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Land Concentration Processes: Polish Case Study in the Light of Selected EU Countries

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Tomasz Berbeka[1], Tomasz Szuk[2], Aleksandra Płonka[3]

Abstract:

Purpose: *The purpose of the article was an attempt to create a new synthetic measurement of farm area changes and to identify farmers' attitiudes and knowledge in scope of land concentration processes.*
Design/Methodology/Approach: *The Aggregated ratio of Farm Area Changes were introduced as a proposal for a new measurement of farm structures. Moreover 200 agricultural farms were investigated using survey on the area of selected polish region.*
Findings: *The work focuses on valuable universal measurement for international comparisons in the range of land turnover. Tha reached informations and knowledge during surveying on the farms site conformed high level of consciousness within land market, plans for the futher and reasons and motives of land concetration. The farmers – active playesr on land market – see problems that the institutional environment cannot recognize.*
Practical Implications: *Possibility of implementation of new universal measurement for international comparisions with coexistence with available statistical databases. Practical notices and remarks of experienced farmers for legal regulation proposals to avoid further land concentration processes excluded by European Green Deal rules.*
Originality/value: *The value of the research is innovative research method – ARFACH – Aggregated Ratio of Land Area Changes. Moreover unique research based on survey results on farm site allows to create new legal regulations to limit land concentration processes in European agriculture.*

Keywords: *Farms structure, land concentration, farm survey.*

JEL classification: *Q15.*

Paper Type: *A research study.*

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[1]*PhD. Economics/ Wroclaw University of Environmental and Life Sciences, Institute of Economics, ORCID ID: 0000-0001-5148-8235, e-mail:* tomasz.berbeka@upwr.edu.pl
[2]*Prof. Economics/ Wroclaw University of Environmental and Life Sciences, Institute of Economics, ORCID ID:* 0000-0001-7653-578X, *e-mail:* tomasz.szuk@upwr.edu.pl
[3]*PhD. Economics/ University of Agriculture in Krakow, Faculty of Agriculture and Economics, ORCID ID: 0000-0001-5319-592X, e-mail:* aleksandra.plonka@urk.edu.pl

1. Introduction

Concentration processes in European agriculture are causing more and more economic and social controversy. The European Parliament got involved by issuing a Resolution on land concentration in the EU in the context of land availability for family farmers (2016/2141(INI)[4]. One of the main reasons for international land acquisition is the spread of globalisation, in particular the free movement of capital and urbanisation. Speculative investments are encouraged (Sobiecki, 2015; Pastuszko, 2017). In many cases land concentration processes were out of national governments and statistical control. The lack of sufficient field surveys among participants in the agricultural land market has contributed to the late reaction of the authorities at state level. In addition, the previous methodology of data publication in many countries resulted in the impossibility to observe the largest area units - above 1000 ha.

In the 27-member European Union, only 3.1 percent of farms controlled the 52.2 percent of farmland in 2013, while 76.2 percent of farms had the use of 11.2 percent of the agricultural land. Higher prices on agriculture land market makes land accesibility for family farms relatively difficult. There i san urgent need for changing low regulations in land turnover and system of direct payments. The Europe case confirmed diversification in range of farm are changes. Usually higher developed countries like e.g. Germany, France, Belgium were characterized by faster speed in average area and land concentration of farms. Traditionally countries like Greece, Italy, Portugal and Poland maintain almost unchanged structures. Generally since late 70's there has been ongoing land transformation since the Second World War, where European agricultural land has been shifting towards large-scale farming (Van Zanten *et al.,* 2014).

Moreover Agricultural policy is becoming increasingly territorial related to various internal and external factors, such as farm enlargement, multilateral trade negotiations, consumer concerns and environmental impact (Diakosavvas, 2006). The current land loos is about 252 hectares per day in Europe. The main factor for this happening is due to the urban proces increasing amount seen per resident of artificial surfaces, roads, buildings, etc. (Nuissl *et al.,* 2009).

The number of farms in Poland exceeds 1.4 million and their average area increases slowly (in 2008-2017 only by 0.63 ha) and still does not exceed 11 ha[5]. This is a much smaller area compared to countries with a similar production assortment structure, which are direct competitors of Polish agriculture (Poczta, 2013). Therefore, there is a need to implement effective tools that will definitely accelerate the process of desired changes in the area structure of farms.

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[4] *The state of play of farmlandconcentration in the EU: how to facilitate the access to land for farmers*

[5] *http://www.arimr.gov.pl; Access: 25.06.2021.*

The transformation of the economic system in Poland launched a number of factors negatively influencing adjustment processes in agriculture to the realities of market economy, which also affected the condition of agrarian structure. However, positive transformations in this area also gradually started to be visible, which was reflected in the increase of land endowment in farms. Concentration is an autonomous process and takes place regardless of the economic situation, because it is an expression of internal development forces of particular entities functioning in the sphere of agricultural production (Woś, 2004).

The regulation of land turnower in agriculture in Poland regulate latest amendment: Act from March 17, 2021 on the amendment to the Act on the suspension of the sale of real estate from the Agricultural Property Stock of the State Treasury (Act, 2021) and on the amendment of certain acts, which states: Article 1 in the Act of April 14, 2016. on withholding the sale of real estate owned by the Agricultural Property Stock of the State Treasury and amending certain acts, the following changes were introduced where "Article 1: Within 10 years from the effective date of the Act, the sale of real estate, their parts and shares in joint ownership of real estate belonging to the Agricultural Property Stock of the State Treasury shall be suspended (Act, 2016)." That means in practice elonged for additional 5 years memorandum for sales of land from State Resources.

The preparatory period and years of Poland's participation in the structures of the European Union (EU) resulted in the intensification of structural changes in agriculture, initiated by the change of the socio-economic system. These tendencies will continue, because in activities undertaken within the framework of the Common Agricultural Policy (CAP), more and more importance is attached to the improvement of agriculture's competitiveness as an effect of increasing competitive advantages of agriculture in particular member states through the optimization of utilization of production factors (Czyżewski, 2007). Only having farms of an optimum size that are able to use production factors efficiently is a global objective for agriculture on which the food security of populations depend (Burja and Burja, 2016).

Consequently, the farm acreage determines to a smaller and smaller extent its production potential and economic effects achieved, because the land changes the function of a production factor and becomes more and more an agricultural production environment and space. However, due to the invariably positive relationship between the area of agricultural holdings and the scale of production, an increase in the area of agricultural holdings is a primary condition for improvement of agricultural competitiveness. Only a sufficiently large scale of production can ensure high farming efficiency (Chavas, 2001). From the other side AG land shuld not be commodity that is traded on the market at a particular value. The regulation of international relations based on a concept of free movement of goods, services, labor and capital has not provided the instruments required to protect landed property (Ciutacu *et al.*, 2017). The transfer of property rights among people makes land ownership is a social relationship, and the connection between people and land amplifies a feeling of national and local identity (Bunkus and Theesfeld, 2018).

Due to opinions of some authors land concentration is a phenomenon of large scale of taking over of agricultural land by reach governments and foreign capital tending to reach control over some countries (Gorgen *et al.*, 2009). Transnational purchases of land achieved 50 mln ha in years 2000-2016 (Nolte *et al.*, 2016). Land grabbing and land concentration also became a problem in Europe, in particular in Central Eastern European countries (Carroccio *et al.*, 2016).

Structural transformations are taking place in world agriculture at a varying pace. An important component of this process is the area transformation of agricultural holdings. Globally, statistical data – although published with a slight delay – confirm the trends of land and capital concentration both in agriculture and in the whole agri-food sector.

2. Methods of Research

The primary objective of the study was to assess farmers' attitudes towards agricultural land changes and concentration processes in Poland. The sample of 200 farms were taken to the field of observation. For choosing purpose the accessible researche method were used to realize surveys on farm site. An additional aim was to propose an aggregated index of area transformation for comparative purposes of agrarian structures, which could be applied in various countries of the world.

The data for Europe come from Eurostat (years 2005-2017) based on Farm Structure Survey (FSS). The article analyses the area structure of 3 selected EU countries. Usually, changes in the area structure are characterized by 3 parameters: a change in the number of farms, a change in the area they occupy and a change in the average area of a farm. The paper proposes as an expertise method an aggregated index of area transformation, which is an average sum of absolute values of dynamics of the three parameters mentioned above, while taking into account the absolute values and devided by 3 factors.

3. Statistical Database Results

The most common indicator of agricultural land area changes and concentration is the share of farms with more than 100 ha of arable land (European conditions). However, the specificity of the world agriculture is diversified. The concentration phenomenon is considered in terms of the share in the number of farms and the share in the area they occupy in individual years. In the case of North American countries, i.e. the United States of America and Canada, the average shares of agricultural holdings with more than 100 ha of arable land were 24% and 51%, respectively, according to their number, and 88% and 93%, respectively, according to their area.

In case of countries under investigation the area structure of farms in selected countries in area groups up to 99.9 ha and over 100 ha were presented (Table 1). In 2017, the highest proportion of farms up to 99.9 ha was recorded in Poland (99.1%). Over the period 2005-2017, there has been little significant change in the share of these farms in this country. On the other hand, France recorded the smallest share of farms in this area group (77.7%). Correspondingly, the share of the largest farms over 100 ha of arable land in Poland was the smallest (0.9%) and the largest share of the largest farms was recorded in France (22.3%).

Table 1. *Farms structure by the number*

Specification	***Share of farms up to 99,9 ha (number)***				
	2005	***2007***	***2010***	***2013***	***2017***
Germany	*91,6*	*90,7*	*88,1*	*87,0*	*86,5*
France	*82,2*	*80,3*	*78,6*	*76,3*	*77,7*
Poland	*99,4*	*99,4*	*99,2*	*99,0*	*99,1*
Europe	*96,0*	*95,8*	*94,8*	*94,4*	*96,6*
	Share of farms over 100 ha (number)				
Germany	*8,4*	*9,3*	*11,9*	*13,0*	*13,5*
France	*17,8*	*19,7*	*21,4*	*23,7*	*22,3*
Poland	*0,6*	*0,6*	*0,8*	*1,0*	*0,9*
Europe	*4,0*	*4,2*	*5,2*	*5,6*	*3,4*

Source: *Eurostat 2005-2016.*

As for the area occupied by farms up to 99.9 ha, the highest share was also recorded in Poland (78.3%). Twice smaller share of these production units was recorded in the case of France (36.1%). The share of the largest farms in the occupied area was just under 64% in the case of France, over 51% in Germany and 21.7% in Poland (Table 2).

Table 2. *Farms structure by the occuppied area*

Specification	***Share of farms up to 99,9 ha (number)***				
	2005	***2007***	***2010***	***2013***	***2017***
Germany	*49,5*	*47,7*	*44,9*	*43,0*	*40,9*
France	*48,1*	*45,1*	*40,8*	*38,0*	*36,1*
Poland	*81,5*	*81,5*	*77,7*	*78,2*	*78,3*
Europe	*53,9*	*52,7*	*48,2*	*47,1*	*46,2*
	Share of farms over 100 ha (number)				
Germany	*50,5*	*52,3*	*55,1*	*57,0*	*59,1*
France	*51,9*	*54,9*	*59,2*	*62,0*	*63,9*
Poland	*18,5*	*18,5*	*22,3*	*21,8*	*21,7*
Europe	*46,1*	*47,3*	*51,8*	*52,9*	*53,8*

Source: *Eurostat 2005-2016.*

For researche new method an aggregated area transformation index was implemented to comprehensively assess the characteristics of area transformations:

$$ARFACH = \frac{|DNF| + |DLF| + |DFA|}{3}$$

where:

ARFACH – Aggregated Ratio of Farm Area Changes
|*DNF*| – absolute value of % change in number of holdings in period *t*
|*DLF*| – absolute value of % change in area occupied by farms in period *t*
|*DFA*| – absolute value of the % change in the average area of the holding in period *t*

The results of changes in number of farms in Germany, France and Poland were presented in Table 3.

Table 3. *Changes in farms number and occupied area (2005-2016)*

Specifi-cation	*Number of farms (in thous.)*					*Change 2016/2005*	*Change 2013/2006*
	2005	***2007***	***2010***	***2013***	***2016***		
Germany	*362,9*	*345,6*	*283,4*	*270,1*	*224,9*	*-38,0*	*-25,6*
France	*486,9*	*458,1*	*440,0*	*412,1*	*300,2*	*-38,4*	*-15,4*
Poland	*1258,6*	*1333,9*	*1143,4*	*1095,4*	*1093,8*	*-13,1*	*-13,0*
Europe	*7307,6*	*7240,0*	*6346,4*	*6002,2*	*5502,2*	*-24,7*	*-17,9*
	Land in farms (in thous.)						
Germany	*17013,3*	*16911,8*	*16689,8*	*16687,5*	*16704,2*	*-1,8*	*-1,9*
France	*27520,0*	*27414,7*	*27774,8*	*27691,9*	*27768,6*	*0,9*	*0,6*
Poland	*13890,1*	*14634,0*	*13972,4*	*13971,8*	*13986,9*	*0,7*	*0,6*
Europe	*168980,3*	*170895,5*	*175384,8*	*172031,2*	*169839,6*	*0,5*	*1,8*

Source: *Own calculation based on Eurostat data.*

The results of farm number, occupy area and average size of farms under investigation were collected in Table 4.

Table 4. *Changes in average size of farms in selected countries*

Specification	*Size (ha)*					*Change 2016/2005*
	2005	***2007***	***2010***	***2013***	***2017***	
Germany	*46,9*	*48,9*	*58,9*	*61,8*	*74,3*	*58,4*
France	*56,5*	*59,8*	*63,1*	*67,2*	*92,5*	*63,7*
Poland	*11,0*	*11,0*	*12,2*	*12,8*	*12,8*	*15,9*
Europe	*23,1*	*23,6*	*27,6*	*28,7*	*30,9*	*33,5*

Source: *Own calculation based on Eurostat data.*

Due to the ARFACH (2005-2016) -Aggregated Ratio of Farm Area Changes – results were presented in Table 5. The fastest farm area transformations changes were directly connected to France (34,3%) and Germany 32,7%. Case study from Poland confirmed relatively low dynamics of land transformations on farm level. Moreover the aggregated indicator was over 2 times lower than data for average in Europe (Table 5).

Table 5. *Calculation of Aggregated Ratio of Farm Area Changes*

Specification	*Changes in*			*Sum of absolute values*	*ARFACH * (%)*
	Farm number	*Farm area*	*Averagefar m size*		
Germany	*-38,0*	*-1,8*	*58,4*	*98,2*	*32,7*
France	*-38,4*	*0,9*	*63,7*	*103,0*	*34,3*
Poland	*-13,1*	*0,7*	*15,9*	*29,7*	*9,9*
Europe	*-24,7*	*0,5*	*33,5*	*58,7*	*19,6*

Note: **ARFACH 2005-2016.*
Source: *Own calculation based on Eurostat data.*

4. Surveys Results

Between 2018 and 2020, personal interviews were conducted among farmers in 200 farms in the Lower Silesia Province. The region was selected in a purposeful way – the share of the Public Sector in the ownership of agricultural land before the political transformation in 1990 was about 40% here and belonged to one of the higher indicators in the country. In the selection of research objects the criterion of availability was used. The surveyed farms were divided into area groups: up to 19.99 ha (52 objects) , 20-49.99 ha (65 objects), 50-99.99ha (54 objects), more than 100 ha (29 objects) (Table 6).

Table 6. *Characteristics of farms under investigation*

Area group (ha)	***Number of farms***	***Farms structure (%)***
Up to 19,99	*52*	*26,0*
20 – 49,99	*65*	*32,5*
50 – 99,99	*54*	*27,0*
Over 100	*29*	*14,5*
Total	*200*	*100,0*

Source: *Own study.*

In the smallest farms, up to 20 ha of arable land, the share of leased land was 15% on average, which means that this resource did not play a significant role. The highest share of leased land fell on the largest farms and amounted to about 30%. In all studied objects plant production was carried out. Animal production was carried out in 25.5% of the farms (Table 7).

Table 7. *Selected characteristics of farms under investigation*

Area group (ha)	*Utilized agricultural area (ha)*			*Production structure (%)*	
	Total	*Own land*	*Leased land*	*Plant production*	*Animal production*
Up to	*11,64*	*10,32*	*1,74*	*100,00*	*17,31*
20 – 49,99	*32,14*	*25,36*	*9,63*	*100,00*	*29,23*
50 – 99,99	*70,58*	*48,71*	*22,20*	*100,00*	*27,78*

Over 100	*227,98*	*149,89*	*76,68*	*100,00*	*27,59*
Total	*65,59*	*45,81*	*20,69*	*100,00*	*25,50*

Source: *Own study.*

Market sales of production in the smallest area group did not exceed 50000 PLN/year. In the case of biggest farms - over 100 ha the average sales were over 1 mln PLN/year. The data in the table shows that the average production sold per 1 ha of agricultural land amounted to 4.8 thousand PLN (Table 8).

Table 8. *Gross sold production*

Area group (ha)	***Annual market sales (PLN)***
Up to 19,99	*48433,15*
20 – 49,99	*216005,62*
50 – 99,99	*272457,79*
Over 100	*1077730,01*
Total	*312628,90*

Source: *Own study.*

The level of land prices according to farmers reports were the highest in case of farmssover 100 ha and in unitsup to 20 ha. The level of lease fee from 955 PLN/ha to 1244 PLN/ha in the case of the largest units (Table 9).

Table 9. *Land and lease prices in farmers' opinion*

Area group (ha)	***Current price of 1 ha (PLN/ha)***	***Current level of land lease (PLN/ha)***
Up to 19,99	*46437,50*	*1148,26*
20 – 49,99	*38992,06*	*1371,63*
50 – 99,99	*41329,79*	*955,13*
Over 100	*56240,00*	*1244,56*
Total	*43901,64*	*1191,32*

Source: *Own study.*

In the surveyed sample of farms, the will to enlarge by purchase was expressed by 18% of respondents. The highest percentage, i.e., about 31-32% concerned area groups 20-50 ha and over 100 ha. The greater interest concerned the lease of agricultural land – 23% of the cases. The lowest interest in lease was shown by the smallest farms (Table 10). The desire to sell the farm was expressed by 5.5% of the respondents.

Leasing to another farmer accounted for only 1% of cases. Maintaining the farm of the same acreage was declared by more than 36% of farms. The largest number of answers concerned the will to hand over the farm to the successor (45%). In this regard, the largest share concerned the largest farms.The smallest farms are to be the subject of a donation only in 1/5 of cases.

Table 10. *Plans for the future (%)*

Area group (ha)	*Area increase - purchase*	*Area increase - lease*	*Area decrease - sales*	*Area decrease - lease*	*No area change*	*Donation to the successorr*
Up to	*1,92*	*19,23*	*7,69*	*1,92*	*53,85*	*21,15*
20 – 49,99	*32,31*	*24,62*	*4,62*	*0,00*	*32,31*	*52,31*
50 – 99,99	*9,26*	*24,07*	*3,70*	*1,85*	*37,04*	*50,00*
Over 100	*31,03*	*24,14*	*6,90*	*0,00*	*13,79*	*62,07*
Total	*18,00*	*23,00*	*5,50*	*1,00*	*36,50*	*45,00*

Source: *Own study.*

Table 11 presents the level of preferred prices for purchase, lease, sale and rent of agricultural land. According to the respondents' answers, the preferred price for sale is PLN 40 000 on average, while the level of lease rent is over PLN 1120. In the case of lease, the highest prices were offered by units in the area range of 20-50 ha, while the lowest prices concerned medium-sized units of 50-100 ha. In case of the intention to sell, the owners wanted to obtain an average amount of over 92 thousand PLN/ha. The highest prices concerned the largest farms. The lowest prices concerned the area range of 20-50 ha. The level of rent (lease) was determined at 1900 PLN/ha – with the highest level of 2000 PLN/ha in medium-sized holdings with an area of 50-100 ha.

Table 11. *Plans for the future – acreage and prices*

Area group (ha)	*Area increase - purchase*		*Area increase - lease*		*Area decrease - sales*		*Area decrease - lease*	
	(ha)	*Price (PLN/ha)*	*(ha)*	*Price (PLN/ha)*	*(ha)*	*Price (PLN/ha)*	*(ha)*	*Price (PLN/ha)*
Up to	*3,00*	*35000*	*10,41*	*1261*	*1,00*	*70000*	*9,45*	*1800*
20 –50	*3,67*	*37958*	*7,35*	*1269*	*2,80*	*58333*	*-*	*-*
50 –100	*4,50*	*39000*	*16,03*	*839*	*2,00*	*65000*	*-*	*2000*
Over 100	*32,33*	*45000*	*53,33*	*1200*	*2,68*	*215000*	*-*	*-*
Total	*12,39*	*40034*	*18,90*	*1121*	*2,26*	*92273*	*9,45*	*1900*

Source: *Own study.*

According to the surveyed farm owners, the factor which had the greatest influence on the availability of land in the area was competition from large farms (average rank of 3.19 points). These were followed, respectively, by neighbourhood competition (2.47 points), direct subsidies and other support from the state budget (2.53 points), the level of agricultural income (2.45 points), competition from non-agricultural capital (1.96 points), attractive investment areas (1.60 points) and the willingness of non-farmers to invest in the agricultural sector (Table 12). The ranks of indications in each area group varied. Competition from the largest farms was most strongly indicated by these farms themselves.

Farm owners were asked about the issue of availability of agricultural land in their area of operation. Only 1.5% of the respondents were convinced about the definite availability of land (Tab. 13). The answer "rather available" was declared by 21% of the farms. Land for agricultural use considered as unavailable and definitely unavailable accounted for 64% of respondents' answers.

Table 12. *Factors determining the prices and availability of agricultural land in the area (rank 0-5 with: 5 – highest weight, 0 – lowest weight) – average scores – in farmers' opinion*

Area group (ha)	*Competition from large farms*	*Competition of non-agricultur-al capital*	*Level of agricultural income*	*Non-agricultural income*	*Direct subsidies and other government assistance*	*Attractive investment areas*	*Willingness of non-farmers to invest in the agricultural sector*	*Neighboring competition*
Up to 19,99	*3,00*	*1,75*	*2,29*	*2,02*	*2,77*	*1,37*	*1,60*	*2,15*
20 – 49,99	*3,37*	*1,74*	*2,43*	*1,51*	*2,72*	*1,42*	*1,45*	*2,71*
50 – 99,99	*3,02*	*2,50*	*2,74*	*1,39*	*2,41*	*1,74*	*1,81*	*2,37*
Over 100	*3,45*	*1,83*	*2,24*	*0,86*	*1,86*	*2,17*	*1,24*	*2,66*
Total	*3,19*	*1,96*	*2,45*	*1,52*	*2,53*	*1,60*	*1,56*	*2,47*

Source: *Own study.*

Table 13. *Aviability of agricultural land in the area under study in farmers' opinion (%)*

Area group (ha)	*Definite availability*	*Rather available*	*I don't know*	*Rather not*	*Definitely not*	*Lack of data**
Up to 19,99	*5,77*	*19,23*	*15,38*	*34,62*	*23,08*	*1,92*
20 – 49,99	*0,00*	*27,69*	*6,15*	*46,15*	*18,46*	*1,54*
50 – 99,99	*0,00*	*11,11*	*7,41*	*48,15*	*22,22*	*11,11*
Over 100	*0,00*	*27,59*	*3,45*	*44,83*	*17,24*	*6,90*
Total	*1,50*	*21,00*	*8,50*	*43,50*	*20,50*	*5,00*

Source: *Own study.*

Changes in farm acreage between 1998 and 2018 are shown in Table 14. Over 17% of farms in the acreage range of up to 20 ha UR acquired land during these years. More than 15% of units benefited through leasing. The largest share of land acquisition went to the largest farms – over 62%. The largest share of leasing was recorded for farms in the 20-50 ha area group. Similarly, donations played the greatest role in these farms (32.3%). By way of inheritance, the largest share of farm enlargements (less than 13%) was recorded in the area group 50-100 ha. Statistically on average, purchase with lease played a similar role (about 40%), followed by donation 18.5% and inheritance 7%. Table 15 presents the ways of reduction in farm area between 1988 and 2018. Sales and leases played the largest role, although this varied across area groups. Donations in the largest holdings also played an important role. This demonstrates the strengthening of family farms.

Table 14. *Aviabilityof agricultural land in the area under study in farmers' opinion (%)*

Area group (ha)	***Purchase***	***Donation***	***Inheritance***	***Lease***
Up to 19,99	*17,31*	*7,69*	*3,85*	*15,38*
20 – 49,99	*40,00*	*32,31*	*3,08*	*52,31*
50 – 99,99	*53,70*	*14,81*	*12,96*	*44,44*
Over 100	*62,07*	*13,79*	*10,34*	*48,28*
Total	*41,00*	*18,50*	*7,00*	*40,00*

Source: *Own study.*

Table 15. *Farm area decrease in years 1998-2018 (%)*

Area group (ha)	***Sales***	***Lease***	***Donation***	***Others***
Up to 19,99	*0,00*	*1,92*	*0,00*	*1,92*
20 – 49,99	*4,62*	*4,62*	*3,08*	*0,00*
50 – 99,99	*1,85*	*1,85*	*0,00*	*0,00*
Over 100	*3,45*	*3,45*	*3,45*	*0,00*
Total	*2,50*	*3,00*	*1,50*	*0,50*

Source: *Own study.*

According to the respondents, the most important reason/motivation for land concentration is the willingness of farms themselves to undertake investments. This was followed by economies of scale (28%) and neighbouring competition and good income situation. At a similar level (7-8%), food safety, food quality and existing legal regulations were assessed (Table 16).

Table 16. *Reasons/motives of land concentration (%)*

Area group (ha)	*Investments*	*Competition*	*Low prices of agricultural products*	*Good income situation*	*Economy of scale*	*Food quality*	*Food safety*	*New export prospects*	*Legal regulations*
Up to 19,99	*44,23*	*19,23*	*17,31*	*21,15*	*19,23*	*5,77*	*11,54*	*1,92*	*7,69*
20 – 49,99	*52,31*	*30,77*	*13,85*	*12,31*	*30,77*	*13,8*	*9,23*	*6,15*	*6,15*
50 – 99,99	*31,48*	*12,96*	*18,52*	*20,37*	*33,33*	*1,85*	*3,70*	*1,85*	*7,41*
Over 100	*62,07*	*17,24*	*3,45*	*41,38*	*27,59*	*6,90*	*6,90*	*6,90*	*6,90*
Total	*46,00*	*21,00*	*14,50*	*21,00*	*28,00*	*7,50*	*8,00*	*4,00*	*7,00*

Source: *own study.*

According to the respondents, the most popular direction of farming in the future is maintain production at the same level. Nobody declared production decrease (Table 17).

Table 17. *Plans of farmers for the future*

Area group (ha)	*Future outlooks*				
	Production increase	*Production decrease*	*Maintaining production at the same level*	*Production discontinuation*	*Don't know yet*
Up to	*23,08*	*0,00*	*63,46*	*11,54*	*1,92*
20 – 49,99	*43,08*	*0,00*	*46,15*	*3,08*	*7,69*
50 – 99,99	*20,37*	*0,00*	*53,70*	*11,11*	*18,52*
Over 100	*51,72*	*0,00*	*24,14*	*6,90*	*17,24*
Total	*33,00*	*0,00*	*49,50*	*8,00*	*10,50*

Source: *Own study.*

5. Summary and Concluding Comments

The area transformations in the countries selected for the study showed significant differentiation. Land concentration processes in France and Germany turned out to be much more advanced than in Poland and on average in the EU. The above conclusions are also confirmed by the use of a new ARFACH – Aggregated Ratio of Farm Area Changes – as an universal indicator. Achieved results within objests taken under study allowed to define more precisely general farm structures. Surveys conducted among 200 farms in Poland showed high level of farmers knowledge in scope of land transformations and concentration.

Researched objects generally are willing to develop but not obligatory with increased scale of production. As an active players on land market – questionaired farmers pointed out high level of land prices and level of land lease. Almost half of them declared maintaining the same level of market sale. In case of reasons and motives of land concentration the most important were selected: investments (in wchich foreign capital for different purposes), good income situation and level of competition in nearby area (basically large scale farms). Almost 20% of population under study were not decided to continue production in the future. Farmers pointed out relatively low prices of AG products what causes new concepts demand for CAP reform. A very disturbing signal is the awareness of the unavailability of agricultural land (64% cases), in particular for young farmers, which will undoubtedly reduce the competitiveness of family farming in EU.

In the range of farmers valuable remarks were suggested special programs care for units up to 100 ha of UAA for family farms only.

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