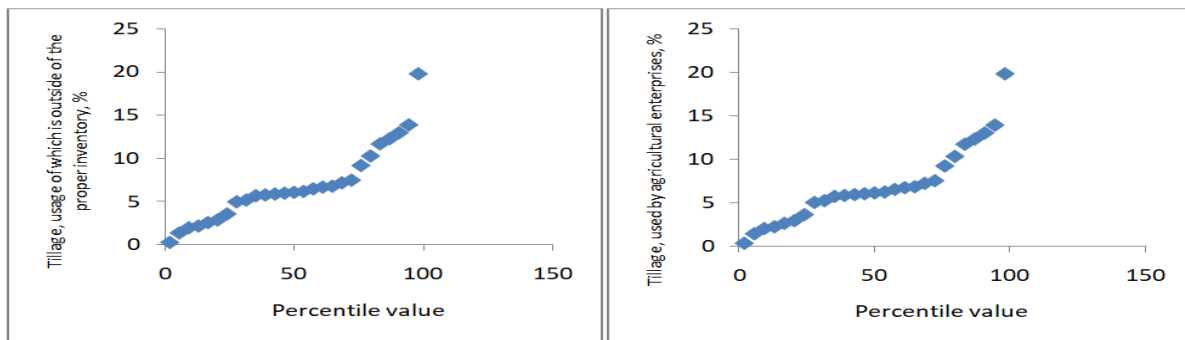


Fig. 3. Graphs of remains for the multiple regression models

The Fig. 3 shows that the models look like the homoscedastic one. Indeed, it is difficult to find clear signs of variability in variance. But there are minor dependencies.



a) for the model that determines the dependence of the percentage of tillage usage of which is outside of the proper inventory on the percentage of tillage used by the private households

b) for the model that determines the dependence of the percentage of tillage usage of which is outside of the proper inventory on the percentage of tillage used by agricultural enterprises

Fig. 4. Graphs of normal distribution for the multiple regression models

The graphs in Fig. 4 show that the points are maximally concentrated within the range of 5% to 7%. This focus can be used for further forecasts.

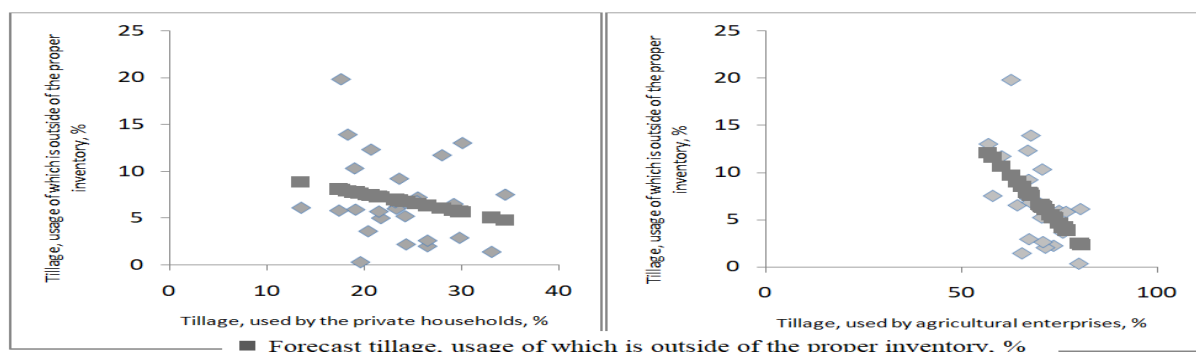


Fig. 5. Graphs of selection for the multiple regression models

The selection graph is a field of correlation of the actual and theoretical (calculated) values of the resultant index[22]. The analysis of selection graphs enable to make speculations that the quality of the developed models can be improved by taking into account only the dynamics of the percentage of tillage used by agricultural enterprises, as the analyzed resultant index of the percentage of tillage usage of which is outside of the proper inventory is much more sensitive to changes of this factor compared to changes of the percentage of tillage used by the private households. As for the private sector, it is necessary to strengthen controls and improve the accounting of tillage used by these households.

On the base of the empirical analysis the authors' transparent approach regarding the problem of the counteraction to the non-observable economic processes in the agricultural sphere is formulated. The given approach is based on the monitoring of the opportunistic actions of the hazardous agents of the market (Fig. 6)

Non-observable economic processes are often stipulated by the same factors as the corruption. According to the results of our research the following groups of factors can be distinguished: Financial-economic; Cultural; Legal; Mental-psychological.

The accumulated data base regarding the factors of the impact on the non-observable economic processes and the results of the work with the group of the expert (method of expert assessment of the factors weight was applied) enabled to create the dependence model of the studied index (level of the non-observable economic processes in Ukraine) on the selected factors:

$$Y = 0,38Y_1 + 0,21 Y_2 + 0,32 Y_3 + 0,09 Y_4, (1)$$

where Y – integrated index of the level of the non-observable economic processes in Ukraine;

Y1 – financial-economic limitations of business (high tax rates for doing business, inappropriate material support of the representatives of power, information asymmetry, considerable transaction costs, etc);

Y2 – cultural limitations (ethnic, religious peculiarities, lack of ideological fundamentals regarding the formation of the moral and economic relations, etc);

Y3 – legal limitations (permanent random modernization of the organs of power, excessive regulation of the economy, improper transparency regarding the functioning of the organs of power, unjustified liberalization regarding the responsibility in the economic sphere, etc);

Y4 – mental-psychologic limitations (inertia of the economic behavior, cognitive rigidity of the economic relations, etc).

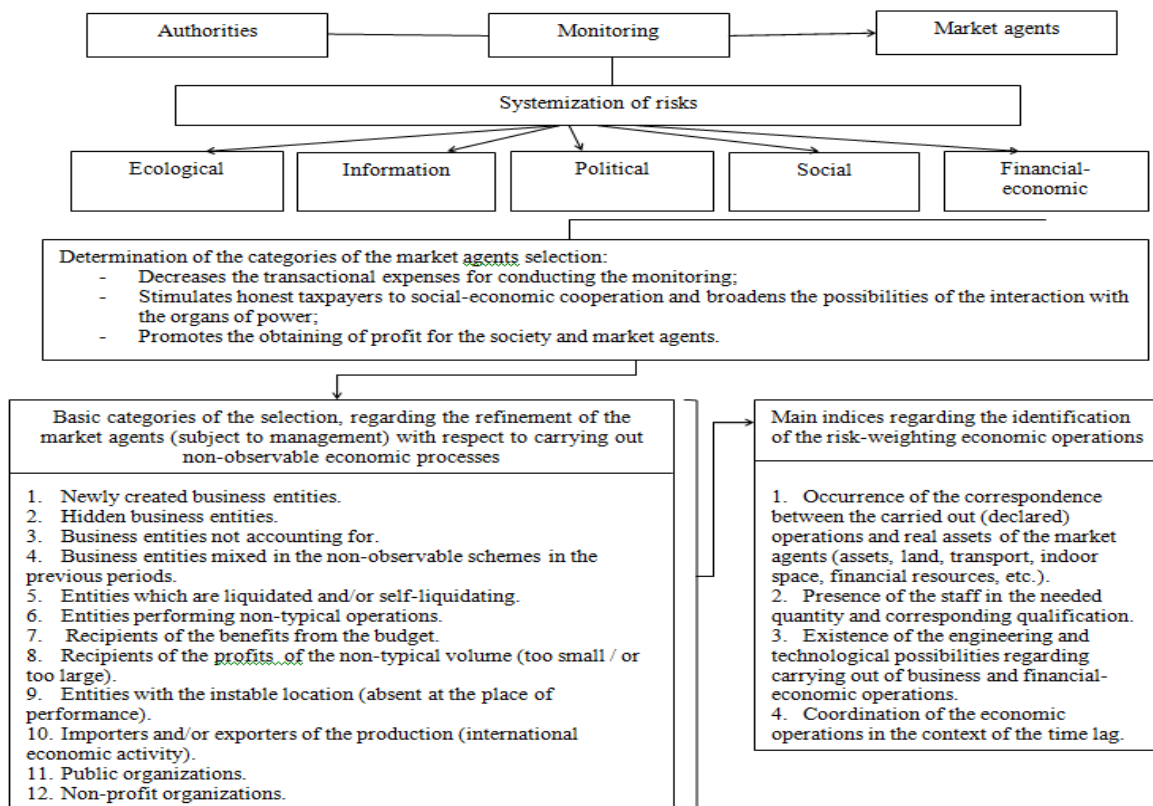


Fig. 6 Scheme of the universal monitoring, regarding the identification of the risky market agents in the national economy (Source: author's research)

Analysis of the non-observable economic processes in the national agricultural sphere showed that modern system of the state regulation provides the control over the risk factors insufficiently. In our opinion, the main risks are the following: 1) ecological (degradation of the natural ecologic environment); 2) informational (creation of the information asymmetry cyber crimes in the sphere of information technologies, etc); 3) political (manifestations of the separatism, threats to the institutions of the private property, loss of the sovereignty, etc); 4) social (destruction of the infrastructure, formation of the social differentiation, etc); 5) financial-economic (tax losses, bankruptcy, law rates of development, etc).

It is obvious that the formation of the stable social-economic system is impossible without efficient risk management. In the conditions of the institutional modernization the improvement of the agricultural sphere management becomes very important. Efficient tool for the solution of the complex problems in the sphere of the counteraction to the non-observable economic processes is the program-target management method, based on the determination of the final aim vector in the conditions of the determined resources and executives. In our view, the efficient counteraction to the non-observable economic processes is possible only on the conditions of the simultaneous introduction of the anticorruption measures (Fig. 7).

There is no doubt that not always the emergence of the non-observable economic processes is caused by the corruption but at the same time it is obvious that stable and large scale development of the dysfunctional models of the economic agents behavior is possible only on the conditions of the existence of the corrupted environment.

In its turn the corruption is always accompanied by the non-observable processes. It is quite clear that problems of moral and ethics play an important role in the emergence of the non-observable processes and corruption. That is why, there exists the critical need regarding the formation in the society the consciousness, characterized by the intolerance to the non-observable economic processes. In this connection the problems of the coordination of the actions of the power organs and the mass media are of great importance. Due to such permanent communication between the authorities and society measure aimed at the counteraction to the non-observable economic processes can be enriched with high moral content. This, in its turn, will minimize the



losses of the resources, spent for the elimination of the consequences, emerging as a result of the economic dysfunctions and will render assistance in the formation of the “social maturity” of the market agents.

It should be noted that for the prevention of the corruption and non-observable economic processes the establishment of the coordination with the international organizations, including law enforcing agencies plays an important role. For instance, only in 2018 our state established contact [23] with the International Anticorruption Coordination Center (London, Great Britain). That promoted rapid obtaining of the information concerning the counteraction to the corruption and economic crimes. Meantime, the Ukrainian authorities must intensify the cooperation with the international organization in this direction, since up till now our law enforcing organs for years wait for the necessary information from foreign countries (for instance, the USA, Great Britain, etc).

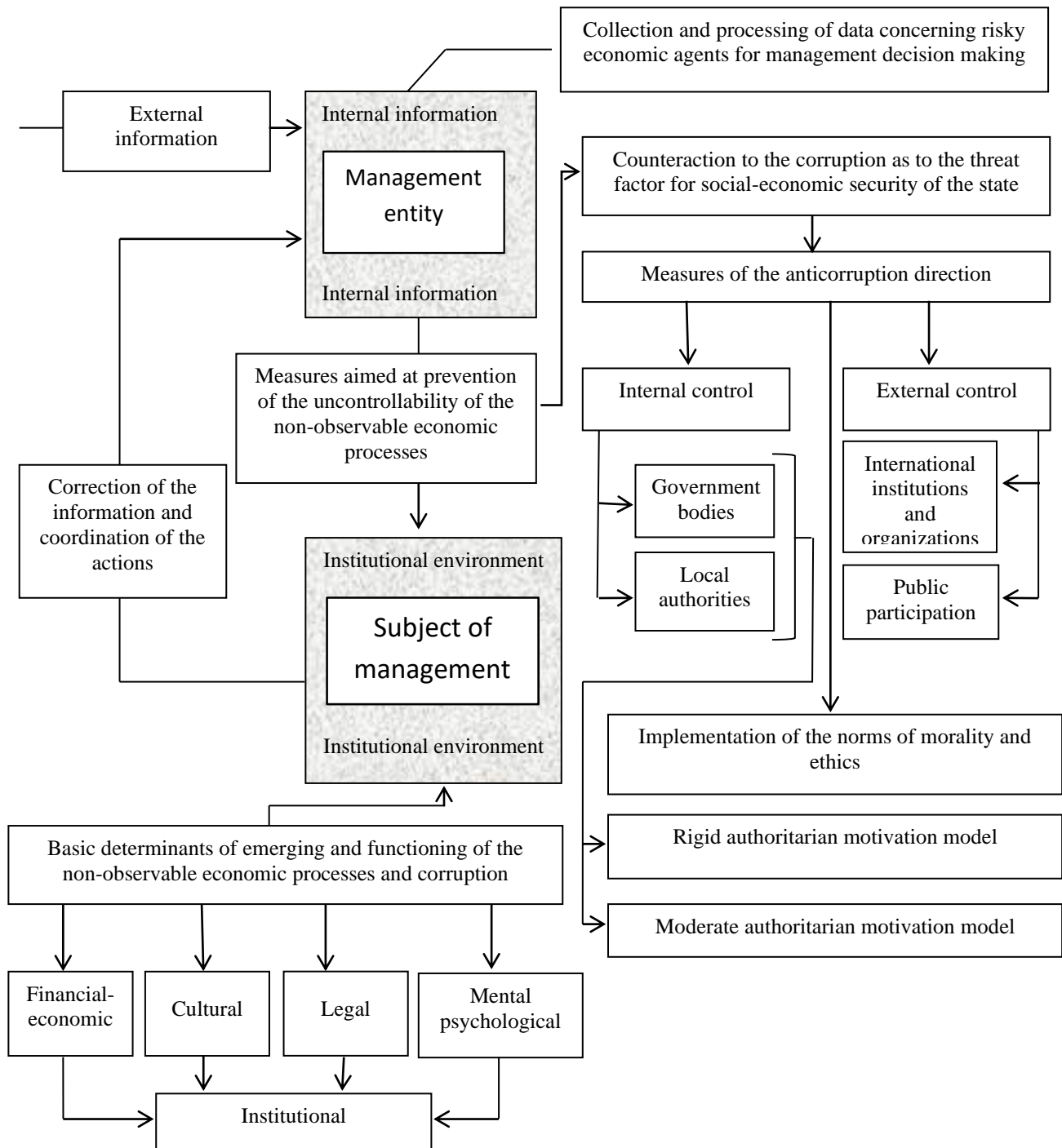


Fig. 7. Organization scheme of the impact on the market agents taking into consideration the institutional component



It is worth mentioning the fact, that as a rule, the corruption and the non-observable economic processes emerge in the countries where there exist administrative barriers, for instance, the concession of the permissions or the formation of the prohibitions. Thus, lack of rigid punishment for the non-observable economic transactions, combined with the material incentive of separate representatives of the power promotes the development of the economic dysfunctions in the society.

Practical analysis of the activity of the national market agents gives grounds to state that the existing system of the motivation of the representatives of the state power is a powerful factor for the non-observable economy development. In our opinion, for the construction of the stimulation system theoretically two possible models may be useful.

1. Rigid authoritarian model of motivation. Punishment for the economic and corruption crimes must be extremely severe – long terms of imprisonment with the confiscation of the property (for the extremely dangerous crimes, which caused the considerable losses of the financial resources).

2. Moderate authoritarian motivation model. It is necessary to create for the representatives of the power and members of their families proper social-economic conditions (amenities) with the simultaneous increase of the responsibility, including criminal, for the inobservance of their duties.

As the experience shows it is impossible to reach positive changes in the sphere of counteraction to the non-observable economic processes, only on the base of the convictions regarding the necessity to follow the existing norms without corresponding sanctions in the form of punishments.

It is important that applying punishments for the economic crimes, it is necessary to identify the extent and degree of the guilt of the market agent, the reasons of its economic behavior, etc.

### Conclusions

Nowadays the imitation of the democratic model of motivation acts in Ukraine. The given model, in conditions of the lack of the morally stable law enforcement and legal system showed its helplessness.

The lack of the efficient stimulidistorted the democratic model of motivation, demonstrated its weakness and aggravated the problems of the non-observable economy and corruption.

If we speak about the categories of the selection, regarding the verification of the market agents on the subject of carrying out the non-observable economic processes, then special attention must be paid to the most profitable spheres of national economy of Ukraine, (for instance, in 2017-2019 the most profitable spheres were agriculture, public health and trade).

It is quite obvious, that the suggested approach, regarding the counteraction to the non-observable economic processes in the context of the anticorruption measures, requires the detailing in the context of the operation and functional principles of the specific organ of power, responsible for this problem. However, tactical correction of the scheme must not contradict to the strategic tasks.

Thus, taking into account present-day situation and new tasks, stipulated by the functioning of the non-observable economy, it is necessary to realize immediately the complex of measures, aimed at the increase of the responsibility of the market agents. Modeling and forecast of the multivariate scenario of the development of the non-observable processes in the country, branches of national economy, on the organization level and on the level of the identification of the recipient groups of the agents of the society.

According to the developed model of the dependence of the percentage of tillage usage of which is outside of the proper inventory on the percentage of tillage used by the private households and the model of the dependence of the resultant index on the percentage of tillage used by agricultural enterprises, it was concluded that in order to optimize the process of land distribution it is necessary to strengthen the control and accounting of tillage in private households.

**Authors:** Prof. D.Sc. Olena Moroz, Vinnytsia National Technical University, E-mail: moros@vntu.edu.ua, Associate prof. D.Sc. Volodimir Semtsov, Vinnytsia National Technical University, E-mail: semtsov\_vm@ukr.net, Prof. D.Sc. Nataliia Savina, The National University of Water and Environmental Engineering, E-mail: n.b.savina@nuwm.edu.ua, Associate prof. Ph.D., Irina Shvarts, Vinnytsia National Technical University, E-mail: s.irinach502@gmail.com, Associate prof. Ph.D., Oksana Bezsmertna, Vinnytsia National Technical University, E-mail: bezsmertnaoksana@gmail.com, Associate prof. Ph.D., Tetiana Bilokon, Vinnytsia National Technical University, E-mail: tm.bilikon@gmail.com, Associate prof. Ph.D., Tetiana Piliavoz, Vinnytsia National Technical University, E-mail: vitan1975.75@gmail.com

### REFERENCES

1. Avdiyskyi V.I, Dadalko V.A. Shadow economy and economic security of the state. Moscow: Alpha-M: Infra-M, 2010. 496 p.
2. Institutional Economy. New institutional economic theory: manual / Corporate author / Under the Editorship of A. A. Ausan. Moscow: Infra-M, 2011. 447 p.

3. Bekzhanova T.K Determination of the boundaries of the shadow economy in the system of national accounts of Kazakhstan. Bulletin of RUDN University. Economy Library. 2010, №. 1. pp. 29–35.
4. Brendeleva E.A Neoinstitutional economic theory: Study Guide. Moscow: Deal and Service, 2006. 352 p.
5. Latov Yu.V., Kovalev S.N. Shadow economy: Study Guide for Higher Education Establishments/ Under the Editorship of V. J. Kikot; G. M Kaziakhmedov. Moscow: Norm, 2006. 336 p.
6. Mandybura V.A "Shadow" economy of Ukraine and the directions of legislative strategy of its elimination. Kyiv: Parliament Edition, 1998. 136 p.
7. Oleynik A.N Institutional economy: Study Guide. Moscow: INFRA-M, 2009. 416 p.
8. Schneider F., Enste D. The Shadow Economy: An International Survey. Cambridge University Press, 2003. 238 p.
9. Kang Lim B., Blanchard B. Exclusive: China seizes \$14.5 billion assets from family, associates of ex-security chief: sources. Thomson Reuters is the world's largest international multimedia news agency. URL: <http://www.reuters.com/article/2014/03/30/us-china-corruption-zhou-idUSBRE-A2T02S20140330> (access date: 11.04.2015).
10. Shkarpova E. Epoch of changes. Focus. 2014. № 16. P. 8 - 37.
11. On the dawn of the peasants freedom (materials for the characteristic of the society). Russian antiquity. 1898. No. 3. P. 465 - 490.
12. Measuring the Non-Observed Economy: A Handbook. Paris: OCED, 2002. 250 p.
13. Tax Code of Ukraine of 02.12.2010 № 2755-VI (amended and augmented). URL: <http://zakon2.rada.gov.ua/laws/show/2755-17/page> (access date: 04.04.2018). Decree of the President of Ukraine "On the Ministry of Revenue and Duties" of 18.03.2013, № 141/2013 (amended and augmented). URL: <http://zakon4.rada.gov.ua/laws/show/141/2013> (access date: 09.12.2019).
14. Resolution of the Cabinet of Ministers of Ukraine "On the Liquidation of the Ministry of Revenue and Duties" of 01.03.2014 p. № 67 (amended and augmented). URL: <http://zakon1.rada.gov.ua/laws/show/67-2014-%D0%BF> (access date: 10.11.2019)..
15. Order of the Cabinet of Ministers of Ukraine of 23.10.2013 p. № 869-p (amended and augmented). URL: <http://zakon4.rada.gov.ua/laws/show/869-2013-%D1%80> (дата звернення: 22.11.2019).
16. Decentralization of power will be fixed in the Constitution. URL: [http://www.kmu.gov.ua/control/uk/publish/article?art\\_id=247209100](http://www.kmu.gov.ua/control/uk/publish/article?art_id=247209100) (access date: 02.01.2020).
17. Brennan G., Buchanan J. The Reason of Rules – Constitutional Political Economy. Cambridge University Press, 2008. 168 p.
18. Dovbush O. Inconclusive choice. Vesti. Reporter. 2014. № 13 (31). P. 28 – 31.
19. Meyers, Lawrence S., Glenn Gamst, and Anthony J. Guarino. Applied multivariate research: Design and interpretation. Sage publications, 2016. 978 p.
20. Darlington, Richard B., and Andrew F. Hayes. Regression analysis and linear models: Concepts, applications, and implementation. Guilford Publications, 2016. 660 p.
21. McQuitty, Shaun. The purposes of multivariate data analysis methods: An applied commentary. Journal of African Business 19.1 (2018): 124-142. <http://doi.org/10.1080/15228916.2017.1374816>
22. Enin E. Ukraine will be able to obtain the information from the USA, Great Britain and Interpol in the sphere of the counteraction to the corruption. URL: <http://ua.interfax.com.ua/news/general/484092.html> (access date: 11.04.2018).
23. Monitoring vital signs using fuzzy logic rules // Khorozovn, O.A., Krak, I.V., Kulas, A.I., Wójcik, W., Tergeusizova, A. 2019 Information Technology in Medical Diagnostics II - Proceedings of the International Scientific Internet Conference on Computer Graphics and Image Processing and 48th International Scientific and Practical Conference on Application of Lasers in Medicine and Biology, 2018, c. 237-244.
24. Wójcik W., Pavlov S., Kalimoldayev M. Information Technology in Medical Diagnostics II. London: (2019). Taylor & Francis Group, CRC Press, Balkema book. – 336 Pages.
25. Mykola I. Nebava, Nataliia B. Savina, Ivan V. Zayukov, Nataliia O. Vasazhenko, Oleksandr Yo. Lesko, Andrzej Smolarz, and Ainur Ormanbekova "Model of electronic public health management on the example of the territorial community of Vinnytsia region", Proc. SPIE 11176, Photonics Applications in Astronomy, Communications, Industry, and High-Energy Physics Experiments 2019, 1117634 (6 November 2019)
26. Nataliia B. Savina, Olha Romanko, Konrad Gromaszek, and Saule Smailova "Information technology for evaluation of innovation indicators influence and investment activity on competitiveness of the region", Proc. SPIE 11176, Photonics Applications in Astronomy, Communications, Industry, and High-Energy Physics Experiments 2019, 1117625