# Agricultural Economic Stability And The Impact Factors As The Government Priority Policy Issue In Ukraine

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## Abstract

Global economic and financial situation has a significant impact on processes of development in most national agrarian economics. With a glance to the situation it is highly important to define influencing factors of agricultural enterprises economic stability. Ukraine's progress economic reform is making possible the development of an extension system which will provide increasing of economic stability of enterprises in agricultural sector and rural areas. In this article worked out methods for more reasonable and effective using of government subsidies. Also an example of calculation government subsidies was provided with using of employment of industrial capacity and production growth factor. Employment of industrial capacity was calculated basing on correlation analysis with following influential factors: quality of soil, key assets supply, labor supply. Also in this article an influence of exogenous cyclic factors on agricultural enterprises' economic stability, particularly, external and internal factors have been analyzed. Cyclicity of agricultural economic stability directly depends on indexes of agricultural and industrial production and price correlation. The stability prognosis was made by calculation and regularity analysis of oscillation frequency.

Keywords: Economic stability, Agriculture, Industry, Production Index, Price Index.

JEL Classification: Q01,Q12,C15,O12

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# Agricultural Economic Stability And The Impact Factors As the government priority policy issue in Ukraine

#### Abstract

Global economic and financial situation has a significant impact on processes of development in most national agrarian economics. With a glance to the situation it is highly important to define influencing factors of economic stability of agricultural enterprises. Ukraine's progress economic reform is making possible the development of an extension system which will provide increasing of economic stability of enterprises in agricultural sector and rural areas. In this article worked out methods for more reasonable and effective using of government subsidies. Also an example of calculation government subsidies was provided with using of employment of industrial capacity and production growth factor. Employment of industrial capacity was calculated basing on correlation analysis with following influential factors: quality of soil, key assets supply, labor supply. Also in this article an influence of exogenous cyclic factors on agricultural enterprises' economic stability, particularly, external and internal factors have been analyzed. Cyclicity of agricultural economic stability directly depends on indexes of agricultural and industrial production and price correlation. The stability prognosis was made by calculation and regularity analysis of oscillation frequency.

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## 1 Introduction

Market economy and competition demand hard requisitions of effective production, product quality and employment of agricultural workers. In these conditions enterprise stability has become the main point and condition of production development, investment forming and material stimulation. Promoting economic stability is partly a matter of avoiding economic and financial crisis. Economic stability also means avoiding large swings in economic activity, high inflation and excessive volatility in exchange rates and financial markets. Such instability can increase uncertainty and discourage investment, impede economic growth and hurt living standards.

One of the difficulties in defining economic stability is correct assessing of influencing factors. The first obtained factors will affect its subsequent definition. Especially it applies to the definition of agricultural enterprises stability and agro-industrial complex as a whole.

Ukraine's progress economic reform is making possible the development of an extension system which will provide the increasing of economic stability, education needed for modernization of the agricultural sector and rural areas.

Recent changes in agricultural administrative policy are resulting in the elimination of direct government controls such as allocation government support, mandatory production targets and centralized distribution of investments and inputs.

One of the not constant incising of economic stability is insufficient government financial support. It goes without saying, government has not cover all loses of financial and regular activity of agricultural enterprises. But the state assistance has to help to increase a productive potential and an extended reproduction.

One of the objectives of this article is to precisely determine basic factors which determinate and have influence on economic stability, particularly, factors directly applying to agriculture. The other objective is to determine government support for agricultural enterprises using employment of industrial capacity and production growth factor.

Another objective of this article is to precisely determine basic factors which have influence on economic stability, particularly, factors directly applying to agriculture. The other objective is to determine index correlation between agricultural and industrial production and to find a solution of stabilizing economy of the nation's agriculture and to clarify how economic stability of agricultural enterprises varies with the course of time.

#### 2 Techniques, methodology and methods

Adoption of market relations changed financial relations between government and enterprises. Economic stability of enterprise became one of the determinate factors of survive in present conditions. In connection with this role and sense of economic stability analysis are increasing. Economic enterprise instability makes negative influence on whole economy, leads to slowdown business activity. Therefore we have to increase economic stability as soon as possible. And it's possible due to scientific and methodical investigation in finding of reserves and ways of economic stability increasing.

The characteristic feature of economic stability increasing consists in that for their use or capital charges are not required, or charges are insignificant. Consequently, the able use of reserves gives possibility to get the maximal effect of enterprise activity increasing.

Thus, essence of problem of economic stability increasing consists in that systematic and in good time to expose and economic grounded to use them in a production on the basis of application of more effective facilities and management methods and to carry out due to it subsequent development.

A study and analysis of the general state of economy of agricultural enterprises of Yakimivka region (which situated on the South of Ukraine) testify to economic instability of their activity and presence of considerable reserves of economic stability.

Under reserves we will establish the possibility of increase of production efficiency. Thus, economic essence of increasing reserves of production efficiency consists in the most complete and rational use of growing potential for the sake of receipt of high-quality products at the smallest charges of labor on unit of products.

The determination of efficiency of agricultural production needs limited number of factors which most make influence on efficiency of production.

Economic efficiency of production is expressed by the indexes of financial results. Major among them is a profit yield from products selling, services of agricultural enterprises, so far as income to taxation not always expresses the financial state of enterprise. Thus, the size of profit yield from products selling, works and services calculating on 100 hectares of agricultural lands and make substantial influence on the financial state of enterprise.

For the identification of dependence between factors will use very comfortable and the most widespread analytical method of expression of production functions. In this case a function is the mathematical model of economic process of multifactor, which sets connection between characteristics which are studied, that allows to define the expected value of result of production depending on its factors. Most adequate formula is linear equalization of multifactor regression which has the following kind:

$$Y = a + b_1 x_1 + b_2 x_2 + \dots + b_n x_n \tag{1}$$

*Y* – results of production;

a –free member of equalization;

 $b_1$ ,  $b_2$ ,  $b_n$  – coefficients of regression;

 $x_1$ ,  $x_2$ ,  $x_n$  – factors of production.

The analytical method of expression of production functions will give a possibility to analyze influence on the production result of one or a few factors and define different coefficients by the receptions of mathematical analysis, characterizing changes in the process of production. The cross-correlation analysis of multifactor is conducted on the large number of experimental information in a few stages.

For the cross-correlation model of multifactor was chosen factors which make most substantial influence on an final index:

 $x_1$  – quality of soil, (thousand of ballogektar);

 $x_2$  – key assets supply, thousands of UAH (calculating on 100 hectares of agricultural lands);

 $x_3$  – labor supply, human. (an average annual amount of workers is in a calculation on 1

thousand of hectare of agricultural lands).

Thus, model three basic terms of agricultural production – earth, labor and key assets.

For research of influence of the mentioned factors on an effective index, as the money profit yield of agricultural enterprises (calculating on 100 hectares of agricultural lands) accepted 25 enterprises (annual financial reports). For an analysis of economic information of Yakimivska region was investigated period 2010-2012.

Analysis of works by Ukrainian and Russian scientists like V.Kovalev, A. Sheremet, E. Minaev, S. Moiseev, V. Panagushin, O.Efimova enabled to sort out basic groups of stability factors. According to this systematic the structure of indicators for enterprises performance evaluation can also be subdivided into three groups:

- Measures of financial efficiency evaluation;
- Measures of enterprise activity scales;
- Measures of viability evaluation.

Ukrainian analysts who orientate themselves at the theory of economic growing use indicators of economical efficiency and enterprise viability as limitations. In the capacity of criterion of estimation and alternatives of business transactions they use indexes reflecting production scales, as a rule, indexes characterizing a size of an enterprise and its activity scale.

To define a set of factors affecting an agricultural enterprise it is necessary to note some particular production specifics at agricultural enterprises that set them apart from enterprises of other branches of economy:

- 1. Results of business activities of agricultural enterprises depend much from natural and climatic conditions.
- 2. Seasonality is indicative for agriculture.
- 3. Production process in agriculture is very extended and it does not match the working period. Many rates are estimated only at the end of a year.

- Agriculture deals with living organisms. Therefore, it is not only laws of economy but also those of biology, chemistry and physics that complicate estimation of affecting factors of business activity results.
- 5. The leading mean of production in agriculture is soil natural features of which are inseparably connected with climatic conditions. Unlike other branches of economy with exactly known economical efficiency and capacity of industrial resources, soil productivity cannot be estimated accurately and under influence of various factors it changes a natural and economical pattern.
- 6. Agriculture differs from other branches of production by means of its part of output which is used for own needs as a mean of production.

Inclusive of specifics of agriculture for estimation of agricultural enterprises' performance many peculiar terms are used, like crop and livestock yield, etc. General indexes used in all branches of economy reflect specificity of agricultural production.

To analyze and identify economic stability of Ukraine under the external and internal influences we use common methodologies of the main industrial production indexes and agricultural production indexes:

Calculation of price indexes (E. Laspeyres, 1864), (H. Paasche, 1874)

Detection of disparity between two price indexes (V. Bortkevich 1924)

Estimation of correlation between the index of agricultural prices and the index of industrial prices (G. Pashe's )

Also during our investigation we employ a fundamental methodological approaches discovered by V. Timoshenko. (1930)

For calculation price indexes use the Laspeyres's formula as a major rule (E. Laspeyres, 1864):

$$L_{t/o}(P) = \sum_{Pit} q_{io} / \sum_{Pio} q_{io}; \qquad [2]$$

or use H. Paasche, 1874

$$P_{t/o}(P) = \sum_{Pit} q_{it} / \sum_{Pio} q_{it}$$
[3]

Difference between price indexes of E. Laspeyres and H. Paasche was calculated by V. Bortkevich (1924). His formula of disparity between two price indexes has such unifying variant:

$$P_{t/o}(P) - L_{t/o}(P) = cov[I_{t/o}(p_i), I_{t/o}(q_i) / L_{t/o}(Q)]$$
[4]

Scientist mathematically has proved:

$$Pt/o(P) < Lt/o(P),$$
<sup>[5]</sup>

if price and quantity change in opposite ways;

$$Pt/o(P) > Lt/o(P),$$
[6]

if price and quantity change in same way;

$$Pt/o(P) = Lt/o(P),$$
[7]

if is not whatever correlation between price and quantity change.

Timoshenko's TA/M(P) index calculate like dividing index of agricultural prices At/o(P) and index of industrial prices Mt/o(P). V. Timoshenko used G. Pashe's formula:

$$I_{t/o}(P) = \sum_{Pt} q_t / \sum_{Po} q_t$$
[8]

The change of price level P at time t is compared with basic period o and defined by quantity of physical volume of product q.

V. Timoshenko analyzed a huge data array of the U.S. economic history and affirmed that agricultural conditions explain special economic conditions in the USA especially at the end of the 19th century. If cycles of agricultural prices are generated by cycles of agricultural production volumes then it is critically important to compare them with industrial products price oscillation. Such comparisons give evidence that although industrial and agricultural cycles advance in the same direction their length and amplitude variation are still individual. V. Timoshenko has compared indexes of agricultural and industrial prices over a certain period of time focusing special attention on periods of economic turns and declines.

Investigated correlation of agricultural prices to industrial – define Timoshenko's index, - and reflect specified cyclic changes. Cyclicity of Timoshenko's index depends from cycles' characteristics of both price indexes. Timoshenko's Index uses for determination of economic activity.

However we consider the indexes of agricultural and industrial production as a more preferable indicator of agricultural economic stability versus the indexes of agricultural and industrial prices because of the high price instability in Ukraine. Therefore we believe that the Timoshenko's Index will characterize agricultural economic stability very appropriately. After that we will call it Index of Stability.

## **3 Results**

In relation to the agricultural enterprises of region the offered model of estimation of production potential expressed by the following formula:

$$Y = 126,380 + 0,377X_1 + 0,155X_2 + 3,786X_3$$
(9)

Equalization of connection shows that with the increase of all investigated factors: qualities of soil on 1 thousand of ballogektar, key assets on 1 thousand of UAH, labor supply on 1 people., a profit yield from realization of agricultural produce rises accordingly on 377 UAH, 155 UAH and 3786 UAH.

Resource-production potential of every enterprise depends, as it was already marked, not only from present resources but also from the degree of their use. Will define the employment of industrial capacity by a formula:

$$K_{eff} = P_{fac.} / P_{norm.} \tag{10}$$

 $K_{eff}$  – employment of industrial capacity;

 $P_{fac.}$  –actually revenues from sales of products, works, services, calculating on 100 hectares of agricultural lands;

 $P_{norm.}$  – normative revenues from sales calculating on 100 hectares of agricultural lands;

Production potential have to be considered how an index of efficiency of management production potential inside enterprise. Agricultural enterprises gain additional revenues from sales when they have Coefficient of efficiency over one. Enterprises which have coefficient below one, that is testifies that a management level is not provided by introduction in an action of all present naturally economic factors of production for the receipt of normative revenues from sales.

After conducted analysis of employment of industrial capacity, enterprises will divide into three groups:

1. a group with employment of industrial capacity higher 1,25 (enterprises use their potential more appropriately than their possibilities);

2. a group with employment of industrial capacity from 0,75 to 1,25 (enterprises use their potential at the level of the possibilities);

3. a group with employment of industrial capacity below 0,75 (enterprises use their potential less appropriately than their possibilities).

The table 1 determine that agricultural enterprises with most effective use of natural resources will have stabile economic potential, because of employment of industrial capacity and the normative revenues from sales had a maximal measure 1,92 and 184,0 accordingly.

The analysis of the calculated results testifies that majority of agricultural enterprises of region (76%) have a low level of the production potential using ( $2^{nd}$  and  $3^{rd}$  group).

Upgrading soil quality, capital production assets and labor resources are reserves of economic stability.

By the instrumentality of statistic data of period 1995-2012 we have calculated Index of Stability. Even under conditions of imperfect statistic measures, startup stage of national market economy forming and long transformation decline in Ukrainian economy, this index is an objective indicator and proves definite changes. It can display the state of whole business activity under conditions of deep and prolonged recession. (Table 2)

The figure 1 let us to visualize the oscillation frequency of the indexes. If pay attention for fig.1 than at first sight all curves have tendency to increasing and reducing with the bounds of time. Amplitude changes of indexes of agricultural and industrial production and correspondence of each other are traced. Cyclicity of those indexes shows that by all means after reducing period goes period of increasing. The period of market reform in years 1995-2004 is characterized as a time of deep economic recession in Ukraine. During this time we can see continuous decreasing of industrial and agricultural production. By the end of the 1990's the rate of decreasing slowed down and in 2004 we can see a positive index of industrial production and GDP in Ukraine. But still agricultural sector was able to overcome the recession one year after that. In the recent eight years Ukrainian economy shows a tendency of increasing its main macroeconomic measures, therefore it is reasonable to break the analysis of economic stability into two separate periods.

Like we said before, since 2003 the index of GDP and the index of industrial production have never dropped below 1 in Ukraine but the index of agricultural production does not read the same stable results. During this time we can clearly see two three-year long periods of agricultural production decreasing after one prosperous year and two times drop of agricultural production index below 1 - in 2007 and 2011. This analysis gives us basis to forecast dynamic of agricultural production stability and in 2013 we are to expect reducing of agricultural production index. That is explained by a variety of external factors that can occur both at a microlevel and the country level.

## **4** Discussion

Every agricultural enterprise has different conditions of production, or different levels of production potential (provision with well-being high-quality soils, funds and labor), different conditions of production. However at distributing of government supports those conditions are not taken into account, because of calculations are conducted for example from the amount of hectares.

We offer other calculation of government subsidies: taking into account production potential. And to bring the size of grants to severe accordance with production potential of separate enterprises, with them quality of manage.

The conducted research showed that the high-quality structure of production potential on the agricultural enterprises is different. Therefore under both objective and subjective reasons agricultural enterprises have different conditions of conducting of the extended production.

Let to consider distributing of government support and indemnifications of plant growing of agricultural enterprises of Yakimivska region. To our opinion, it is presently expedient to send a grant and indemnification to enterprises which have profitability of production and realization of grain-growing from 5% and higher, that must support those enterprises which conduct a production effectively.

As of grants on the products of plant-grower, it is expedient to conduct it taking into account production potential and index of growth of production enterprises (table. 3).

Let to generalize influence of external and internal factors: external factors are classified on direct and indirect factors against from influence extent. Indirect amidst is very important, complex and powerful factor and enterprise can influence and control that factor. But direct amidst can controlled by manager. Thereby, enterprise has to keep the track of factors events of internal amidst to be economic stabile. Enterprise has to manage so that use external factors with benefit for itself enterprise.

If pay attention on factors of external influence then crop yield numbers cycle is one of determinative factor of agricultural changes. Those changes are accounted of agricultural crop yield changes. So far as agricultural products prices is flexible that changes of agricultural products volume generate comparable cycles on prices of agricultural products.

Under excessive production it often happens that influenced mainly by natural and climatic conditions price depends on the volume of production according to the law of supply. And for a more objective definition of economic stability it is more appropriate to use precisely the alteration of physical volume of agricultural production rather than its price.

Scientists who investigate variations of the agricultural production volumes have introduced category and indicator of agricultural constancy. This indicator shows inequality of agricultural production. The inequality is connected with especial conditions of production, particularly, weather conditions. By practical experience the category indicates an ability of agricultural production to resist negative influence of unfavorable weather conditions.

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So, constancy, in other words, is stability, because economic stability of agricultural enterprise is – enterprise ability to resist against internal and external factors, skills to adapt for changeable production conditions, at that safe first equilibrium. However, how we mentioned above, influencing factors in agriculture differ from factors of other branches of economy. Thereby, this definition opens essence of the economic stability of agricultural enterprise.

V.Timoshenko, E.Grave, S.Pervyshin, A Pigy, R.Rucker, D.Summer came to conclusion that clear osculation frequency of agricultural production volume identified by predecessors, in fact is one of the reasons of appearing general oscillations of business activity. As you know, a state of business activity in light and food industries and enterprises involved in transportation, storage and distribution of agricultural products considerably depends on results of agricultural production. Providing heavy yield industrial enterprises expenses for raw materials go down. In addition, the country's oscillations of agricultural production generate corresponding oscillations in agricultural export which is closely related to the level of business activity. That means that the state of agricultural sector of economy noticeably influences business activity of economy in general.

A share of agrarian sector in Ukraine's GDP makes up almost 18%. For another thing, as much as gross figures register only end values, so agricultural production share in national accounts is somewhat understated. A contribution of agrarian sector to export revenue approximately equals its share in GDP. Under contemporary commercial opportunities agriculture can be handled as a strategic branch of a national economy. General state of Ukrainian economy depends on the status of agriculture, i.e. on its economic stability.

Cycles of Index of Stability value partly express cycles of physical volume of product therefore can directly define influence on business cycle of economic by agricultural production ratio, particularly, crop yield.

## **5** Conclusions.

To our opinion norm of government support for one hectare of agriculture land has to be calculated with consideration for the employment of industrial capacity and production growth factor. And, the calculation applies to the enterprises which have any employment of industrial capacity and production growth factor.

So, from the calculation of table 2 evidently, that with application of the progressive system of extra charge of grants there is more effective use of budgetary financing. Due to calculation enterprises with the high level of coefficients would get more grants than actually they got in 2009 year. Size of grants of enterprises with low measures does not change. Thus, such calculation will support and will fix economic stability of agricultural enterprises with the high level of economic potential, and for enterprises with a low level – will give motivation to revise and anew estimate the factors of influence of economic stability.

Thus, effective distributing of government support will allow limiting the inefficient distributing of grants and will promote economic stability of agricultural production.

Raising economic stability of agricultural undertaking is partly a matter of avoiding economic and financial crisis. Economic stability also means eluding large swings in economic activity, high inflation, and excessive volatility in exchange rates and financial markets. Such instability can increase uncertainty and discourage investment, impede economic growth, and hurt living standards.

A dynamic market economy necessarily involves some degree of instability, as well as gradual structural change. The challenge for policymakers and economists is to minimize this instability without reducing the ability of the economic system to raise living standards through the increasing productivity, efficiency, and employment that it generates.

Economic and financial stability is both a national and a multilateral concern. As recent experience in world financial markets has shown, countries are becoming ever more interconnected. Problems in one apparently isolated sector, within any one country, can result in problems in others sectors and spillover across borders. And global economic and financial conditions have a significant impact on developments in most national economies. Thus, no country can't be isolated when it comes to economic and financial stability.

At our view, economic stability of agricultural enterprise is – enterprise ability to resist against internal and external factors, skills to adapt for changeable production conditions, at that safe first equilibrium. However, influencing factors in agriculture differ from factors of other branches of economy. Thereby, this definition opens essence of the economic stability of agricultural enterprise.

Government support of agriculture will stimulate increasing of index of agricultural production (Order of the Ukraine Cabinet of Ministers "About assertion State target program of rural development till 2015", October, 19 2007 #1158), and yearly increasing of agricultural part of budget prove that. Risk of further economic depression exists now though evident positive development in different branches and economy in whole. Macro stability can vanish without effective structural changes in rural and another branches of economy.

Agriculture has principal value for development Ukrainian economy. Agricultural changes are one of important factors which proved by analysis and prognoses of changes of business activity of country economic, because share of rural sector takes considerable place in Gross Domestic Product. The whole state of Ukraine economy depends from conditions of agricultural points. And Ukraine agriculture can't stand down from depression without necessary transformational reforms. And successful agricultural reformation must play main role in development of economy.

# 6 References:

1. Eli Ginzberg, Robert M. Solow, (2004): The illusion of economic stability, Harper & Brothers, NY, 275 pp.

2. James Tobin, (2003): World finance and economic stability, MPG Books Ltd, Bodwin, GB, 242 pp.

3. Kalna-Dubinuk Tatyana P., Johnson Stanley R. (2005): The development of extension servise in Ukraine and the worldwide experience, Agrarna nayka, Kiev, 200 pp.

4. Manjit S. Kang (2007): Agricultural and environmental sustainability: Considerations for the future, Haworn Food & Agricultural Products Press, Binghamton, NY, 225 pp.

5. Ranjan K.P., (2000): Agricultural growth and economic stability, Rawat Pablications, India, 195 pp.

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6. Statistic data of Administration of Agro-Industrial Development at Akimovka District State Administration (dsa) in Zaporozhye Region for 2008-2009.

7. Dagum E. B., Dagum C. Index numbers (1982): Encyclopedia of Economics.Ed. By D.Greenwald, McGaw-Hill, N.Y. etc.

8. Etienne Laspeyres (1877), "Statistische Untersuchungen über den Einfluss einer Steueraufhebung auf die Preise der bisher besteuerten Producte", Statistische Monatschrift, 3, pp. 497-514, 545-555; idem (1901), "Statist. Untersuchungen zur Frage der Steuerüberwälzung, geführt an der Geschichte der preussischen Mahl- und Schlachtsteuer. Nach gedruckten und ungedruckten Quellen", Finanz-Archiv, 18, pp. 46-282.

9. Helen Roberts (2000): Laspeyres and his Index, European Conference on the History of Economics 2000, Rotterdam, Netherlands, April 20-22, 2000.

Timoshenko, V. (1930): The Role of Agricultural Fluctuations in the Business
 Cycles. Michigan Business Studies.Vol.2. – No. 9.

11. Zinchyk, T. (2000): Agrarian policy of Ukraine: abilities and outlook of integration in EU. Ukr. Econ. 12, pp. 35-42.

12. Moroz, O. (1998): Development of agricultural production. Ukr. Econ. 3, pp. 45-57.

13. Yankiv, M.D., Mayovec, E.I., Reverchyk, S.K. (1998) Demand, supply and prices at agricultural market. Dialog, Lviv, 348 pp.

14. State Statistics Committee of Ukraine, <u>http://www.ukrstat.gov.ua/</u>

15. V. Bortkevich (1923-1924), Zweck und Struktur einer Preisindexzahl. NST,Bd. 2, pp. 369 - 408; Bd. 3, pp. 208 - 251, 494 - 516.

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Grouping of enterprises based on the level of	Quantit y enterpri ses in	Employme nt of industrial capacity	Factors of employment of industrial capacity		Normative revenues from sales calculating on 100 hectares of agricultural lands, thousands of UAH			
production potential	group		Qualit y of soil	Key asset s	Labor supply	Calculati on measure	Lower limit	Top limit
1 group	6	1,92	215,8	440,	42,1	184,0	44,5	356,2
2 group	10	0,92	187,8	404,	39,3	155,4	76,1	313,1
3. group	9	0,48	198,1	353,	25,0	105,6	21,4	261,0

 Table 1: Prediction of revenues from sales of agricultural enterprises of Yakimivska

 region depending on efficiency using of production potential

Table 2: Calculation of Index of Stability for Ukraine economy 1995-2012

Year	Indexes of	Indexes of	Indexes of	Index of	Annual
	agricultural	industrial	GDP	Stability	changes of
	production, to	production, to			Index of
	preceding year*	preceding year*			Stability
1995	0,868	0,952	0,913	0,91	
1996	0,917	0,936	0,901	0,98	0,07
1997	1,015	0,92	0,858	1,10	0,12
1998	0,835	0,727	0,771	1,15	0,05
1999	0,964	0,88	0,878	1,10	-0,05
2000	0,905	0,949	0,9	0,95	-0,14
2001	0,982	0,997	0,97	0,98	0,03
2002	0,904	0,99	0,981	0,91	-0,07
2003	0,931	1,04	0,998	0,90	-0,02
2004	1,098	1,132	1,059	0,97	0,07
2005	1,102	1,142	1,092	0,96	0,00
2006	1,012	1,07	1,052	0,95	-0,02
2007	0,89	1,158	1,096	0,77	-0,18
2008	1,197	1,125	1,121	1,06	0,30
2009	1,001	1,031	1,027	0,97	-0,09
2010	1,025	1,062	1,073	0,97	-0,01
2011	0,935	1,102	1,073	0,85	-0,12
2012	1,21	1,063	1,069	1,14	0,29

\* - source: State Statistic Committee of Ukraine (<u>http://www.ukrstat.gov.ua/</u>)



Figure 1: The visualization of oscillation frequency of the indexes.

Agricultural enterprise	Profitability (unprofitabil ity) of plant grooving, %	Employm ent of industrial capacity	Product ion growth factor	Paid government support in 2009, thousands of	Calculated government support in 2009, thousands of
				UAH	UAH
Farm "Lan"	12,0	0,54	0,75	30,7	12,4
Farm "Yarina"	-62,0	-	-	42,5	42,5
Andreevskoe Co Ltd	-37,4	-	-	78,9	78,9
Farm "Rostok"	17,8	0,52	0,70	28	10,2
Agrostal Co Ltd	-44,9	-	-	182,8	182,8
PE "Privat-Servise"	-27,9	-	-	80,8	80,8
PE "Progress"	10,8	0,59	0,68	95,8	38,4
Co-op "Peremozec"	-25,9	-	-	98	98,0
Farm "Aleka"	-36,0	-	-	250,1	250,1
Farm "Istok"	26,7	0,62	0,82	257,3	130,8
Agroprominvest Co	-9,7	-	-	215,3	215,3
Ltd					
Farm "Kolos-12"	-18,7	-	-	58,1	58,1
Oriana Agro Co Ltd	52,6	0,95	0,82	340,7	265,4
Sokologorne Co Ltd	-4,3	0,86	0,76	47,4	31,0
Orhideya Co Ltd	-14,8	2,78	0,59	146,1	239,6
Torn Co Ltd	-5,1	-	-	31,2	31,2
Tavria Co Ltd	20,4	0,96	-	399,4	399,4
PE "Askon"	25,5	1,23	0,91	740,7	829,1
Primorski Co Ltd	-26,5	2,61	0,91	257,9	612,5
Ykraina Co Ltd	22,8	1,93	0,88	59,6	101,2
Farm "Oleksandr"	85,0	1,5	1,09	51,6	84,4
Farm "Nina"	26,3	0,9	0,75	31,5	21,3
Farm "Anna"	70,6	1,45	0,97	28,8	40,5
Velis-2004 Co Ltd	17,3	1,32	0,36	-	-
Average measure	13,3	1,2	0,85	-	-
Total	-	_	_	3553,2	3854,0

Table 3: Government support distributing for agricultural enterprises

of Yakimivska region in 2012