

ИНВЕСТИЦИОННАЯ АКТИВНОСТЬ ФЕРМЕРСКИХ ХОЗЯЙСТВ ЕВРОПЕЙСКОГО СОЮЗА

INVESTMENT ACTIVITY OF THE EUROPEAN UNION FARMS

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Инвестиционная деятельность является важнейшим фактором, определяющим возможности развития фермерских хозяйств. В статье дается оценка уровня инвестиций в фермерских хозяйствах стран ЕС в 2004–2008 г. Принимая во внимание многообразие как внешних, так и внутренних факторов, а также значительные различия в производственных возможностях хозяйств, авторы при проведении данного исследования использовали метод кластерного анализа. На основании полученных данных сделан вывод о значительных различиях в уровне инвестиций в разных группах (кластерах) хозяйств.

Introduction

Investment activity is the most important factor determining the development possibilities of farms. The characteristic feature of agriculture is a high demand for fixed assets [Sadowski and Poczta 2007]. The necessity of modernization of the production workshop, is the essence of the processes of modernization in agriculture in different countries. The growing requirements for environmental protection, animal welfare, consumer and the food industry expectations regarding the quality of agricultural products force on farmers continuous improvement of production processes and introduction of modern technical and technological solutions. Those are connected with the necessity of investment outlays.

Investment activity of farms depend on the influence of external factors: mainly connected with economic situation and internal factors: especially the factor of production equipment and economic power (value of production and income) [Kusz 2009]. Therefore the great differentiation of production potential of farms in European Union may be also accompanied by diverse level of investment layout.

Purpose and methods of research

The aim of this work is to evaluate the level of investment layout in European Union farms of three largest economic size classes (16-<40 ESU, 40-<100 ESU, ≥100 ESU) in years 2004 – 2008.

Empiric data originates from Farm Accountancy Data Network for years 2004-2008 [FADN 2011]. Due to data availability, the information regarding Malta was presented for years 2005-2008, for Italy 2004 – 2007, for Romania and Bulgaria only for 2007-2008. In Slovenia, there were no farms in the group of economic size ≥ 100 ESU. The analysis concerns farms from all EU-27 countries represented in the network in three largest economic size classes (16-<40 ESU, 40-<100 ESU, ≥100 ESU). In order to lessen the influence of random fluctuation the analysis was conducted basing on average values from the concerned periods.

Results of research

In order to examine the diversity of farmers' investment activity in different European Union counters data clustering method was used. This method allows for clustering of objects. Within one cluster the differentiation is minimum, whereas between clusters maximum. The cluster analysis in this work was performed with Ward method. Prior the analysis the standardization of characteristics was performed. Basing on the cluster analysis the countries were divided into groups of similar investment activity (separately for each economic size class) using following indicators: net investment per full-time person equivalent [€/AWU], net investment per 1 ha agricultural area [€/ha], fixed assets reproduction ratio.

In the range of farms of economic size class 16 -40 selected four classes of countries of similar investment activity (fig 1). To the cluster I belong: Lithuania, Bulgaria, Latvia and Estonia, cluster II only Netherlands, cluster III: Ireland, Italy, Greece, Cyprus, Spain, Germany, France, Portugal, Czech Republic, Romania, Belgium, and cluster IV: Slovenia, Malta, Slovakia, Luxembourg, United Kingdom, Sweden, Denmark, Finland, Hungary, Austria and Poland. Analysing the values of selected characteristics of investment activity and production capacity of farms of economic size class 16-<40 ESU (table. 1) it may be noticed that the farms belonging to the cluster I have the highest net investment per full-time person equivalent and net investment per 1 ha agricultural area. Important information regarding development possibilities of farms is ratio of reproduction of fixed assets, calculated as the relation between gross investment expenses and value of fixed assets [Sobczyński 2009]. Also in this group of farms stated was the highest ratio of reproduction of

fixed assets. Starting with the value of farm's income calculated was the surplus for self-financing of development and stated was the development ability of the farm. As starting point for calculation of the self-financing ability of development is gross income of the farm. The achieved value should be big enough to cover the cost of labour and credit payments. The left over surplus can be used by the farmer own input in the investment activity. To evaluate the own work cost used was the cost of hired labour, divided by number of units of paid work. The estimated surplus was related to

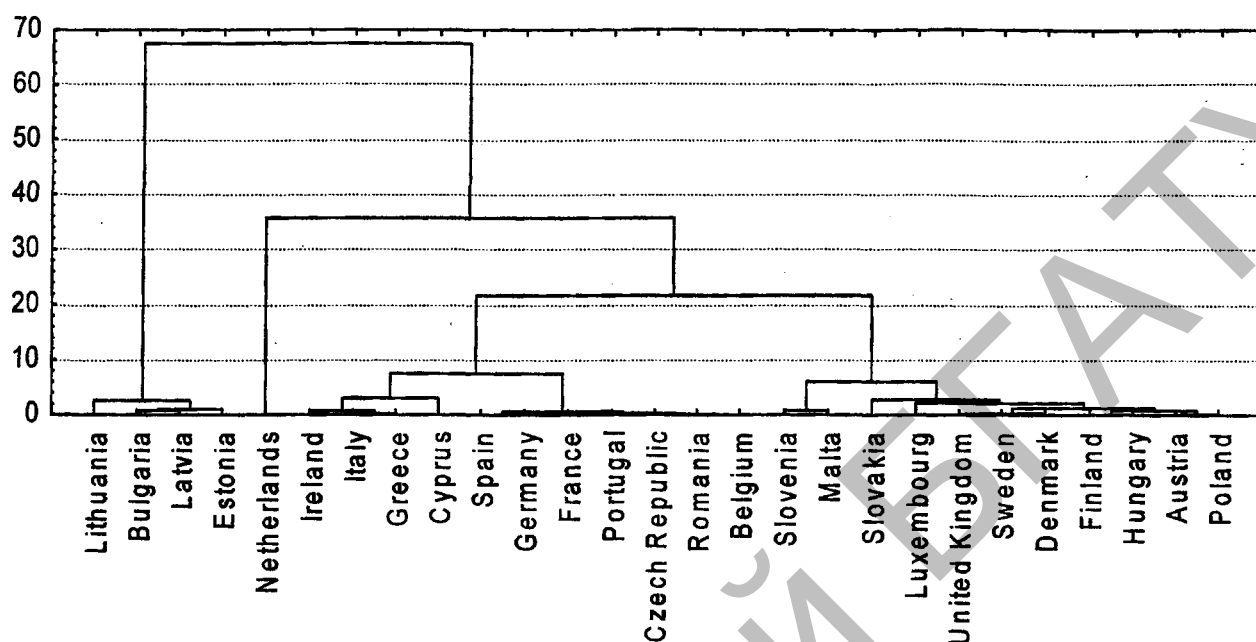


Fig. 1. Classification of countries UE-27 Ward method, according to investment activity of farms, economic size 16 – <40 ESU

Table 1. Average values of some characteristics for selected groups, for farms of economic size 16- <40 ESU

Characteristics	Clusters			
	I	II	III	IV
Net investment per full-time person equivalent [€/AWU*]	5 740,3	-746,0	-1434,9	1827,29
Net investment per 1 ha agricultural area [€/ha]	-153,8	-8 790,8	-103,2	107,5
Fixed assets reproduction ratio [%]	24,1	0,3	3,0	6,0
Ability to self-finance reproduction	3,87	-0,51	1,95	1,20
Total utilised agricultural area [ha]	129,8	14,9	45,1	58,3
Economic size [ESU]	25,9	28,9	26,8	26,7
Total fixed assets [€]	121 134	505 630	274 221	338 642

* AWU - annual work unit

Source: self-calculation basing on [Farm ...2011]

the value of depreciation, this way receiving ratio of self-financing of reproduction. If the value of this way calculated ratio is above 1 it means capacity for extended reproduction. In case of reproduction ratio equaling 1- straight reproduction will take place, and in case of ratio from 0 to 1- reproduction restricted. Negative ratio means that not only reproduction of fixed assets does not take place but in order to maintain activity necessary is e.g. sale of assets [Sobczyński 2009]. In the examined group the ratio of self-financing was negative only in cluster II (table. 1), in other clusters it was uper 1, what indicates the extended reproduction.

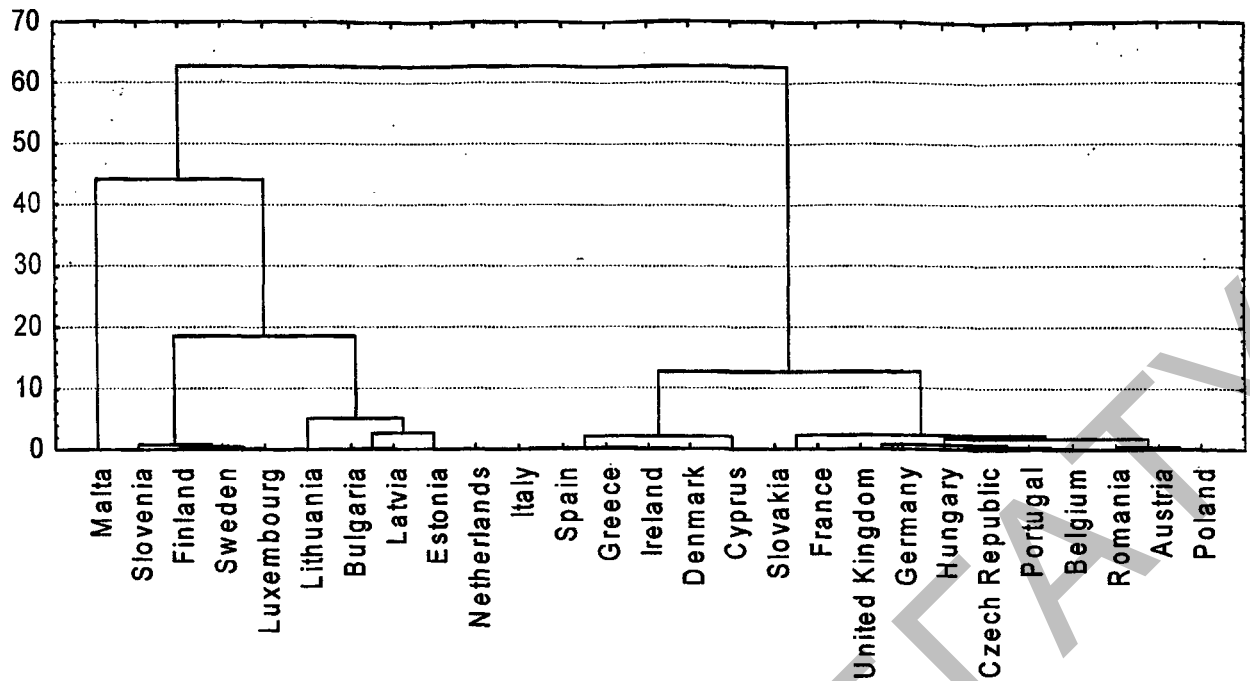


Fig. 2. Classification of countries UE-27 Ward method, according to investment activity of farms, economic size 40 – <100 ESU

In the range of farm size 40 – <100 ESU selected were three classes of countries of similar investment activity of farms (fig. 2). To cluster I belonged only Malta, to cluster II : Slovenia, Finlandia, Sweden, Luxembourg, Lithuania, Bulgaria, Latvia and Estonia. Other countries were classified into cluster III. Investment activity of farms from cluster I and II is higher than in cluster III (tab. 2).

In the range of farm size ≥ 100 ESU selected were four classes of countries of similar investment activity of farms (fig. 3). To cluster I belonged only Malta, to cluster II included was Denmark, to cluster III included was Latvia, Bulgaria, Lithuania and Estonia. Other countries belonged to cluster IV. The highest net value of investment per one employed person and the highest ratio of reproduction of fixed assets had Denmark (tab. 3). Whereas the highest value of self-financing ability of reproduction had Malta and countries from cluster III. Danish farms had low value of the self-financing ability of reproduction.

Table 2. Average values of some characteristics for selected groups, for farms of economic size 40- <100 ESU

Characteristics	Clusters		
	I	II	III
Net investment per full-time person equivalent [€/AWU*]	3 254,0	8 358,5	513,65
Net investment per 1 ha agricultural area [€/ha]	5 805,4	231,7	-17,6
Fixed assets reproduction ratio [%]	4,0	19,0	5,5
Ability to self-finance reproduction	5,94	2,59	2,12
Total utilised agricultural area [ha]	5,5	190,5	94,7
Economic size [ESU]	59,9	62,8	63,0
Total fixed assets [€]	650 645	422 889	530 370

* AWU - annual work unit

Source: self-calculation basing on [Farm ...2011]

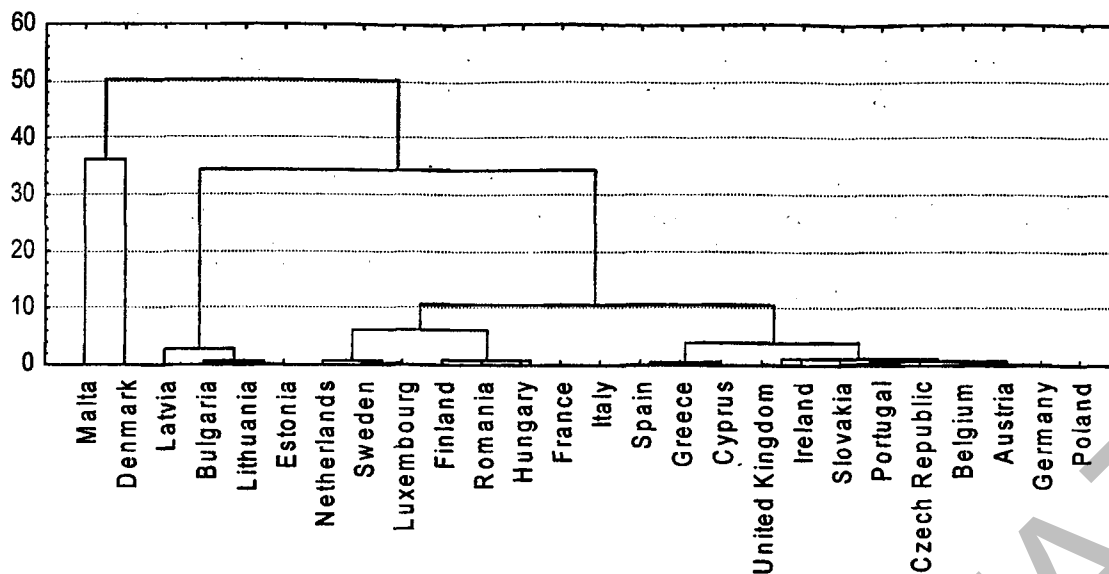


Fig. 3. Classification of countries UE-27 Ward method, according to investment activity of farms, economic size ≥ 100 ESU

Table 3. Average values of some characteristics for selected groups, for farms of economic size ≥ 100 ESU

Characteristics	Clusters			
	I	II	III	IV
Net investment per full-time person equivalent [€/AWU*]	11 392,9	52 835,1	163,3	120,5
Net investment per 1 ha agricultural area [€/ha]	14 356,8	1 027,9	5 175,7	4 014,4
Fixed assets reproduction ratio [%]	6,16	8,20	25,3	6,91
Ability to self-finance reproduction	8,29	0,36	3,04	2,87
Total utilised agricultural area [ha]	4,37	161,54	936,0	306,4
Economic size [ESU]	178,3	272,6	257,2	235,9
Total fixed assets [€]	1 288 357	2 990 976	970 212	1 244 513

* AWU - annual work unit

Source: self-calculation basing on [Farm ...2011]

Summary

Investment activity of farms UE-27 of economic size above 16 ESU is diverse, when we consider the level of net investment per one person in full employment, per 1 ha of farming land and the ratio of reproduction of fixed assets. Low ratio of self-financing ability of reproduction was stated in Duch farm sof economic size 16-40 ESU and Danish farm sof economic size ≥ 100 ESU.

Literture

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