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APPROACHES TO PROFIT AND COST MANAGEMENT SYSTEM OF HOUSEHOLDS WITHIN NATIONAL ECONOMY

The paper presents the contemporary approaches to interpretation of profit and cost management system of households. The method of efficiency estimation for households profit and cost management is offered. An optimization model of profit and cost management system has been developed to increase their profits and enable further investment. The need for state support in developing the households of the investment type is grounded, viewed as an impetus that will enhance the investment capacity of population.

Keywords: household; profit and cost management; investment potential of households.

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ФОРМУВАННЯ СИСТЕМИ УПРАВЛІННЯ ДОХОДАМИ ТА ВИТРАТАМИ ДОМОГОСПОДАРСТВ В НАЦІОНАЛЬНІЙ ЕКОНОМІЦІ

У статті висвітлено сучасні підходи до трактування системи управління доходами та витратами домогосподарств. Запропоновано методику оцінювання ефективності управління доходами та витратами домогосподарств. Розроблено модель оптимізації системи управління доходами та витратами домогосподарств з метою зростання їх доходів та забезпечення здатності до інвестування. Обґрунтовано необхідність державного стимулювання розвитку домогосподарств інвестиційного типу, що сприятиме підвищенню інвестиційного потенціалу населення.

Ключові слова: домогосподарство; управління доходами та видатками; інвестиційний потенціал домогосподарств.

Форм. 1. Рис. 2. Табл. 7. Літ. 13.

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ФОРМИРОВАНИЕ СИСТЕМЫ УПРАВЛЕНИЯ ДОХОДАМИ И РАСХОДАМИ ДОМОХОЗЯЙСТВ В НАЦИОНАЛЬНОЙ ЭКОНОМИКЕ

В статье рассмотрены современные подходы к трактовке системы управления доходами и расходами домохозяйств. Предложена методика оценки эффективности управления доходами и расходами домохозяйств. Разработана модель оптимизации системы управления доходами и расходами домохозяйств с целью роста их доходов и обеспечения способности к инвестированию. Обоснована необходимость государственного стимулирования развития домохозяйств инвестиционного типа, которое будет способствовать повышению инвестиционного потенциала населения.

Ключевые слова: домохозяйство; управление доходами и расходами; инвестиционный потенциал домохозяйств.

Problem setting. With the transition of Ukrainian economy to the market principles there is a need to solve a number of acute problems related to profit and cost management of households. Households in the process of their economic activities receive profits, which serve as a basis for their living standards. Development of profit and cost management system of households is critically important to facilitate large volumes of

financial resources concentrated on the individual level. The share of final consumption expenditure of households taking into account individual consumer spending in GDP exceeds 60%. Therefore, the problem of profit and cost management by households acquires national significance, as it concerns not only every citizen of Ukraine, but also affects the processes of country's social and economic development overall.

Recent publications analysis. An important contribution to the study of theoretical and practical aspects of profits generation and costs by households have been made by such scientists as V. Gluhov (2008), O. Hladun (2005), M. Karlin and I. Tsymbalyak (2014), T. Kizyma (2011), E. Libanova et al. (2012), S. Panchyshyn (2002), L. Shevchuk (2001), O. Vatamanuk (2007) and others.

Appreciating high level of scientific achievements of the mentioned above authors we should note that not enough attention is being paid to interpretation of profits and costs management at the household level and the selection of areas for improvement.

The purpose of the article is scientific study of theoretical and methodological provisions and practical recommendations for improving the profits and costs management system of households in today's world.

Key research findings. Managing profits and costs by households gives them a possibility to systematize the key aspects of their activity and direct it in a way to ensure the maximum profit and social development for the state.

In the most general form "control" means "to direct the course of a process, to influence the development, the status of something" (Large Explanatory Dictionary, 2007). Encyclopaedias interpret the term "manage" as "conscious, purposeful influence of subjects (economic, social, political and other relations) on individuals, labour groups and wider community, as well as economic objects with the aim to achieve goals and to provide stabile and dynamic development of managed objects".

Profit and cost management system of households is an activity of household members on the regulation of incoming and outgoing cash flows in order to improve the welfare of household members, as well as functions of public authorities, related to the impact on formation process of profits and costs of households with the aim of optimization and rationalization of economic relations.

In other words, we can state that managing profits and costs of households is a set of processes related to planning, organization, motivation and control over economic relations, both inside a household and with other economic operators (state financial authorities, financial market institutions etc.).

Control objects for households are total profits and total costs of households. The subjects of management are household members engaged in control over funds, as well as the state represented by relevant financial authorities, which indirectly influence the processes of profits and costs by households.

The key functions of households' profit and cost management are correlated with the public. These are planning, organizing, motivation and control over current profits and costs of household members and formation of their savings.

Profits and costs management system of households is carried out at levels: macro-, mezo- and microlevels.

At the macrolevel, the state is represented by relevant authorities (State Fiscal Service, funds of obligatory state social insurance, the National Commission for

Regulation of Financial Services etc.), indirectly affects profits and costs of households.

At the mezolevel the process of household profit and cost management is influenced by local authorities and various economic agents (financial institutions, commercial and retail chains, manufacturers and service provides etc.). At the macrolevel — activities of household members directly involved in the overall control of funds.

It should be noted that the need for managing profits and costs by households follow from the state influence on the formation of the scope and structure of household costs not only by stimulating total consumer demand in the country, but also through activation of investments. Today, in the context of national economy there is an urgent need in transformation of household resources into investment capital.

In this study we will build a structural and logical scheme of factor scoring for the effectiveness of profit and cost management system of households in Ukraine (Figure 1).

In many countries standard of living is calculated basing on the analysis of households. For this the general sample of households is made, and on the basis of official data the group of indicators, which should show the status of households is calculated.

We perform the comprehensive analysis of households' profits and costs correlation for Ukraine and calculate the average and marginal propensity to consumption and savings (Table 1).

It should be noted that the main source of households' profits in Ukraine are wages. During the crisis, their share is growing, real profits are decreasing, the share of social benefits and current transfers are increasing. The growth rate of wages as the key element of profits depends, above all, on the minimum wage, living wage but not on workforce productivity, which is low in Ukraine.

However, in the total household costs consumer spending is 90%. The most important item of total household costs (52%) is food. While analyzing the indicators in dynamics we identified the reduction the in the share of expenses on food and growth — in the share of costs on non-food products; provision of household durables is also increasing (Table 2).

Thus, the greatest propensity to save demonstrate the households with low level of profits, significant amount of saving is related to deferred consumption. Also, big impact on savings have expectations related to macroeconomic and political instability.

In households where the main source of profits is wage and/or social transfers, consumer spending is 87% of the total costs and where profits is from business activities — 68.5%.

Thus, it is possible to make an analysis of differentiation in living standards in Ukraine. About 13 ths addresses of households are selected for the survey each year in Ukraine. In 2012 in Ukraine 10.5 ths households took part in the survey (82.5% addresses were selected except non-residential premises) (Table 3).

The analysis of differentiation in living standards in Ukraine made it possible to conclude that there is upward trend in the number of people with average per capita equivalent total profits per month below living wage, since 2010.
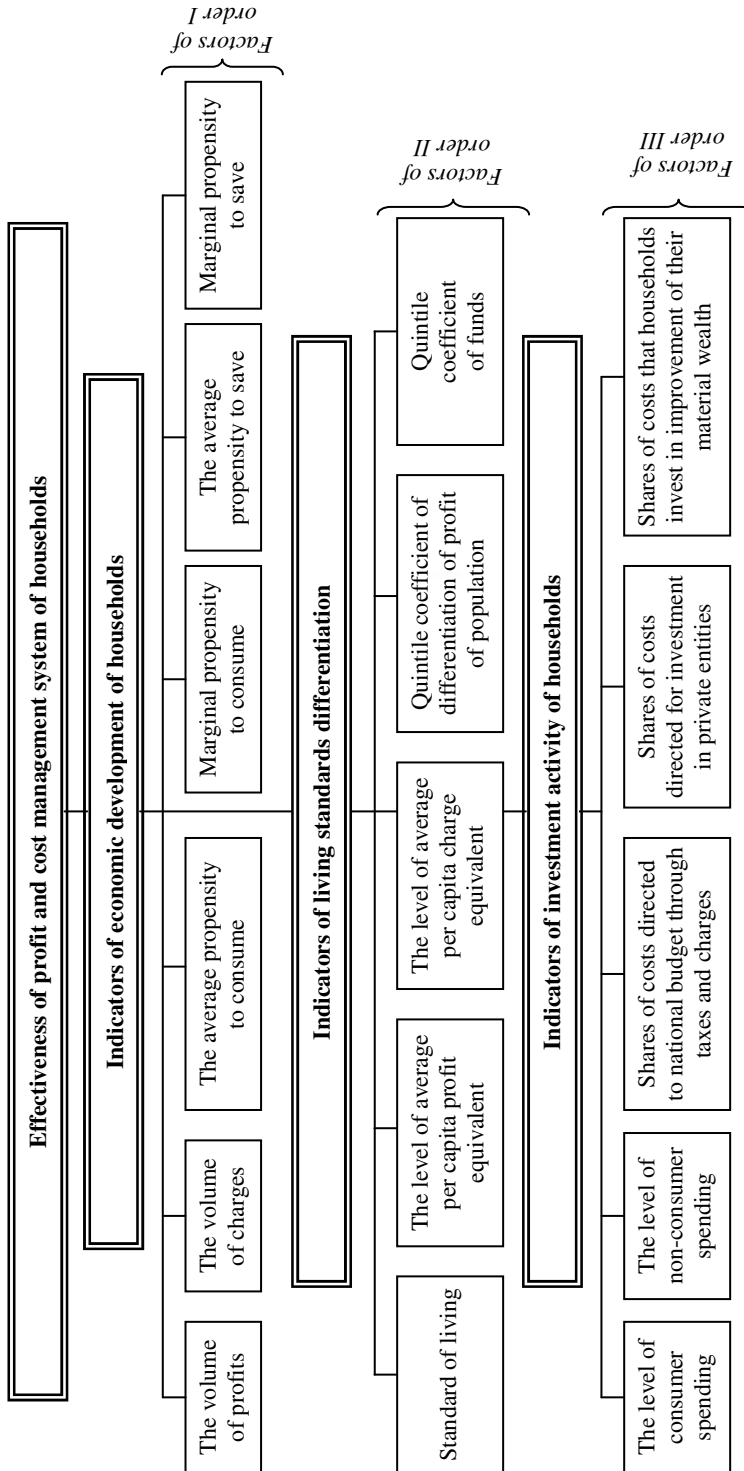
Figure 1. **Structural scheme of factors scoring of the effectiveness of profit and cost management system in households of Ukraine,** *authors' development*

Table 1. **The dynamics of indicators of the current state
of households in Ukraine**

	2006	2007	2008	2009	2010	2011	2012
Profits – total, mln UAH	472061	623289	845641	894286	1101175	1266753	1457864
Costs and savings – total, mln UAH	472061	623289	845641	894286	1101175	1266753	1457864
Consumer spending	427858	575510	793630	813909	939308	1143630	1310584
Savings	44203	47779	52011	80377	161867	123123	147280
The average propensity to consume	0.91	0.923	0.939	0.91	0.853	0.903	0.9
The average propensity to save	0.09	0.077	0.061	0.09	0.147	0.097	0.1
Marginal propensity to consume	-	0.976	0.981	0.417	0.606	1.234	0.874
Marginal propensity to save	-	0.024	0.019	0.583	0.394	0	0.126

Source: Costs and resources of households in Ukraine during 2006–2012. State Statistics Committee of Ukraine.

Table 2. **Dynamics of costs and savings for households in Ukraine,** *mln UAH*

Years	Costs and savings of population, total	Of them	Purchase of goods and services	Current taxes on income, wealth and other current paid transfers	Accumulation of nonfinancial assets	The growth of financial assets	Savings
2006	472061		385681	33803	7159	37044	44203
2007	623289		509533	49053	9939	37840	47779
2008	845641		695618	67606	29515	22496	52011
2009	894286		709025	67053	10493	69884	80377
2010	1101175		838213	72251	19578	142289	161867
2011	1251005		1024249	83778	-1159	124282	113925
2012	1457865		1194791	97226	-2954	150234	12659

Source: Costs and resources of households in Ukraine during 2006–2012. State Statistics Committee of Ukraine.

We carry out an analysis of households' profits by the level of average per capita equivalent profits (Table 4).

The largest share in 2012 accounted for the households with profits 1200.1−1560.0 UAH − 23.9%. The lowest profits was in 0.3% of households − 480 UAH per month.

According to the survey the annual income of one family in 2012 in the Volyn region was 18806 UAH, that is the monthly average income per family was 1567 UAH. This data received from the survey where all sources of profits were taken into account during the statistical sampling. It should also be noted that according to the State Statistics Committee from 3 to 4 people are employed in personal informal work. That is, the survey data differs significantly from the Statistics Committee data. There are a lot of reasons for these differences, statistical authorities do not provide the actual data on the number of households and profits. This leads to some differ- ences between the actual results of households' activity and research results due to

partial shadowing of personal activity. In addition, this situation doesn't allow defining the real level of profits of employed citizens.

Table 3. **Differentiation of living standards Ukraine**

	2006	2007	2008	2009	2010	2011	2012
Population with average per capita equivalent total profits per month below living wage							
mln people	22.5	5.7	3.2	2.6	3.9	3.4	4.0
% to the total number	49.7	12.7	7.1	5.8	8.8	7.8	9.1
The average amount of living wage (in average per person per month, UAH)	463.8	518.5	607.5	638.5	843.2	914.1	1042.4
Quintile coefficient of differentiation of profits of population, times	2.4	2.0	2.0	2.0	1.9	1.9	1.9
Quintile coefficient of funds (on total profits), times	4.7	3.6	3.7	3.6	3.5	3.4	3.3

Source: Costs and resources of households in Ukraine during 2006–2012. State Statistics Committee of Ukraine.

Table 4. **Distribution of population in Ukraine by the level of average per capita equivalent total profits**

	2005	2006	2007	2008	2009	2010	2011	2012
Distribution of population (%) by the level of average per capita equivalent total profits per month, UAH								
below 480.0	64.1	51.9	9.3	2.5	1.9	0.7	0.2	0.3
480.1–840.0[1]	35.9	48.1	45.1	21.2	17.1	8.0	5.0	3.1
840.0–1200.0[2]	-	-	45.6	32.1	32.0	26.0	18.7	12.9
1200.1–1560.0	-	-	-	21.1	22.1	27.0	26.7	23.9
1560.1–1920.0	-	-	-	11.2	12.5	16.4	20.0	21.1
1920.1–2280.0[3]	-	-	-	11.9	14.4	21.9	29.4	14.4
2280.1–2640.0	-	-	-	-	-	-	-	9.4
2640.1–3000.0	-	-	-	-	-	-	-	5.6
3000.1–3360.0	-	-	-	-	-	-	-	3.0
3360.1–3720.0	-	-	-	-	-	-	-	2.2
above 3720.0	-	-	-	-	-	-	-	4.1

Note: [1] In 2005–2006 – over 480 UAH; [2] In 2007 – over 840 UAH; [3] In 2008–2011 – over 1920 UAH.
Source: Costs and resources of households in Ukraine during 2006–2012. State Statistics Committee of Ukraine.

Based on the proposed methodology 3 groups of households are identified – consumer, saving and investment – their share is 28%, 24% and 18% respectively.

We calculate the share of households' costs, directed to state budget and private institutions as an investment tool.

According to the data in Table 6 there is a downward trend in the share of taxes and savings of households. This can be explained by the growth of costs on consumption by households of Ukraine under the conditions of economic crisis.

We calculate the share of costs that households invest in improving their welfare (Figure 2).

Table 5. **Types of households depending on the profits and costs,**
own development

Types of households	Level of monthly profits, UAH	Level of monthly costs, UAH
Consumer	< 1218	2389.4
Saving	1218–2339	3216
Investment	> 2339	3862

Table 6. **Dynamics of cost structure of domestic households**

	2006	2007	2008	2009	2010	2011	2012
Costs and savings – total							
mln UAH	472061	623289	845641	894286	1101175	1266753	1457864
%	100	100	100	100	100	100	100
purchase of goods and services, %	81.7	81.7	82.3	79.3	76.1	81.4	82.0
profits from property, paid, %	1.8	2.7	3.6	4.2	2.6	2.3	1.3
current taxes on income, wealth and others current paid transfers, %	7.2	7.9	8.0	7.5	6.6	6.6	6.7
accumulation of nonfinancial assets, %	1.6	1.6	3.5	1.2	1.8	-	-
growth of financial assets, %	7.8	6.1	2.7	7.8	12.9	9.7	10.0

Source: Costs and resources of households in Ukraine during 2006–2012. State Statistics Committee of Ukraine.
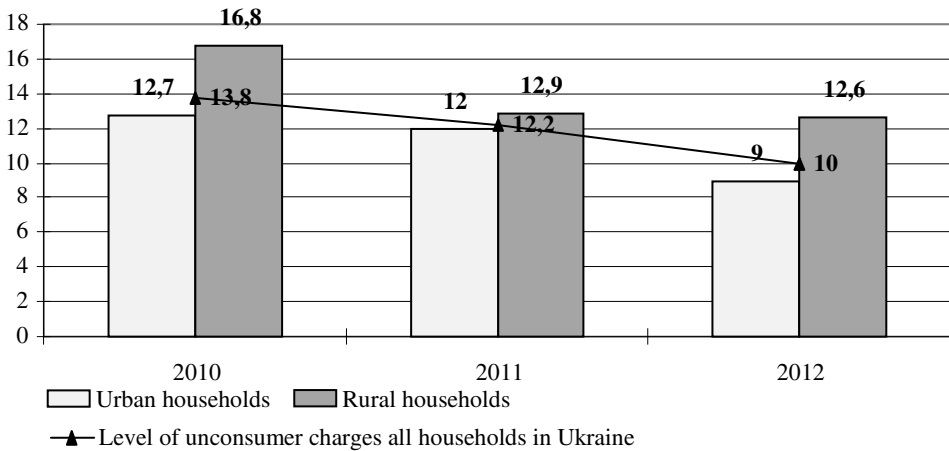

Figure 2. **The share of non-consumer household costs in Ukraine, 2010–2012,**
% (Costs and resources of households in Ukraine during 2006–2012.
State Statistics Committee of Ukraine)

According to Figure 2 there is a downward trend in the share of non-consumer spending in the whole Ukraine. It is also shown that rural households invest more money in improving their material well-being.

To ensure a significant increase of aggregate demand, lower taxes for people with high incomes should be accompanied by adopting a policy encouraging savings and investment. It should include tax incentives reducing the tax rate on income from securities, complex of investment incentives for banks. If we look closely on taxes and social spending budget, the lack of balance between them is the root cause for disturbances in the distribution system, budget deficit and consequent inflation.

All of the above does not mean that easing the tax load on citizens with relatively high incomes less impacts the aggregate demand. It all depends on that in which form savings are made. If they are deposited to the accounts of Ukrainian banks and invested in securities of Ukrainian enterprises, then under certain conditions they become a source of investment and are transformed into investment losses.

Differentiation in households profits, which tends to deepen, encourage population to shift from extensive increasing of expenditure to all possible ways of saving. This changes the economic behavior of consumer market. Therefore, the state should actively influence the formation of profits and costs of households not only through stimulation of aggregate consumer demand in the country, but also through activation of their investment.

Therefore, it is necessary to improve the mechanism of households' profits through activation of their business activities. This will ensure the stability of their operation; optimize the sources of revenue growth, especially for socially vulnerable groups; transform savings into investment capital of the state.

Thus, in order to stimulate the development of households at the mesolevel there is expedient to realize the support programs for farmers and private farms. There is a tendency of rural households profits increase, which are engaged intensively in subsidiary holding. Therefore, the keys to financial security of the national program of food security are: cheaper loans for purchasing cattle, pigs, sheep, bee colonies, poultry etc.; creating of educational and informational groups implementing advanced technologies in agricultural production; organizing exercises, seminars, trainings etc.

Profits and costs management system of households is effective in case of increase in the number of savings households, which in turn leads to the increase of investment's level within national economy. Achieving this objective should be the basis in profits and costs management at the macrolevel.

Optimizing this process means ensuring the growth of household profits for investment. Management should include not only the welfare of each individual household, but also stimulation of such entities development.

For this we have developed an optimization model of profit and cost management system for households, the use of which will not only increase individual household welfare but will also foster their development. The objective function of economic and mathematical modelling of selected profit of household, that is, the portion of income that can be invested or savings.

A significant number of factors that affect profit and cost management system of household and high uncertainty of the external environment with national economy objectively impose the following: consumer spending should be higher than the existing level, but lower than the upper limit of consumption; increase in the share of profits from farming is equal to state subsidies volume. Conditions under different sce-

narios will be different. Under the current conditions the model of households revenues and expenditures will be as represented by the formula (1).

In the inspection model in a real environment the adequacy calculated value depends on the optimal level of total household profits, on the value and volume of total cost of public subsidies.

$$
\begin{cases}
I = \sum_{i=1}^{n}\sum_{j=1}^{m} P_{ij} - \sum_{i=1}^{n}\sum_{l=1}^{k} V_{il} + \sum_{s=1}^{2} T_s \to \max, i = \overline{1,n}, j = \overline{1,m}, l = \overline{1,k}; \\[2mm]
\bigcup \Delta P_{ij}^{g} = \Delta T_d \to \max, \ 0 \le T_d \le D \bigcup 0 \le T_d \le D; \ \Delta P_{ij}^{g} = \Delta T_d \bigcup T_p \to \min, \ T_d \to 0; \\[2mm]
V_d \le V_{il}^{s} \le V_{\mu}; \\[2mm]
P_{ij} = P_{ij}^{h} + P_{ij}^{g} + P_{ij}^{z}; \\[2mm]
V_{il} = V_{il}^{s} + V_{il}^{R}; \\[2mm]
T_s = T_p + T_d; \\[2mm]
T_p = \sum_{i=1}^{n} \alpha_r \times x_i, \ \ p = \overline{1,5}; \\[2mm]
T_p^{p} = \alpha_r^{p} \times x_i, \ T_p^{c} = \alpha_r^{c} \times x_i, \ T_p^{v} = \alpha_r^{v} \times x_i, \ T_p^{b} = \alpha_r^{b} \times x_i, \ T_p^{u} = \alpha_r^{u} \times x_i,
\end{cases}
\tag{1}
$$

where I — profits of households remaining at their disposal and can be invested; P_{ij} — total profits of the household, where $i = \overline{1,n}$, n — the number of households $j = \overline{1,m}$, j — the type of households profits, m — the number of profit types; V_{il} — the total cost of the household, $l = \overline{1,k}$, l — the type of household costs, k — the number of costs types; T_s — state targeted funding, where $s = \overline{1,2}$ (transfer payments, government grants); P_{ij}^{h} — primary profits (arising in connection with the distribution of national profits); P_{ij}^{g} — profits from farm's individual activities; P_{ij}^{z} — other profits (investment profits, inheritance etc.); V_{il}^{s} — consumer costs; V_{il}^{R} — household costs on development; V_d — the current level of consumer costs; V_{μ} — limiting consumption; T_p — transfer payments; T_d — government subsidies; T_p^{p} — size of pensions; T_p^{c} — scholarships payments; T_p^{v} — disability benefits; T_p^{b} — unemployment benefits; T_p^{u} — other benefits; α_r — multiplier; $p = \overline{1,5}$ (the size of pensions, the amount of scholarship payments, the amount of disability benefits, the amount of unemployment benefits and other benefits); D — the amount of government subsidies in the state budget; ΔP_{ij}^{g} — increase in the share of household profits on keeping its own economy; ΔT_d — increase in the share of government subsidies.

As a result of testing the model revealed that the maximum profits of households that can be achieved in near future, provided that the increase in profits will reach the 2010 level, and it will increase by 12%, or 88.31 bln UAH. It is determined that under the optimistic scenario of national economy, the double growth of government subsi-

dies, the household profits and investment in national economy would increase 24.322 bln UAH, so the predictive value is almost three times the level achieved.

Thus, we developed a method for optimizing the profit and cost management system for households the use of which will lead to profits maximization by households to be furhtr invested in national economy.

This model is twofold — on the one hand it can be used at the microlevel for financial planning of households, profits and costs, and on the other — in forecasting of national income, formed by household profits.

Members of households make decisions on how much to spend and on which purposes. Thus, different levels of priorities, needs and interests of households forms a model range of their behaviour.

For each of the selected household's types choose select the type of economic behaviour that will be most suitable. For the households of the first group it is consumer benaviour, for the second — saving one and for the third — investment behaviour.

Table 7. **Households' economic behaviour types,** *authors' development*

Types	Description
Consumer	is characterized by a survival strategy, the hope for government and private transfers, borrowings
Saving	is characterized by the maximal strategy diversification, moderate instruments diversification, moderate concentration of active and passive strategies, dominance of liquid assets, focus on protection of savings from impairment
Investment	is characterized by maximal strategy and instruments diversification, maximal concentration of active strategies, focus not only on savings, but also on profitable investments

Conclusions and recommendations for further research. All the above-mentioned give us an opportunity to make conclusions about the ways of increasing the investment potential of population as a factor of national economic development. In particular, these should include:

- reduction of economically unjustified differentiation in profits of population;
- growth of profits from employment as investment resources of households;
- focus on average profits groups in the formation of attractive investment policy for households;
- increasing the trust level to the state as funds manager;
- development of civilized stock market and real estate market with various investment schemes;
- encouraging the residents to invest in the development of local infrastructure.

The results of our research give us an opportunity to deepen the theoretical foundations of households' profits and costs management, in terms of practical recommendations which would help optimize national and regional investments.

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Стаття надійшла до редакції 14.09.2015.