

**THESES OF DOCTORAL (PhD)
DISSERTATION**

ZOLTAN ISTVAN PRIVOCZKI

**SZENT ISTVAN UNIVERSITY
KAPOSVAR CAMPUS
FACULTY OF ECONOMIC SCIENCES**

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SZENT ISTVAN UNIVERSITY
KAPOSVAR CAMPUS
FACULTY OF ECONOMIC SCIENCES

Head of Doctoral School:
PROF DR IMRE FERTO
Doctor of the Hungarian Academy of Sciences

Supervisor:
DR CSABA BORBELY PHD

Co-supervisor:
DR HABIL KAROLY BODNAR PHD

**THE SOCIO-ECONOMIC SITUATION OF YOUNG
FARMERS IN THE SOUTHERN GREAT PLAIN, IN
PARTICULAR WITH UTILIZATION OF REQUESTED
SUPPORTS**

Made by:
ZOLTAN ISTVAN PRIVOCZKI

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1. Backgrounds, objectives and hypotheses of the research

In order to be aware of the situation and prospects of young Hungarian farmers, I think we need to start from the basics. In this respect, this fund is the European Union and its Common Agricultural Policy (CAP). Due to the size of the country, Hungary's advocacy power is much smaller than that of the member states with significant economic power, so many compromises are or will be needed to make the best possible use of the current and future production potential of young farmers.

The aim of my dissertation is to analyse the socio-economic situation of young farmers in the Southern Great Plain, their production potential, the durability of their enterprises, their land use opportunities, their management strategy, and the early retirement system in terms of effective generational change.

My further goal is to assess the social and national economy of young agricultural entrepreneurs aged 18-40, to search for European Union and domestic resources that help young farmers to start and sustain a business and to analyze their pitfalls. I would like to look for incentive schemes that are in line with the environmental and production traditions of the region under study, in order to promote the recovery of production and to strengthen the role of family support. Finally, I would like to map out how young farmers differ from their older counterparts.

My research objective focuses on the analysis of four main problem areas:

- A1** What are the difficulties of intergenerational property transfer?
- A2** How different are the entrepreneurial strategies of young farmers from their older counterparts?

A3 What is the impact of special state subsidies on young farmers?

A4 Is the young farming group homogeneous or heterogeneous?

Hypotheses of the research

I would like to point out the need for rural development, young farmer programs and effective generational change, and early retirement, the lack of capital for young farmers. I make proposals to political and professional decision-makers to increase the support intensity and the one-off grant amount of EUR 40,000, and to reduce the penalties exemplarily.

I want to prove the validity of my hypotheses, which are the following:

H1 The production potential of young farmers and the durability of their businesses depend on their land use opportunities.

H2 The strategy of young farmers is towards less capital-intensive branches based on family farms.

H3 Rural development and young farmer programs encourage young farmers, but they alone cannot change their farming strategy.

H4 Hungary's early retirement system does not facilitate the effective generational change of young farmers.

2. Material and method

2.1. Research methodology

As part of my **primary** research, I conducted the analysis of questionnaires and in-depth interviews sent to young farmers in the Southern Great Plain region. During the questionnaire surveys, I sought quantifiable results and their statistical evaluability. In my present chosen quantitative research method, I preferred the written survey, of which I also sought self-completion. With this method I got a comprehensive picture of the issues in my objectives, but there was also information that I could not analyse with the quantitative method, so I do not want to quantify all the information in my research, because I considered it justified to use the **secondary** quantitative analysis method. In the in-depth interview qualitative research method, I used an individual, structured interview organized around a specific topic and thematic. With the above in-depth interviews, I intend to supplement, confirm or refute the information obtained by the quantitative method. I do not use in-depth interviews as evidence, as they are not a representative method, so my goal with in-depth interviews was to confirm the results of the questionnaire survey.

A **total of 457** questionnaires were sent to the young farmers concerned, of which **394** were appreciably returned.

2.2. Stages of the research

I. Stage of the research

Nature of research: quantitative research based on primary data (questionnaire and on-line survey).

Interview time: February 2018 - July 2018

Questionnaire: a self-edited questionnaire with open and closed questions, completed voluntarily and anonymously.

Basic population: Hungary, Southern Great Plain region Young farmers aged 18-40.

Number of sampling items: 176 pcs

Successful completion: 138 pcs

Data processing: statistical: MS Excel, (graphical display) Google Drive; Likert scale analysis, preparation of SPSS Boxplots, relationship analysis).

II. Stage of the research

Nature of research: quantitative research based on primary data (questionnaire and on-line survey).

Interview time: January 2019 - April 2019

Questionnaire: a self-edited questionnaire with open and closed questions, completed voluntarily and anonymously.

Basic population: Hungary, Southern Great Plain Region Young farmers aged 18-40.

Number of items in the sample: 281pcs

Successful completion: 256 pcs

Euro regional survey: Romania, Serbia

Data processing: statistical: MS Excel, (graphical display) Google Drive; Likert-scale analysis, SPSS (Boxplot), Correlation studies.

III. Stage of the research

Nature of research: qualitative research on primary data (based on personal, structured in-depth interviews).

Interview time: May 2019 - July 2019

Basic population: Hungary, competent experts.

Number of samples: 5 people

Number of successful interviews: 5 people

IV. Stage of the research

Nature of research: quantitative analysis from a secondary database.

Data collection period: January 2015 - August 2019

Base population (databases): AGRYA, KSH, AGROSTRATÉGA, NAK, EUROSTAT.

I divided the questions of the questionnaire into eight main groups:

1. Basic data of a young farmer.
2. Technical parameters of the entrepreneur-ship.
3. Sources of information.
4. Standard of technology.
5. Business competitiveness.
6. Willingness to develop a business.
7. Implemented and planned activities.
8. Obstacles.

To evaluate the data received, I performed a Likert scale analysis.

I prepared the questionnaire with the online “Google Form” author application and also the MS Office Word 2016 text editor in printed form.

I used IBM SPSS Statistics (v22) to examine the relationships among connections. Using this software, I selected the given procedure according to the type of data series:

- To examine the relationships between nominal variables, Pearson's Chi-square test,
- Pearson (parametric) and Spearman (non-parametric) correlation for variables measured on a scale,
- For mixed variables, I used analysis of variance and Kruskal-Wallis (non-parametric) tests.
- Shapiro-Wilk was used for the analysis of normality, while the Levene

test was used for the analysis of variance homogeneity.

When evaluating the obtained statistical results, I considered the rejection of the null hypothesis to be justified at a significance level of $p < 0.05$.

I used the Boxplot format to represent the quartiles of the distribution.

In order to determine whether young farmers form a homogeneous group based on the answers to the question, I performed a cluster analysis. To determine the number of clusters, I used the Calinski-Harabasz pseudo F algorithm, followed by non-hierarchical K-means cluster analysis.

For young farmers, I have recalculated the one-off grant value of EUR 40,000 provided from the pillar CAP II, as the amounts received at different times, to the present value in 2018.

With my present value calculation, I would like to point out the present value of the one-off support amount received by young farmers in each application cycle.

2.3. Research area: Southern Great Plain region

The Southern Great Plain region includes three counties: Bács-Kiskun, Békés and Csongrád. The largest and third most populous region of the country is located in the south-eastern part of Hungary (Figure 1). I conducted my nationally unrepresentative studies with prosperous, active young farmers aged 18-40 in this region.



Figure 1: Regions of the Southern Great Plain of Hungary, Source: (Wikipedia, 2019).

2.4. In-depth interview as a research method

Thorough knowledge of the questioning and answering processes during the in-depth interview facilitates the elaboration of question variants corresponding to the research goals, the exploration of the causes of the respondents' mistakes as far as possible. In accordance with my research plan approved by the Doctoral School of Management and Organizational Sciences of the University of Kaposvár in Hungary (Dr. Lajos Mikula, Dr. Miklós Weisz, Gergely Papp) and in the Southern Great Plain region (Csongrád county: László Gémes, Békés county: Dr. Attila Rákóczi) I was looking for experienced, competent and recognized experts who have a realistic view of the field.

The methods and measurement levels of the analyses of my research objectives, hypotheses, and results are summarized in Table 1.

Table 1: Relationships between the goals and hypotheses related to the research topic, method of analysis and measurement levels

Objective		Hypothesis	Method of analysis
A1 What are the difficulties of intergenerational property transfer?	A4 Is the young farming group homogeneous or heterogeneous?	H1 The production potential of young farmers and the durability of their businesses depend on their land use opportunities.	-- Primary research (qualitative, quantitative), questionnaire and online analysis -- Personal structured interview -- Likert scale analysis -- MS Excel (graphical representation: bar chart) -- SPSS (representation: Boxplot) -- Correlation test (Pearson / Spearman) -Kruskal-Wallis test -Chi-square test -Levene test -K-means cluster analysis
A2 How different are the entrepreneurial strategies of young farmers from their older counterparts?		H2 The strategy of young farmers is towards less capital-intensive branches based on family farms.	-- Primary research (qualitative, quantitative), questionnaire and online analysis -- Personal structured interview -- Likert scale analysis -- MS Excel (representation: bar chart) -- SPSS (graphic representation: Boxplot) -- Chi-square test -- K-means cluster analysis
A3 What is the impact of special state subsidies on young farmers?		H3 Rural development and young farmer programs encourage young farmers, but they alone cannot change their farming strategy.	-- Secondary research (quantitative) questionnaire and online analysis -- Personal structured interview, -- Present value calculation -- Likert scale analysis in MS Excel (graphical representation: bar chart) -- K-means cluster analysis
		H4 Hungary's early retirement system does not facilitate the effective generational change of young farmers.	-- Primary research (qualitative, quantitative), questionnaire and online analysis -- Personal structured interview -- Likert scale analysis, MS Excel (graphical representation of bar chart) -- K-means cluster analysis

Source: Own editing.

3. Results

3.1. Durability of young farmers' businesses

The durability of young farmers' businesses is greatly influenced by the level of used technology. The research result clearly reflects that the majority of the young farmers surveyed use average techniques in addition to the most productive and sought-after variety usage (Figure 2).

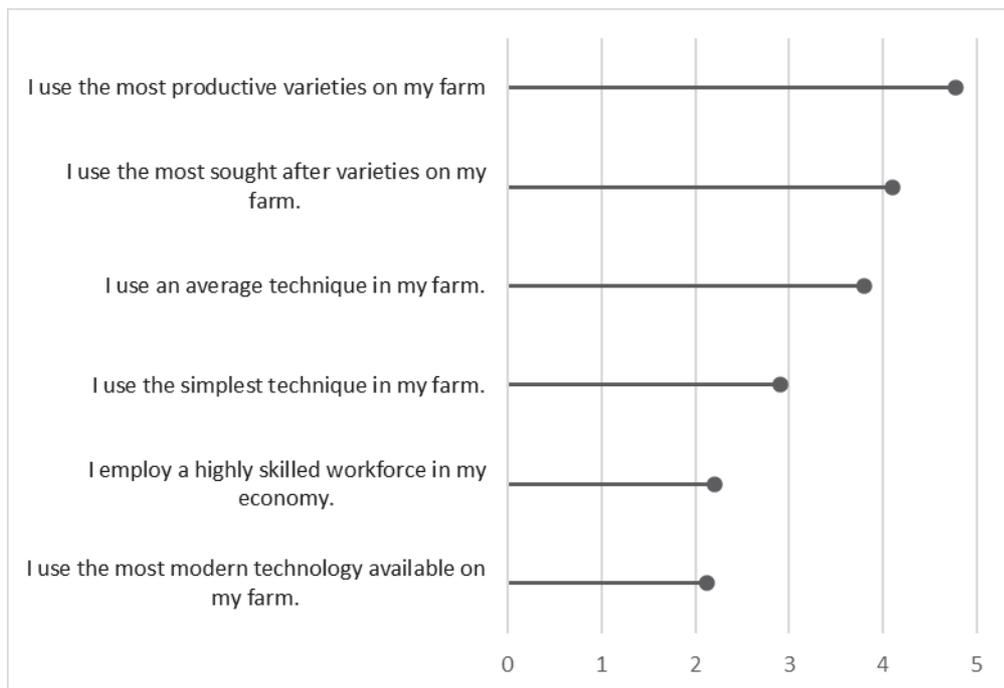


Figure 2: Standard of currently used technology (n = 309) (based on Likert scale average.)
Source: Own editing.

3.2. Young farmers' land ownership opportunity

The supply of land suitable for agricultural production is essentially constant, although a small amount of additional land may be involved in production. This increases the price of land as a function of changes in demand. Unlike other resources, agreeing with Transylvania (2009), the demand for land is constantly increasing.

My research findings (Figure 3) support the 2016 AGRYA survey. Young farmers continued to focus on land expansion and land purchase. The plans that followed the purchase of land were technological or manpower improvements.

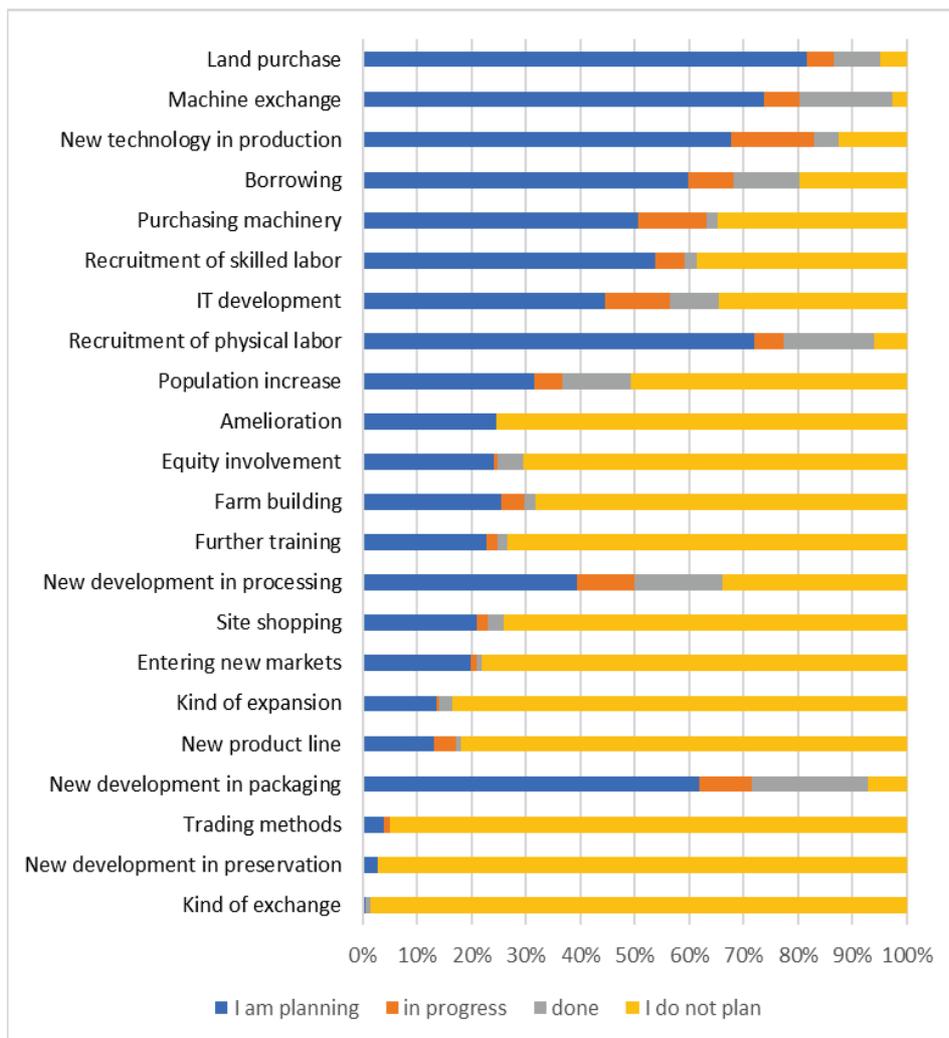


Figure 3: Planned activities (n = 306)
Source: Own editing.

Figure 4 shows the size of the land used by each type of farm. Statistical results suggest that young farmers with more than 50 ha have a higher proportion and prefer to set up a business company than a sole proprietorship or primary producer status.

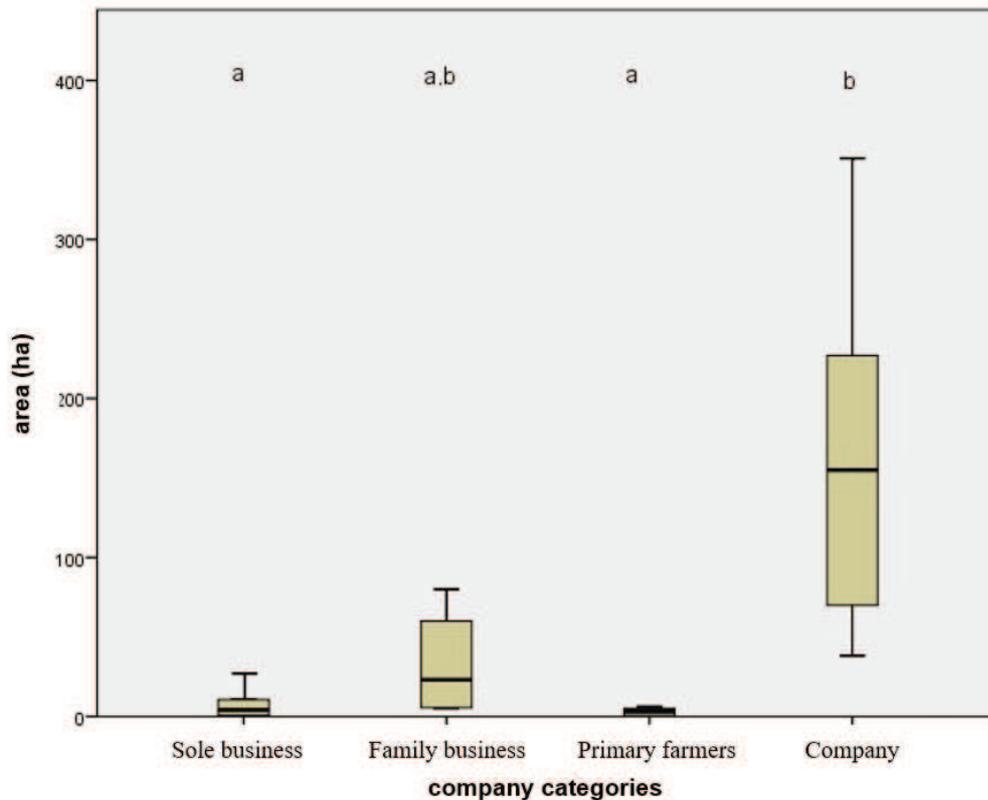


Figure 4: The size of the utilized agricultural area by type of company among young farmers aged 18-40 in the Southern Great Plain region. The different letters show significant differences among firm types (Kruskal-Wallis test, $p = 0.007$). Source: Own editing. (n=291)

3.3. Business strategy and capital requirements of young farmers

All in-depth interviewees agreed with the high capital requirements and high entry barriers in the agricultural sector.

Examination of annual sales by company type did not yield new results (Figure 5). The previously expected form of sole proprietorship (forced entrepreneurship) is developed by young farmers according to their presumed annual turnover. Thus, higher sales are associated with companies, while lower sales are preferred to primary production and sole businesses.

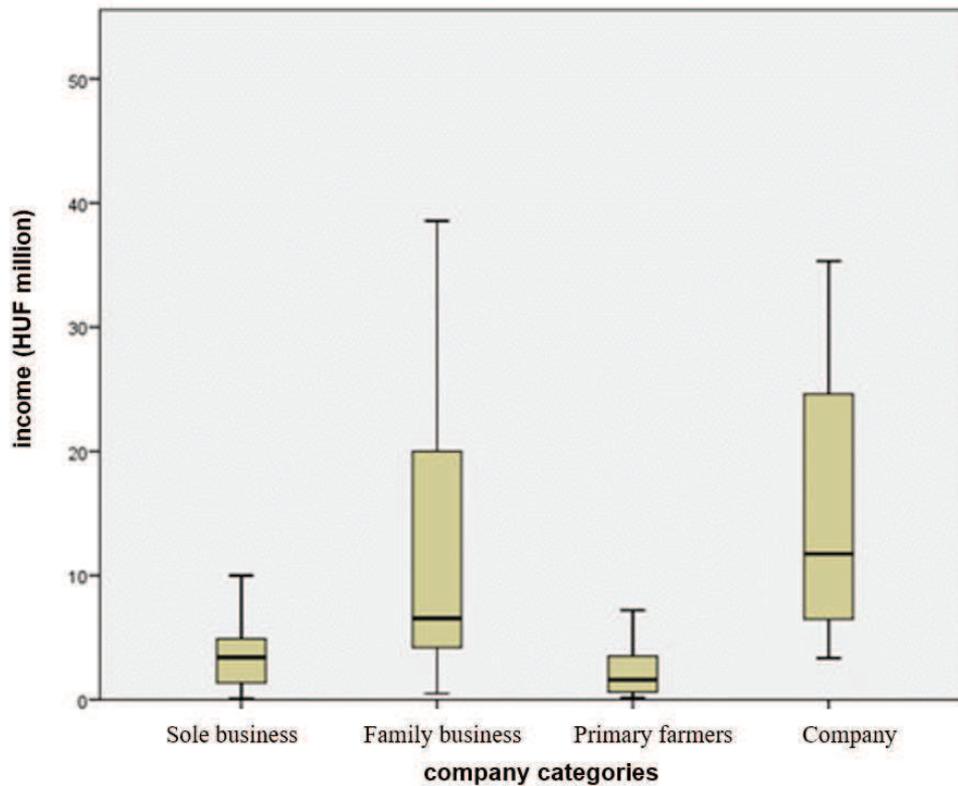


Figure 5: Annual sales among young farmers aged 18-40 in the Southern Great Plain region. Source: Own editing. (n=186)

The results of the Kruskal-Wallis test showed a significant difference among income of the company types. In particular, the income of family businesses was much higher than that of primary producers ($p < 0.001$), but there was also a significant difference ($p = 0.03$) among primary producers, companies ($p = 0.028$), sole proprietorships and family businesses. Family businesses and companies can be associated with high incomes. Primary producers have the lowest incomes.

3.4. Support programs to encourage young farmers

All in-depth interviewees agreed on the need for support programs to encourage young farmers, but their utilization divided the in-depth interviewees. The one-off financed income supplement by the second pillar CAP II was EUR 70 000. Hungary has allocated an amount of EUR 40,000 in accordance with its own decision. From 2007 the above amount was unchanged, while its present value continuously decreased (Figure 6), so that the system of liabilities and expectations related to the given item continuously increased. Together, these two effects resulted that the previous applications, earlier more than 4-5 times, were submitted for the above item in Hungary and dropped by one and a half.

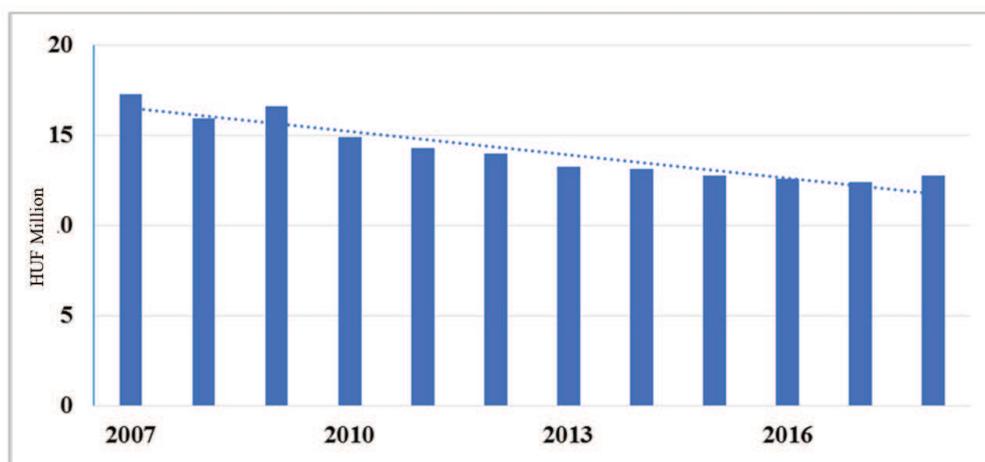


Figure 6: Present value in 2018 of a start-up grants of EUR 40 000 for a young farmer raised in a given year.
Source: Own editing.

The non-hierarchical, K-means cluster analysis indicated 2 ideal cluster numbers as the first step (Table 2). Based on the answers to the question, the analysis resulted in a baseline number of variances for young farmers. Young farmers in cluster 1 consider “education, availability of a skilled workforce” to be the most important element of competitiveness, while young farmers in cluster 2 prefer the use of “co-operation, mechanization and high

technologies” (Table 3). There was no significant difference among the categories other than listed. The cluster analysis showed that young farmers with lower professional qualifications and lower average land area (Cluster 1) tend to see the most important competitiveness factor in human resources, while young farmers with higher professional qualifications and higher average land areas (Cluster 2) tend to see them as real factors to their competitive advantages.

Table 2: Importance of competitiveness among young farmers in the Southern Great Plain region (Based on a non-hierarchical K-means cluster number selection algorithm.) Red indicates cluster selection.

Number of clusters	Calisnki/Harabas pseudo F
2	44,53
3	31,04
4	26,01

Source: Own editing.

Table 3: Importance of competitiveness among young farmers in the Southern Great Plain region (Based on non-hierarchical K-means cluster analysis.) Yellow is used to indicate the clusters with the highest value in the case of categories showing significant differences. The red colour indicates that there is no significant difference.

The importance of competitiveness	Cluster 1	Cluster 2	Kruskal-Wallis test
Marketing Advertising Sales Promotions	2,01	2,18	0,3233
Research, development	2,03	2,15	0,566
Cooperation	2,25	2,66	0,0048
Extensive use of traditional varieties	2,41	2,40	0,7853
Adaptability	3,29	3,47	0,1192
Behaviour of competitors	3,44	3,55	0,4387
Mechanization Technology Development	3,68	3,88	0,0994
Use of high technologies	3,75	4,00	0,0728
Use of known varieties	3,91	3,91	0,8795
Education, use of skilled labour	3,96	1,27	0,0001
Use of intensive varieties	4,03	3,99	0,8785
IT developments	4,23	4,19	0,7198
Involvement of EU applications	4,54	4,48	0,5218
Access to available credit	4,76	4,67	0,225
N (number of items)	117	184	
Young (age)	0,51	0,53	0,7723
Agricultural top (level of education)	0,26	0,29	0,5878
Land (area size)	22,70	32,94	0,6598

Source: Own editing.

3.5. Measures to support the effective generational change of young farmers

Measures to support effective generational change can best be prepared by taking into account obstacles to business development. Based on the unanimous opinion of the experts in the in-depth interviews, a series of government decisions is needed in the near future that will require coordinated work on the part of the legislature, the administration and advocacy organizations. I used Likert scale analysis as the research method (Figure 7). In doing so, I see obstacles to their development in legal barriers, such as early retirement economy transfer, inheritance regulation, and land acquisition regulation, which is unfavourable to them, affecting young farmers' generational changing.

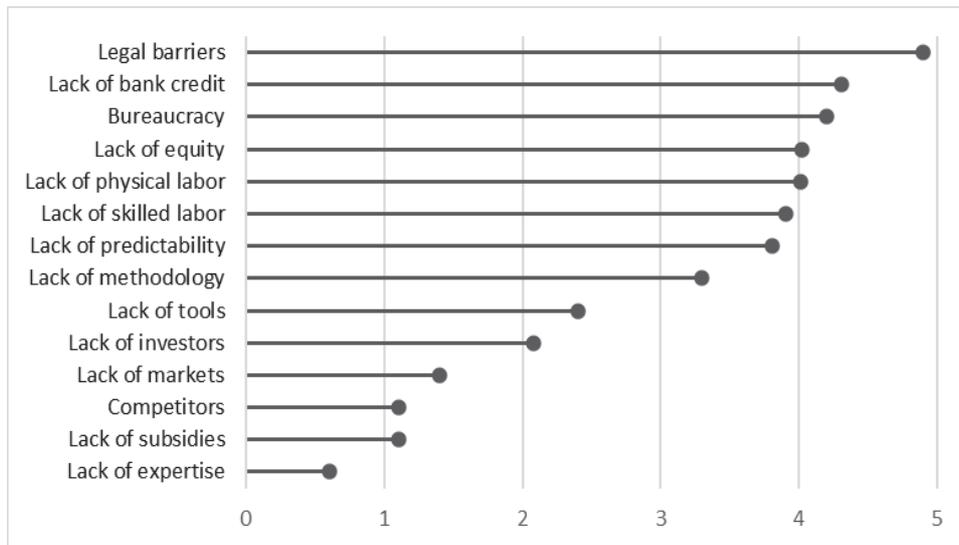


Figure 7: Factors hindering the development of the business among young farmers in the Southern Great Plain region. (Based on average answers to questions.)
 Source: Own editing. (n=301)

As the first step of the non-hierarchical, K-means cluster analysis, 2 cluster numbers were indicated (Table 4). Based on the answers to the question, the analysis resulted in a baseline number of variance for young farmers. Young farmers in cluster 1 consider “lack of predictability and skilled labour” to be the biggest obstacle to business development. Young farmers in cluster 2 are the first to keep in mind the “lack of skills, market, equipment, physical labour” (Table 5). Categories other than those listed are less important than the above. The cluster analysis showed that young farmers (Cluster 1), who are closer to their age of 40, with higher professional qualifications and lower average land area, are more influenced by long-term obstacles in their decisions. Young farmers with lower professional qualifications, with a higher average land area, who are further away from the age of 40 (Cluster 2) are more influenced by short-term obstacles in their decisions. Accurate knowledge and analysis of the factors hindering development can provide an important point of reference for the government and decision-makers of a given country in the development of aid policy.

Table 4: Barriers to business development among young farmers in the Southern Great Plain region. (Based on a non-hierarchical K-means cluster number selection algorithm.) Red indicates cluster selection.

Number of clusters	Calisnki/Harabas pseudo F
2	44,08
3	36,890
4	28,880

Source: Own editing. (n=301)

Table 5: Factors hindering the development of the enterprise among young farmers in the Southern Great Plain region. (Based on non-hierarchical K-means cluster analysis.) Yellow is used to indicate the clusters with the highest value for categories with significant differences. The colour red indicates that there is no significant difference.

Factors impeding the development Enterprises	Cluster 1	Cluster 2	Kruskal-Wallis test
Lack of expertise	0,51	0,80	0,049
Competitors	1,12	1,09	0,800
Lack of subsidies	1,13	1,03	0,320
Lack of markets	1,33	1,56	0,076
Lack of investors	2,02	2,23	0,149
Lack of assets	2,14	2,98	0,000
Lack of methodology	3,47	2,91	0,145
Lack of physical labour	3,87	4,34	0,001
Lack of predictability	3,93	3,53	0,002
Lack of skilled labour	3,95	3,80	0,066
Lack of equity	4,09	3,87	0,196
Bureaucracy	4,79	2,88	0,000
Lack of bank credit	4,80	3,22	0,000
Legal barriers	4,94	4,81	0,153
N (number of items)	208	93	
Young (age)	0,52	0,44	0,249
Agricultural top (level of education)	0,29	0,27	0,735
Land (area size)	27,49	39,07	0,656

Source: Own editing. (n=301)

4. Conclusions and recommendations

The establishment of “new” family farms with legal personality, working as a family agricultural enterprise (fae), may mean the transition between joint ventures and sole proprietorships, which are considered to be more capital-intensive in economic life. This will involve limited liability for its members. It will encourage young farmers and their family members with its preferential form of taxation, application and credit judging positives. It is likely that with a relatively high tax-free agricultural income threshold and a parallel administrative burden, it will create a well-differentiated, yet non-discriminatory new form of enterprise. The “Fae” can be a real alternative, which in the future can and wants to move towards the development of the economy, going beyond the framework of primary producers and individual entrepreneurship. By creating a functional community of wealth, it also facilitates later effective generational change.

Based on the results, I came to the conclusion that the young farmers who keep their businesses even after the expected five years of operation have almost invariably the strong agricultural involvement across their parents and grandparents. Due to the high financial barrier to entry into the agricultural sector, the young farmer who is starting his career practically relies on the family background economy, and thus also predestines himself, both in terms of professionalism, gaining experience and community of property. Therefore, regardless of the name, I see it as of paramount importance in a modern form of family business, which further strengthens and supports this process, thus giving even more space for young farmers to “grow up” and gain ground.

Land supply indicators for young farmers would be significantly improved if, like another "Land for Farmers" program, they could submit a number one preference claim for undivided common land.

This also accelerates and encourages the concentration of holdings in Hungary. Based on the above: **I accept in full the hypothesis H1.**

Explanation: There is no doubt about the growth of young farmers in the member states of the European Union or in Hungary. The management structure that influences their production potential and the durability of their businesses largely determines their future prospects and their production and entrepreneurial spirit. A well-designed family farming taxation and land-owning system initiates forward-thinking and close communication between young farmers and the decision-making government that can advance the cause of successful generational change.

In addition to the system based on more favourable taxation and the new form of family entrepreneurship, the business strategy of young farmers is greatly influenced by the credit institution background of the Hungarian banking system. The agricultural sector has an excellent debtor rating compared to other sectors. The financial and financing judgment of the primary producer category is still in difficulty. Young farmers need a loan facility that is tailored to the farming structure they choose, primarily for investment purposes and secondarily for working capital financing.

RDP's tender resources have also contributed to the improving profitability of the agricultural sector, which can also address the problems caused by the labour shortage through some commitments. In the case of young farmers, the spread of innovative technologies and the greater willingness to invest show not only an increase in unit yields, but also an increase in the efficiency of expenditures. In my opinion, the entrepreneurial strategy of young farmers in the future will be innovative farming (highly mechanized and automated), using sustainable technology and varieties, goal-oriented, capital-intensive low-employment farming, based on traditional family values, but quickly

adapting to farming conditions.

The chosen business strategy will be decided by the short-term profitability conditions and the agricultural support of the chosen segment due to the small financial reserves.

The Ministry of Agriculture gives priority and intends to give priority to successful generational change in the future as well. I consider it necessary, in addition to the self-organization of young farmers already mentioned and the community site maintained by AGRYA and FIVÉM, to create a state-funded platform and application that meets the technical standards of the present age. Work with smartphones, Android and iOS operating systems, and be able to address the issue of young farmers. Provide your target audience with fast, accurate, reliable, and up-to-date information, and interactively collect data in compliance with legal requirements (GDPR).

Based on the above: **I partially accept my research hypothesis formulated under H2.**

Young farmers are orienting their entrepreneurial strategies towards sectors based on the family farm. I consider my assumption to be substantiated, since the knowledge and wealth accumulated by the family will thus be most secured by generations. In contrast, young farmers are more entrepreneurial than their older counterparts. In the coming years, their goal will be shifted not to less capital-intensive investments, but also to high-tech and technical know-how investments supplemented with tender and loan resources.

It has not been decided how future subsidies will be implemented in practice. In any case, those with a young farmer qualification from 2022 to 2023 can be confident that they will either receive higher additional support after their cultivated areas or increase the area unit (currently 90 ha) while maintaining the current support value (65 EUR / ha). Because of the potential for abuse, I think a combination of two versions could be really viable.

The value of the income replacement start-up aid, which is classified as a subsidy financed from the pillar CAP II, is expected to swell from EUR 40 000 to a significantly higher amount, which I believe is already sufficient to create an economy that meets the sustainability criteria of the European Union.

The business strategy of the future family farm with a strong agricultural involvement is manifested in the special source of investment applications allocated to them, the + 10% additional support and the provision of a negative performance condition for the entire closed business year.

The resource expectations for the CAP 2021-27 budget cycle will change radically, as a strategic plan will be set for young farmers to adapt to sustainability. They will be obliged to provide regular and continuous data on the planned and actual use of resources, through the specified indicators, on their management.

Based on the above, **I fully accept my research hypothesis H3.**

Explanation: I believe that extensive rural development and young farmer thematic programs alone will not be able to change the management strategy of the target audience. This requires a complex economic, housing, infrastructural, family support and favourable tax environment, supported by the given government. which goes beyond the support and incentive system specifically provided for young farmers under the pillar CAP I and II.

Effective generational change in Hungary is hampered by three main legal obstacles:

- the pre-emption ranking for the sale and purchase of land,
- inheritance rules of arable land,
- the institutional system of (early) retirement.

Both decision-makers and generating young farmers feel the need to come up with concrete action plans for the coming period. Without this, the generational change will not take place, the production process will be stalled for young farmers, making the agricultural sector less attractive.

Unfortunately, young farmers are no longer included in this preferred pre-emption line. Consequently, the acquisition of land by young farmers is still not adequately supported by land law.

If more than one person exercises their pre-emption right, a secondary order should be considered as an additional rule. Here:

1. place is the family farmer,
- 2. place is the young farmer,**
3. place is the starting farmer.

Consequently, in this case too, young farmers are “only” in second place in the secondary ranking.

Under the current land trade legislation, a non-farmer can acquire land ownership of up to 1 hectare and a farmer of up to 300 hectares. From the point of view of the Land Trade Act, expropriation, compensatory land auction, and legal inheritance are not among the acquisition methods of the above law, so they are not subject to the restrictions of the Land Act.

Demographic problems are putting increasing pressure on the pension system as life expectancy at birth increases. From the time of retirement, after the age of 65, an additional average of 10 years of pension payment can be expected. The sustainability of the current pension system is further undermined by the drastic decline in the number of children.

In my opinion, a successful generational change in Hungary would be greatly facilitated and accelerated by early retirement and higher voluntary contributions. The economic environment is not currently suitable for this.

Although retirement is age-related, it does not automatically mean the end of farming for farmers.

According to my results, the actual retirement of aging farmers is a difficult task, since according to Hungarian social customs, agricultural activity is a dead-end process. In Hungary, economic competition does not force farmers to hand over the farm, because it replaces the declining income from production with support, and even replaces it with development. In my opinion, if it is not a coercion but a decision, the institutional system of early retirement would be used by aging farmers who have low earnings, so their replacement rate is high, so they could expect a smaller loss of income when retiring.

Based on the above, I partially accept my research hypothesis formulated under point H4.

Explanation: Early retirement benefits could be acquired until 31 December 2014 at the latest, in the positions listed in the annex to the now repealed Government Decree implementing the Pensions Act. None of these included any agricultural or related activities, so there was no antecedent in the previous legislation for participators in the agricultural sector. With regard to the entry of young farmers, I see a serious theoretical potential in early retirement, as supporting the exit process would be a major incentive element of the strategy. The system and method of the exit of older farmers without damage requires further investigation.

Studies in the Euroregion have highlighted the weaknesses and strengths of the countries concerned. Research in both Romania and Vojvodina has shown that no or only a small proportion of farms managed by young farmers have a business plan, despite the fact that young farmers operating there are not imaginative, their opportunities are different compared to their Hungarian counterparts. However, they also see the possibility of development in

subsidies, but do not give preference to bank loans for investment purposes and the associated liabilities. They have more confidence in their own experience than in information from a foreign source. On the other hand, it is positive that instead of reducing production costs, the focus is on expanding the market and increasing income. Unfortunately, the development of IT tools is not considered an important factor in competitiveness. For the time being, they consider modern mechanization to be more important.

The non-hierarchical K-means cluster analysis method used to determine the homogeneity or heterogeneity of the young farmer as a group of farmers mentioned in the chapter entitled Objectives of the dissertation yielded unexpected results. Based on the criteria already listed, young farmers between the ages of 18 and 40 in Hungary are far from a uniform, heterogeneous group.

The homogeneous group identity of young farmers is given by their age, professional education, affiliation, interests and the same range of problems. In the homogeneous group, members know, accept, and support each other (see young farmer Facebook groups).

Within the group, however, they respond in a heterogeneous way to the problems, dilemmas, decision-making, election and life situations that arise after age, professional education and cultivated land.

The cluster analysis showed that the young farmers belonging to the given clusters reacted differently to the problems affecting the individual target areas, forming a different order of importance. My global studies have also pointed to differences in older farmers.

Based on my proposal, the interests and views of heterogeneous groups should also be taken into account in short- and long-term professional policy decisions.

5. New scientific results

1. The cluster analysis proved that the young farmer society of the Southern Great Plain region does not form a homogeneous community; their current situation, opportunities, development ideas differ in many respects, they form typical groups.
2. In view of the above and their actual economic results, young farmers have different visions, which are not well served by the current support, lending, tendering and appraisal systems (NTCA, HST).
3. Young farmers are only able to achieve their economic goals to a very limited extent because they have been forced into a disadvantaged form of farming all this time. The existing tax and support systems of many primary, individual and social enterprise formations do not adequately support their economic development. Analyses show that there is a collective need to legislate for a “customized” family farm (fae-family agricultural enterprise).
4. 4. The future of Hungarian agriculture also depends on the growth of young farmers and the necessary generational change. The intention of young farmers to gain access to land is hampered by the ranking of pre-emption rights established in the current land purchase regulations. The rules on access to land (inheritance, pre-emption and lease rankings) need to be reviewed, in particular public land, and the rules on (early) retirement.

6. Publications on the topic of the dissertation

6.1. Scientific publications

Privóczki Zoltán István, Borbély Csaba, Bodnár Károly (2015): Fialat gazdák magyarországi megítélésének összehasonlító elemzése: review. Köztes Európa: A VIKEK Közleményei, 7:1-2, pp. 182-190.

Károly Bodnár, Zoltán István Privóczki (2015): Young farmers' position in the Hungarian agrarian society. *Lucrari Stiintifice Management Agricol*, 17:1, pp. 183-187.

Zoltán István Privóczki, Csaba Borbély, Károly Bodnár (2016): Young farmers' income generating capacity and capital requirement: Corn production Review On Agriculture And Rural Development, 5:1-2, pp. 119-125.

Zoltán István Privóczki, Csaba Borbély, Károly Bodnár (2016): Income generating capacity and capital requirement of young farmers: Vegetable production in greenhouse. *Lucrari Stiintifice Management Agricol*, 18:2, pp. 253-260.

Privóczki Zoltán István, Borbély Csaba, Bodnár Károly (2017): Humán erőforrás-gazdálkodás és a fiatal gazdálkodók kapcsolata. TAYLOR: A VIKEK Közleményei, 9:3-4, pp. 5-10.

Bodnar Karoly, Bodnar Gabor, Csaky Imre, Makra Laszlo, Privoczeki Zoltan Istvan (2017): Model calculations for the improvement of the microclimate of a rabbit house. *Lucrari Stiintifice Management Agricol*, 19:1, pp. 35-40.

Károly Bodnár, Borbély Csaba, Zoltán István Privóczki (2017): Alternative agricultural income opportunities of young farmers: rabbit meat production. *Lucrari Stiintifice Management Agricol*, 19:2, pp.13-18.

Privóczki Zoltán István (2018): Fialat gazdák árbevétel és jövedelem elvárásai a vidékfejlesztési program induló támogatásának tükrében. TAYLOR: A VIKEK Közleményei, 10:3, pp. 93-100.

Károly Bodnár, Tibor Könyves, Zoltán István Privóczki (2018): Young farmers attitude to innovation in Vojvodina (Serbia). *Lucrari Stiintifice seria Agronomie*, 61:1, pp. 29-32.

Károly Bodnar, Privoczeki Zoltan Istvan (2018): The position of small producer sin the Hungarian rabbit production. *Lucrari Stiintifice seria Agronomie*, 61:1, pp. 166-170.

Károly Bodnár, Ioan Csősz, Constantinescu Simona, Ciolac Ramona Mariann

Zoltán István Privóczki (2018): Preliminary data on the willingness to innovation of young farmers in Timis country. *Lucrari Stiintifice Management Agricol*, 20:1, pp. 5-10.

Bodnar Karoly, Nyilas Bettina, Privoczki Zoltan Istvan (2018): Development of a rabbit farm in Hajdú-Bihar County (a case study). *Lucrari Stiintifice Management Agricol*, 20:3, pp. 322-326.

Bodnar Karoly, Bodnar Gabor, Makra Laszlo, Fulop Andrea, Farkas Zoltan, Csepe Zoltan, Privoczki Zoltan Istvan (2019): Technical note. Improving the microclimate of a rabbit house: thermal insulation and air handling. *World Rabbit Science*, 27:1, pp. 49-55.

6.2. Conference papers published in full

Privóczki Zoltán István (2015): Korlátozások a fiatal gazdák méhészeiben. In: Horváth J., Monostori T. (szerk.): *A gazda szemétől a precíziós mezőgazdaságig - 120 év a Dél-Alföld agráriumáért: Magyar Tudomány Ünnepe 2015, Hódmezővásárhely, SZTE MGK*, pp. 43-49.

Privóczki Zoltán István, Borbély Csaba, Bodnár Károly (2017): Fiatal gazdák vállalkozásainak jövedelemtermelő képessége és tőkeigénye: Kukorica-termesztés. In: Futó Z. (szerk.): *Magyar vidék-perspektívák, megoldások a XXI. században: I. vidékfejlesztési konferencia, Szarvas, SZIE Egyetemi Kiadó*, pp. 82-87.

Privóczki Zoltán István (2017): Halgazda vagy fiatal gazda a kettő együtt nem megy?! In: Bodnár K., Privóczki Z. I. (szerk.): *Tudomány A Vidék Szolgálatában c. konferencia, Csongrád, Agro-Assistance Kft.*, p. 112.

Privóczki Zoltán István (2018): Fiatal gazdák Standard Termelési Érték (STÉ) és Európai Mértékegység (EUME) számításának anomáliái. In: Egri Z., Paraszt M. (szerk.): *Magasabb (helyi) hozzáadott érték, mint a vidék kitorési lehetősége. II Nemzetközi Vidékfejlesztési Tudományos Konferencia, Szarvas, SZIE AGK*, pp. 82-87.

Bodnár Károly, Nyilas Bettina, Privóczki Zoltán István (2018): Nyúltenyésztő vállalkozás fejlesztése Hajdú-Bihar megyében. In: Egri Z., Paraszt M. (szerk.): *Magasabb (helyi) hozzáadott érték, mint a vidék kitorési lehetősége. II Nemzetközi Vidékfejlesztési Tudományos Konferencia, Szarvas, SZIE AGK*, pp. 268-273.

Privóczki Zoltán István (2019): Fiatal gazdák földhöz jutási lehetősége a közvetlen és közvetett agrártámogatások tükrében. In: Bodnár K. (szerk.) *5. Logisztika a Dél-Alföldön, Csongrád, Agro-Assistance Kft.*, pp. 62-70.

6.3. Lectures, abstracts

Karoly Bodnar, Zoltan Istvan Privoczki (2015): Young farmers' position in the Hungarian agrarian society. Book of Abstracts of Scientific Conferences Banats University of Agricultural Sciences and Veterinary Medicine (Timisoara), 3: p. 87.

Privóczki Zoltán István (2016): Kertészeti pályázatok a Vidékfejlesztési Program tükrében, különös tekintettel a fiatal gazdálkodók lehetőségeire. In: Bodnár K. (szerk.): Logisztika a Dél-Alföldön: A regionális konferencia előadásainak összefoglalói Hódmezővásárhely, SZTE MGK, pp. 23-24.

Zoltán István Privóczki, Csaba Borbély, Károly Bodnár (2017): Young farmers and sustainable development. In: Monostori T. (szerk.) 15th Wellmann International Scientific Conference: Towards sustainable agriculture: an interdisciplinary approach, Hódmezővásárhely, SZTE MGK, p. 71.

Privóczki Zoltán István (2017): Fiatal gazdák alternatív jövedelemszerzési lehetősége innovatív gombatermesztési technológia által. In: Molnár G., Belovári A. (szerk.): „*A fantázia (erő) terei*” c. tudományos konferencia, Kaposvár, Kaposvári Egyetem, p. 48.

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6.4. Book, issue

Bodnár Károly, Privóczki Zoltán István (szerk.) (2017): Tudomány a vidék szolgálatában c. konferencia kiadvány, Csongrád, Agro-Assistance Kft., 112. p. (ISBN: 9786150007045)

Bodnár Károly, Privóczki Zoltán István (szerk.) (2019): 5. Logisztika a Dél-Alföldön Lektorált tudományos konferencia kiadvány, Magyar Tudományos Akadémia Szegedi Akadémiai Bizottság Logisztikai Munkabizottság, Csongrád, Agro-Assistance Kft. 77 p. (ISBN: 9786150057040)