

THEORETICAL ASPECTS OF FARM DIVERSIFICATION

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ABSTRACT. Theoretical aspects of farm diversification. *There are situations in agricultural production when one or several production factors have to be involved in production of different goods and not infrequently such a situation develops when the number and quality of production factors do not correspond to the production goal. This is shown by large areas of unused agricultural land, continuous unemployment in many rural regions and a low income level. In free market economies, production methods or the type of services provided are determined by those who utilize the limited resources in the most effective way. The paper deals with efficiency determination of the existing resources and the need for a justified production diversification upon applying the law of diminishing returns. The research includes models on production diversification possibilities within and outside the industry of agriculture. The calculations revealed a potential effect of diversification of labour force and land use in Latvian regions.*

Key words diversification, economic efficiency, resources, production, costs.

Introduction

In the contemporary world the developed countries are setting up the objective for their economic policy – sustainable development of civil society, taking into account the limited economic resources. The Commission of World Environment and Development of the United Nations explains that development is sustainable when it satisfies the current needs without jeopardizing a possibility for the next generations to satisfy their needs.

Sustainable development is associated with the following aspects of commercial activity (B.Rivza, 2004):

- economic (growth, efficiency, stability),
- social (justice, social equality and mobility, participation, cultural identity),
- environmental (healthy environment, a rational use of renewable energy resources, conservation of non-renewable energy resources) factors.

Only the development, which equally complies with all three target groups, is capable of a long-term existence.

Until now, the market economy has been able to handle the problem of scarcity of resources in the most effective way by distributing the limited resources towards the most effective way of their utilization by

means of „invisible hand”. The wish of each individual to satisfy his/her needs as much as possible, taking into consideration his/her income is an important driving force of system.

The way goods are produced and services are provided is closely related to competition amongst producers. In the economy based on free competition, production trends and quantities are determined by managers who use the limited production resources in the most effective way.

Agriculture, as a sector of the national economy plays an important role in the economy of every country because the level of its development is decisive in provision of the population with agricultural products and industry with raw materials. As compared with industrial enterprises, specialization of agricultural enterprises is dependent on economic and natural factors (Risks..., 2005). Agricultural enterprises are closely cooperating with enterprises of other sectors. Cooperation of enterprises of different sectors allows diminishing of seasonality of agricultural production, more efficient utilization of land, labor and capital resources. Excessive production diversification of farms can cause an opposite effect – reduction in utilization efficiency of resources. Therefore every agricultural enterprise should develop alternative production diversification options and the most suitable one to specific production and market conditions.

Optimal entrepreneurship of a rural farm is considered to be the structure of its products, which in specific natural and economic circumstances ensures the most effective use of land, labor, machinery, fertilizers and other production resources.

Utilization effectiveness of resources on farms

Upon analyzing and exploring utilization of resources involved in agricultural production and their link to production purpose, many different factors are revealed. These factors constitute the totality of causes for the situation when the quantity of resources, which the producer can make use of does not correspond to the production level – there is shortage of some of resources and some are to excess (Pindyck, 1992).

To determine efficiency of resources being at the disposal of the farm the following mathematical equation can be used:

$$E_{LS} = \frac{\sum RZ_{LS}}{\sum RS_{LS}} \quad (1)$$

where E_{LS} – general index of the utilization effectiveness of resources on the farm;

$\sum RZ_{LS}$ – total amount of products produced on the farm, expressed as relative quantitative units;

$\sum RS_{LS}$ – resources utilized for achievement of relevant results.

For farms it is important not only to identify factors which increase or reduce the utilization efficiency indexes but also to know their replacement possibility. Upon revealing the most significant reasons for unbalanced use of resources, which at the same time do not comply with the production purpose, it is possible to identify the most effective practices for diminishing quantitative and qualitative unconformity of resources to output and to certain characteristics.

Factors influencing the use of resources are shown in the figure 1

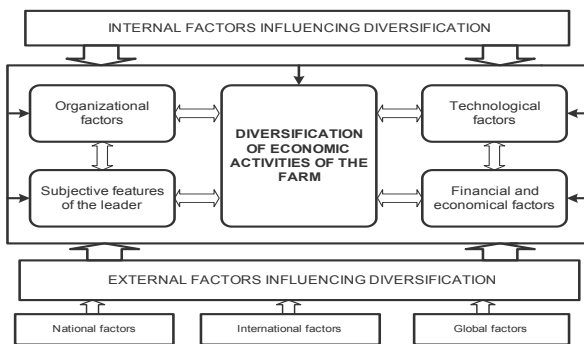


Figure 1. Factors influencing utilization of resource

As seen from Fig.1 the factors causing unconformity of resources are divided into following groups:

- internal factors – factors influencing acquisition and utilization of resources within one farm (organizational; technological; financial and subjective features of the leaders);
- external factors – factors, the reason for which lies beyond the borders of one farm, but they influence the result of utilization of resources on this particular farm (national, international and global).

Knowing the factors, which influence utilization of resources, the farm is able to forecast powers of their influence on the result of production of certain goods and to take timely measures for diminishing a negative impact.

Resources utilized in production of agricultural products in their physical form are difficult to be transformed in any relative physical unit, which would contain in total of all utilized resources. Besides, the application of such an index would be rather limited, therefore it is more convenient to count the resources

utilized by the farm and apply them in a value expression. Based on these reasons, the first equation can be re-written as follows:

$$E_{LS} = \frac{\sum RZ_{LS}^V}{\sum (DS_{LS} \times P_{DS}) + \sum (PML_{LS} \times A_K) + \sum (ZG_{LS} \times P_{ZG}) + \sum (IM_{LS} \times P_{IM}) + \sum AC} \quad (2)$$

where $\sum RZ_{LS}^V$ – total amount of the farm output in a value expression;

$\sum DS_{LS}$ – labor force used on the farm in relative units;

P_{DS} – price of one unit of labor force used on the farm;

PML_{LS} – capital assets of the farm;

A_K – depreciation deductible in a certain period of time on capital assets used on the farm;

IM_{LS} – materials utilized on the farm for a certain level of production.

P_{IM} – price for materials utilized on the farm;

ZG_{LS} – total land area to be owned ;

P_{ZG} – price of land;

$\sum AC$ – others costs of the farm.

To use advantages of agricultural production and a rural economic environment in a more effective way as compared with economic activity in urban areas and to diminish the impact of factors restricting the development of production, it is necessary to carry out diversification of the production. Its main advantage is increase in efficiency of utilization of production factors being at the disposal of agricultural producers.

It is important to outline that for production different products, the resources of a certain amount, and quality are needed. In case the farm wishes to start production of other products, then it must acknowledge that the new product will require resources adequate to its specialization and production technology. Besides, the disposable resources of the farm must conform not only to the product specifics but also to the production quantity.

This means that to achieve the diversification aims, the farm will have to acquire some resources on the market in order to develop a quantitative and qualitative structural conformity of the resources, complying with the planned diversification program and to the specifics of the expected product. It should be noted that upon carrying out the diversification the farm will first of all wish to fully utilize the resources at its disposal, the amount of resources to be acquired must be coordinated with the amount of resources already existing on the farm.

Upon acquiring the necessary production resources for implementation of the diversification projects, that farm must take into account that increasing one production factor without changing the amount and quality of other factors involved in production, is gradually decreasing the return of the acquired resource unit

The law of diminishing returns disclosed by American scientist James Clark is mentioned in economics also as the law of diminishing marginal returns or the

law of the diminishing marginal product. Other authors call this economic regularity as the law of diminishing returns from production factors.

Let us assume that there are two production factors at the disposal of the producer – variable production factor RF_m and unchangeable production factor RF_0 . In this case the production function can be expressed by the equation:

$$Q=f(RF_0;RF_m) \quad (3)$$

Graphic coherence between production level Q , invariable factor RF_0 and variable production factor RF_m is shown in figure 2.

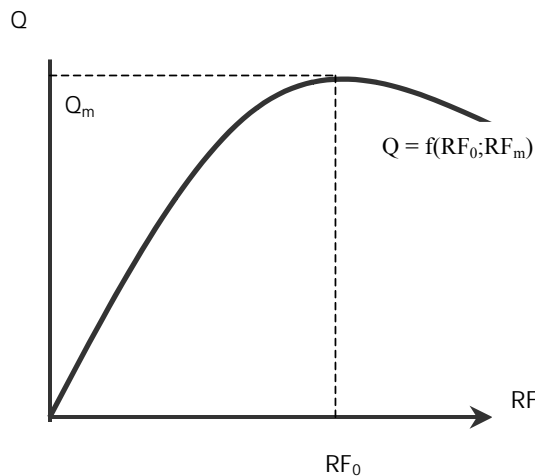


Figure 2. Production function with one variable factor

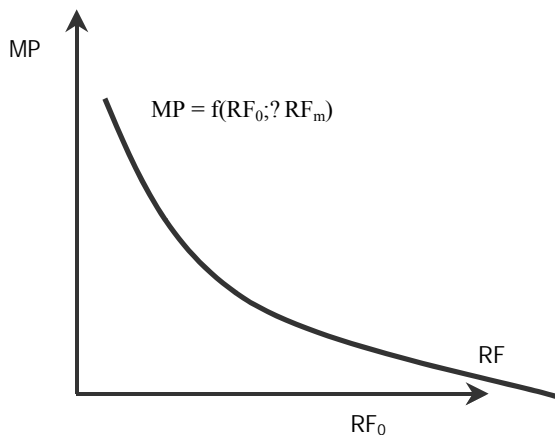


Figure 3. Diminishing marginal product

As seen in figure 2 upon reaching the level of RF_0 , the production factor increases output up to its maximum level Q_m . Increasing the production factor according to its amount RF_0 is not yielding a positive result anymore – an increase in output is negative. This regularity in the theory of economics (Pindyck, 1992). is known as the law of diminishing returns.

The functioning of the law is also clearly seen in figure 3 where a graphical model of the marginal

product function is shown as the curve with a negative increase. As seen in figure 3, upon increasing the level of production factor RF involved in the production in a short period of time, the marginal product is being reduced until it reaches a zero value – at a point when the output reaches its maximum value, increasing gradually the level of variable production factor.

Changes in the marginal product by increasing the amount of variable production factor per unit can be expressed by the following equation:

$$MP=f(RF_0;(RF_m + \Delta RF_m)) \quad (4)$$

where MP – marginal product, produced by increasing the amount of variable production factor per unit;

RF_0 – invariable factor involved in production;

ΔRF_m – change is the invariable production factor per unit;

RF_m – variable production factor.

The return of variable production factor is clearly characterized by the marginal product.

To determine an increase in output by increasing the amount of resources involved in production the following equation can be applied:

$$RF_A = \frac{\Delta Q}{RF_0 + (RF_m + \Delta RF_m)} \quad (5)$$

where RF_A – index of invariable production factor return;

ΔQ – change in production amount;

ΔRF_m – change in the variable production factor per unit;

RF_m – variable production factor.

Where as increase in the output

$$\Delta Q = Q_1 - Q_0 \quad (6)$$

and change in the variable production factor -

$$\Delta RF_m = RF_{m1} - RF_{m0}, \quad (7)$$

then the equation 5 can be rewritten as follows:

$$\Delta RF_A = \frac{Q_1 - Q_0}{RF_0 + (RF_{m1} - RF_{m0})}, \quad (8)$$

where Q_0 – output before the production factor is increased by one unit;

Q_1 – output after the production is increased by one unit;

RF_{m0} – amount of initial production factors involved in production;

RF_{m1} – amount of production factors involved in production after their increasing;

If the production factor is increased by one unit, then the equation 7 can be rewritten as follows:

$$\Delta RF = RF_{m1} - RF_{m0} = 1 \quad (9)$$

It means that the amount of produced product turns into the marginal product if the variable production factor increases by one unit.

If the equation 8 is inserted into the equation 7 then we receive the following equation for calculations the marginal product:

$$RP = \frac{Q_1 - Q_0}{1} = Q_1 - Q_0, \quad (10)$$

or

$$RP = Q_1 - Q_0, \quad (11)$$

So, if the variable factor is involved in production by one unit, then the marginal product is equivalent by the additional amount of the produced product

$$RP = \Delta Q \quad (12)$$

Thus the marginal product shows efficiency of the next factor involved in production or return in natural units in terms of money. Upon analyzing and evaluating the character of the marginal product, the producer can receive valuable information regarding efficiency of his/her efforts – where investments increase any production factor provides the necessary increase in output, the other production factors left unchanged.

An important conclusion can be drawn from the above mentioned:

- increase of one or two production factors does not yield a proportional increase in output;
- increase in one or two production factors if other production factors remain unchanged, does not ensure an effective utilization of production factors involved in production and restricts an increase in output;
- upon existing of different provision of production factors, output can be increased up to the limit, while one of the production factors has been fully utilized;
- to achieve the expected output, all the production factors must be increased and their optimum combination must correspond to production technology and level.

In agricultural production unbalanced resources should be considered as an objective phenomenon having different reasons. Part of resources involved in production in a short-term remains unchanged, but others are changing. Therefore, it is necessary to determine the amount of variable production factor involved in production, which yields an optimum result in every specific situation. Upon achieving adequacy of resources to the type and output, farms are able to increase their revenues by fully utilizing resources which are not fully utilized in agricultural production.

Justification of production diversification need

The law of diminishing returns and the character of changes in marginal product have a great practical significance in determination of the need for agricultural production diversification. In this case there are two possible approaches:

- a critical need for diversification;
- desirable diversification to ensure a fuller utilization of resources.

In the result of implementation of the above mentioned diversification approach the moment when a critical need for diversification sets in and when a maximum possible output Q_{max} is achieved is clarified and the amount of the production factor involved in production has reached the level RF_c that is shown in figure 4.

As seen in figure 4 the production level TQ reaches its maximum value on condition that $TQ = Q_A$ when the the marginal product $MQ = 0$. Nevertheless this does not mean that the production must be continued until TQ reaches this value Q_A , as it is not advantageous from the point of view of effective utilization of resources and maximization of profit. So, production of the product Q must be stopped as soon as the maximum amount Q_{max} is reached and the variable production factor has utilized RF_c units.

Therefore it must be clarified, which production level of the product Q should be stopped and production diversification could be implemented to utilize the production factors in a more effective way. In order to solve this task, the curves of the marginal product MQ and of the mean efficiency VR are used, which are shown at the bottom of figure 4.

The marginal product and the mean efficiency curves must be evaluated in association with the curve of the total product TQ . There are 3 points – A; B and C where the character of increase in TQ curve is changing. From 0 to point A an increase in TQ curve is gradually growing until the maximum production level is reached, which corresponds to the level Q_c .

As seen in Fig.4 upon increasing the variable factor RF involved in production, the marginal product MQ is increasing until the production level reaches Q_A that corresponds to the consumption of the variable production factor RF_A units. In this point the marginal product MQ has reached its maximum value.

After point A, the character of the gross product TQ curve changes. Upon increasing consumption of the variable production factor an increase in the production level is ongoing and the rate of its increase stays relatively unchanged until point B which come up to production volume Q_B . Upon increasing the production volume from Q_A to Q_B , the marginal product has been reduced from MQ_{A1} to MQ_{B1} . Besides, the point B on the TQ curve is characteristic for the fact that in this point the following equivalence $MQ_{B1} = VR_{max}$ is valid., that characterizes the output when a desirable diversification limit has been achieved.

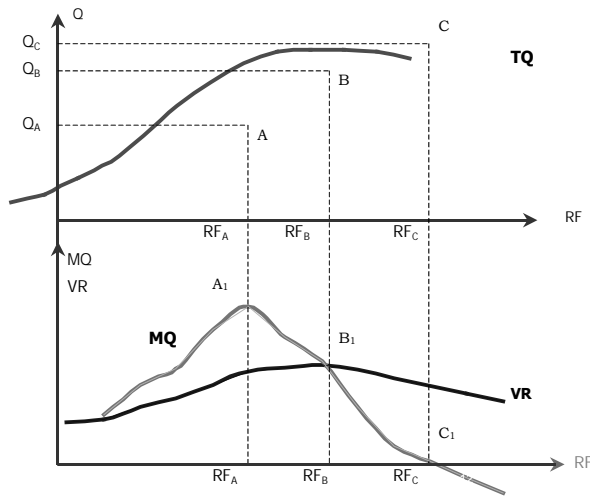


Figure 4. Determination of optimal production level (Pindyck, 1992).

Taking into account the condition of equivalence $MQ_{B_1} = VR_{\max}$ and that the mean efficiency of the production factor has reached its maximum value, point B on the TQ curve becomes important from the point of view of diversification. This is determined by the following considerations which are justified by curves shown in figure 4:

- upon increasing of the amount of the production factor involved in production, the efficiency of the factor starts reducing. This means that utilization efficiency of the variable and of the other production factors is reducing;
- upon reducing the efficiency of production factors, the mean variable production costs are increasing and thus the profit is falling.

Taking into account the above mentioned considerations, the production level Q_B and the amount of variable production factor utilized RF_B are considered as the starting point when implementation of the production diversification would be useful to achieve more effective utilization of resources, receiving more return. But prior to the decision-making on diversification of the product, the situation must be thoroughly evaluated and it must be taken into consideration that start-up of production of a new product will require considerable resources that might exceed revenues.

Continuing increase in production level Q_B consumption of the variable production factor is increasing until the production level Q_C is reached. As seen in figure 4, an increase in production level after the point Q_B , is gradually reducing until the level Q_C has been reached. It shows a stoppage of a positive increase in output. If in this situation the amount of production factor involved in production increases, then an increase in production becomes negative or it reduces, causing apparent and undeniable losses.

This means that changes in the amount of production factor utilized RF_C delimitates the second ultimate limit of the necessary production diversification when

the product must be changed. This limit correlates with a critical need for diversification.

Thus, applying the law of diminishing returns and the model of production function, an optimum interval of the production diversification is determined, which is situated between points B and C and the curve of gross product TQ or points B_1 and C_1 that is situated on the curve of the marginal product MQ.

On farms, the law of diminishing marginal returns implies the following economic activities:

1. use of fertilisers and manure to increase output of crops. By increasing the quantity of fertilisers used per unit of land, the output of crops per unit of land initially grows. If the quantity of fertilisers exceeds a biological limit, the output of crops per unit of land will decrease;
2. increase in input of feed to raise output of milk yield per cow. To some point, increasing the quantity of feed for cows can increase milk yield per cow. If the quantity of feed exceeds biological limits, milk yield per cow might decrease.

Such a situation might emerge on any farm. Therefore, increasing the efficiency of using disposable resources requires taking measures of production diversification.

Diversification possibilities of economic activity

Diversification of economic activity means that rural socio-economic processes are analyzed and explored in the following aspects:

- Diversification of economic activity within the sector of agriculture or the diversification of production in its narrower meaning. It is developing basically upon changing a quantitative and qualitative content of agricultural output, and upon maintaining of the absolute majority of agricultural products within the gross value of production level;
- Diversification of agricultural activity outside the sector of agriculture or the production diversification in its broader meaning that provides a possibility to achieve a higher efficiency of the disposable resources and provides more benefits to the society.

Diversification of economic activity within the sector of agriculture – until now it is the most widespread type of diversification of economic activity in rural areas of Latvia. It is also characteristic for other new Member States of the European Union (van der Ploeg, 2003). Such a trend can be explained by a relatively high percentage of rural population and their former or current connection to agricultural production and professional qualification – knowledge, experience and skills in production of agricultural goods.

A rapidly changing socio-economic environment and economic globalization as well as different agri-climatic and biological conditions of agricultural production precludes a possibility for many farms to earn sufficient means for survival in a rural environment upon maintaining production of goods within the sector

of agriculture (Global, 1993). Such circumstances create objective prerequisites for diversification of economic activity in its broader sense when the diversification object is the resources at the disposal of the farm and the diversification target – to maximize incomes in concrete socio-economic circumstances by utilizing the resources in the best and most effective way.

Diversification of economic activity within the sector of agriculture

As it was already mentioned above, diversification of economic activity in its narrower sense is associated with the production diversification of goods and services within the sector of agriculture. It is important for increasing income of rural households. It is important to note that diversification of economic activity in rural areas is characteristic for a certain gradualness and technologically economic connection. This means that the individual of the economic activity living in a rural area will first of all try to increase the net income at his/her disposal within the sector of agriculture – by changing a quantitative and qualitative composition of agricultural products.

The model of diversification of economic activity when the production of goods and services is diversified within the sector of agriculture is incorporated into figure 5.

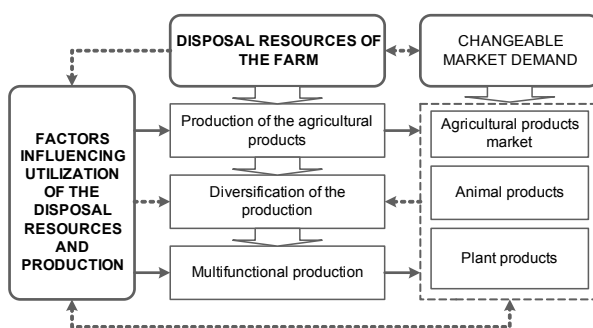


Figure 5. Model of diversification of economic activity within the sector of agriculture.

It is apparent that the model into the figure 5 provides a clear notion of the diversification of economic activity within the sector of agriculture. The farm utilizes the disposal resources for production of a certain type and quantity of agricultural goods. These goods are sold to the market and are confronted there with changeable demands of consumers and with imported agricultural products. Under the impact of these factors, the return of resources utilized by the farm is gradually decreasing upon maintaining on unchanged composition and quantity of agricultural goods produced on the mentioned farm. This means that it is the right time for diversification of the product what the farm is

successfully coping with and starts production of new agricultural goods, the amount and characteristics of which to a large extent corresponds to the market requirements. And so it goes on following changes in the market of goods.

The market of agricultural goods is not the only variable factor, which determines the need for diversification of economic activity on the farm. Resources constantly stay under the impact of external and internal factors. If agricultural land areas are reducing or increasing, then the farm will be pressed to diversify the assortment of agricultural products giving preference to the most advantageous utilization type of resources. Thus, the model into figure 5 gives a possibility to conclude that production diversification is a continuous process, the development of which is characteristic for withdrawal of the existing product from the production or its decreasing that is a response to the changeable market demands and an uninterrupted upgrading of agricultural production.

Diversification of economic activity within several sectors of the national economy.

In case diversification of economic activity within the sector of agriculture does not yield of satisfactory results to the farm owner then he/she will more probably try to utilize the disposal resources for production of goods and services outside the sector of agriculture. Thus, a qualitatively new stage of diversification of economic activity sets in – production of goods and services not characteristic for the sector of agriculture, gradually reducing production of agricultural goods. In this case, the farm must be aware of higher risks that are associated with production of new goods and services as well as threats and possibilities of outlets for these products.

As shown by various study results, in circumstances of Latvia's rural environment, the diversification of economic activity outside the sector of agriculture is characteristic for the following basic development directions:

- rural tourism;
- processing agricultural products, producing unique and high quality foodstuffs;
- crafts, offering various hand-made and high quality ware;
- offer of construction services, etc.

The model of diversification of economic activity outside the sector of agriculture is included into figure 6.

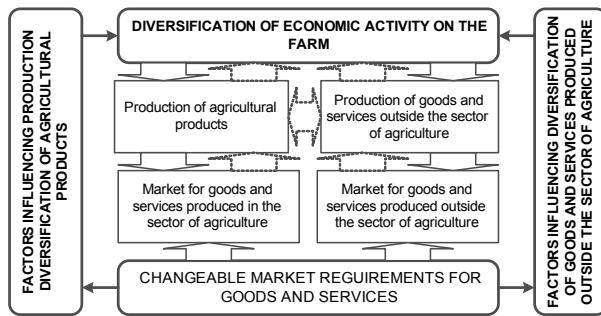


Figure 6. Model of diversification in a wider understanding.

The model of diversification of economic activity, using possibilities offered by several sectors of the national economy, is included into Fig.6. In this case, production of goods and service in the result of diversification can be relatively divided into two parts:

- production of agricultural goods and services;
- production of goods and services in sectors associated with agriculture or not.

It is important to note that in the result of diversification, production of goods outside the sector of agriculture and production of agricultural goods is

interrelated. Thus, a desirable result of diversification is achieved – to raise efficiency of resources at one's disposal. The figure shows that the process of diversification of economic activity constantly stays under an impact of changeable demands of the market for goods and services. Other factors characteristic for every individual farm have also an impact on the diversification process.

Potential resources of labour force and land for diversification in Latvian regions

To determine a potential effect of diversifying the labour force and land use, calculations on part-time employees and land use efficiency in Latvian regions were done. To increase the efficiency of using the labour force available for farms, the diversification of using part-time employees is projected with the purpose of transforming them into full-time employees. The potential effect gained from diversifying the use of labour force is shown in table 1.

Table 1. Gross effect of diversifying the labour force of farms in 2007 using the average wage method

Region	Work time missed in agriculture (thsnd. h)	Average gross wage (LVL)		Diversification rate	Gross effect of diversification (mln. LVL)
		a month	an hour		
Pieriga	17 264	327	1,86	0,70	22,5
Vidzeme	17 624	271	1,54	0,55	14,9
Kurzeme	15 050	295	1,68	0,60	15,1
Zemgale	20 674	281	1,60	0,65	21,5
Latgale	38 440	245	1,39	0,50	26,8
Total	109 051	349	1,98	x	100,7

Source: Latvian CSB data and author's estimates

As we can see in table 1, the gross effect gained from diversifying the use of part-time employees in Latvia exceeds LVL 100 million. The largest potential gross effects are expected in Latgale region – LVL 26.8 million, in Pieriga region - LVL 22.5 million, and in Zemgale region – LVL 21.5 million. The least gross effects are possible in Vidzeme region – LVL 14.9 million and in Kurzeme region – LVL 15.1 million. It implies that labour force diversification activities would produce relatively large extra incomes in household budgets and create a large side-effect along with an increase in the gross domestic product.

The possible effect of diversifying land use is determined, taking into account constraints and assumptions for diversifying land use: a farm will use its disposable land for producing agricultural commodities if this land, used in this way, produces the largest net income compared to other possible types of land use.

To determine the economic effect of diversifying land use, the method of value added comparison per unit of land was applied.

The indicators showing the potential diversification of disposable farm land are broken down by rural regions and presented in table 2.

Table 2. Diversifiable agricultural lands in Latvian regions in 2007

Indicator	Land area distribution by regions (thsnd.ha)					In rural regions
	Kurzeme	Latgale	Pierīga	Vidzeme	Zemgale	
Total area of agricultural land	445,17	651,59	332,44	520,61	482,79	2 432,60
incl. agricultural land used	335,60	349,80	238,50	331,40	388,70	1 644,00
Diversifiable agricultural land	109,57	301,79	93,94	189,21	94,09	788,60
% of total area of agricultural land	24,61	46,32	28,26	36,34	19,49	32,42

Source: data of Latvian CSB, State Land Service, Rural Support Service and author's estimates

According to the data of table 2, agricultural lands, which are not used for producing agricultural commodities, are intended for diversification. Most of these lands are concentrated in Latgale region – 301.8 thsnd.ha or 46.3% of the total agricultural land in Latgale. The next largest area of diversifiable lands was identified in Vidzeme region – 189.2 thsnd.ha or 36.3% of the total agricultural land in this region. Much better respective indicators are in Zemgale region – 80.5% and in Kurzeme region – 74.4%. It implies that better conditions for intensive use of agricultural land have historically and naturally emerged in these regions if compared to Vidzeme and Latgale regions.

In the country in total, an area of 788.6 thsnd.ha of agricultural land which is not used for producing agricultural commodities has to be diversified first of all. This area accounts for 32.4% of the total area of agricultural land in the country. Disposable farm land can be used in a better and efficient way and that is why it is possible that farms being in a better position for producing agricultural commodities might use a part or all of their land for non-agricultural purposes.

The value added indicators for rural regions broken down by above mentioned economic activity groups are compiled in table 3.

Table 3. Value added in rural regions in 2007

Indicator	Value added distribution by regions (mln LVL)					In rural regions (mln LVL)
	Kurzeme	Latgale	Pierīga	Vidzeme	Zemgale	
Agriculture	23,40	35,77	22,16	44,74	59,62	185,69
Forestry	15,42	20,12	9,50	27,42	28,06	100,51
Industry and construction	63,13	79,46	244,55	140,47	87,29	614,89
Service industries	177,37	244,84	515,21	268,43	212,98	1 418,82
Total	279,32	380,19	791,41	481,05	387,95	2 319,91

Source: Latvian CSB and author's estimates

As we can see in Table 3, the largest value added in agriculture was produced in Zemgale region – LVL 59.6 million and in Vidzeme region – LVL 44.7 million. The least value added was gained in Pierīga region. It can be explained by agricultural and climatic conditions and suitability of soil for agricultural production in these regions.

The largest value added from economic activity in forestry was gained in Zemgale region – LVL 28.1 million. The least value added from forestry was produced in Pierīga region – LVL 9.5 million or 2.8 times less than in Vidzeme. The largest value added from production of goods was established in Pierīga region, totalling LVL 244.6 million and in Vidzeme region – LVL 140.5 million or 1.7 times less if compared to Pierīga region. The least value added from this kind of activity was produced in Latgale region – LVL 79.5 million or 3.1 times less than in Pierīga region.

The largest value added produced by other economic activities was in Pierīga region, amounting to LVL 515.2 million, followed by Vidzeme region – LVL 268.4 million which is 1.9 times less than in Pierīga region. The least value added from services was in Kurzeme region – LVL 177.4 million or 2.9 times less than in Pierīga region and in Zemgale region with LVL 213.0 million.

From the point of view of alternative use of land, other types of land use produce a larger value added only in the regions of Pierīga and Kurzeme, if compared to agriculture. Therefore, the alternative use of land for producing goods and services is profitable there. It can be explained by the influence of large cities – Rīga in Pierīga region and Liepāja and Ventspils in Kurzeme region. There are possibilities for diversifying land use in other rural regions, but implementing them depends on farm specialisation and economic and social factors impacting farm performance.

Conclusions

1. Diversification of economic activity is influenced by the different internal and external factors.
2. Economical basis for diversification – changes of effectiveness utilization of farm's disposal resources.
3. Production of different products in the farm is determined by necessity utilization limited inputs in the most effective way.
4. Upon existing of difference in provision of production factors, it is possible to increase production volume up to the limit when one input is fully utilized.
5. To satisfy the production volume it is not enough to ensure only production factors but also their optimum combination that corresponds to the technology of the chosen type of production.
6. Diversification of economic activity can be implemented within the sector of agriculture or several sectors of the national economy, taking account of specific circumstances of every farm
7. The activities of labour force diversification can produce an extra income of more than LVL 100 million for rural household budgets and make a positive effect on GDP growth.
8. An area of 788.6 thsnd.ha of agricultural land which is not used for producing agricultural commodities has to be diversified first of all. This area accounts for 32.4% of the total area of agricultural land in the country.

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