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DECISION MAKING FACTORS ON FAMILY FARMS: A COMPARISON OF MACEDONIAN AND IRISH FARMS

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Abstract

Family farming is the most common farming model in Europe. However, family farms vary in terms of their size and available resources, as well as the economic, agro-environmental and social contexts they operate in. There are many internal and external factors influencing the decision-making process on family farms, so often this process is based on boundary rationality. The aim of this research is to identify and compare the factors that influence the decision-making process of family farms in two countries with different working environments; Republic of Macedonia and Republic of Ireland. The research is based on observations of the agricultural infrastructure in both the R. Macedonia and the R. Ireland; a survey of family farms in both countries; and lastly informal conversation with the farmers. The implementation of the survey took place in July 2017, with 30 questionnaires in total (15 in each country). The results showed differences in general external factors, whereas specific external factors are more similar in both countries. In terms of internal factors, differences are most often present in the perception farmers have for farming as an occupation that they pass on to future generations.

Key words: general external factors, internal factors, Republic of Ireland, Republic of Macedonia, specific external factors

Introduction

Family farms are usually considered as farms owned or managed by a family. Although family farming is the most common farming model in Europe, its definition in terms of size and resources varies in different countries due to the different economic, agro-environmental and social contexts which they operate in. A common assumption in most research papers is that the farmer's primary goal is profit maximization. However, this idea is debatable; the persistence to achieve an acceptable level of profit, which doesn't always mean the maximum level, is ever more common, or they are simply just following the traditional routines of production (Lee et al., 1999; Kotevska et al., 2013). The primary goals on family farms are not only focused on the farm, but on the family needs as well. When allocating available resources, farm owners have to decide whether to invest them in the farm, the household or in alternatives outside the farm and the family (Elenov et al., 2010). The production decisions can be grouped into three

categories: technology of production, choice, and limited quantity of inputs (Arbab, 2014). Decision makers can't influence the price of inputs and outputs, as they are determined by market mechanisms. With the known prices, the decision maker can determine how to produce and how much to produce, however he can't set the prices of production (Lee et al., 1999). Therefore, prices are parameters based on which the decision is made, not variables. Additionally, the decision makers' attitude towards risk can lead to non-optimal economic decisions, refusal of implementing innovations or diversification (Chilonda and Huylenbroeck, 2001).

Decision making, as a process of choosing among many alternative options, theoretically undergoes several stages: defining the problem, identification of alternatives, gathering information and analyzing alternative solutions, decision making and taking proper action, and finally evaluating the results (Lee et al., 1999). This systematic approach of the process is based on the assumption that decisions are made in a rational and objective manner and that the decision maker knows and takes into account all the relevant information, alternative solutions and results. However in reality, bounded rationality takes over the decision making process. For this reason the decision makers recognize the main parameters of the problem, but are also influenced by the organizations external and internal environment (Lee et al., 1999).

The environment, which organizations operate in, changes through time and can represent an opportunity or threat for the organization. The success of the organization depends on the ability of the decision maker to analyze and adjust to the environment (Gareth and George, 2008). Farmers make decisions as a result of interaction of multiple factors; external (general and specific) and internal factors (Lee et al. 1999). General external factors (such as political, legal, economic, social, technology and globalization) indirectly influence the organizations so their effects can be less evident for the managers (Gareth and George, 2008). They are more difficult to define than specific external factors, but usually have deeper effects. Specific external factors (such as suppliers, consumers, competitors and work force) have the most direct effects on the organization. The internal factors that affect the decision making process in an organization are the organizational structure, organizational culture, management style and organizational politics (Lee et al., 1999). The mingling of the family and farm as a business brings family farms outside the boundaries of traditional management theories. Family businesses often share different management practices and values, such as informal organizational structure, sharing of roles and responsibilities, family loyalty, and decision making at the dinner table (Kets de Vries, Carlock and Florent Treacy 2007).

The aim of this research is to identify and compare the factors that influence the decision-making process on family farms in two countries with different working environments; Republic of Macedonia and Republic of Ireland. The research is based on observations; a direct survey; and informal conversation with the farmers during the summer of 2017. The results of this research are presented integrally.

Material and methods

This research is based on an observation of the agricultural infrastructure and environment; direct survey of farmers using structural questionnaires; and informal conversation with the farmers.

The survey took place in July 2017, one week in the R. Macedonia and three weeks in the R. Ireland, with 15 questionnaires in each country, or 30 in total. In the Macedonia, the survey was conducted in the Radovish region which is characterized by predominant tobacco production; whereas in the R. Ireland, the research took place in the Galway region, which is characterized primarily by dry stock cattle rearing and dairy farming. The informal conversation was conducted during the survey. The conversation prior to the survey was usually broad due to the evident distrust of the farmers. After the completion of the survey they gained a better understanding of the purpose of the research (although it was explained beforehand) and were more willing to speak. This and the lack of financial and legal questions in the survey made the farmers more open to the conversation which helped extract more relevant information from them.

The data collected from the survey was organized and presented as a database, used for conducting quantitative analysis, such as basic statistical calculations, whereas the data obtained from the observations and informal conversation was qualitatively analyzed in order to spot typical reactions, ways of thinking and decision making of farmers from both countries.

Results and discussion

Table 1 presents the general personal perception of the influence of each of the factors on the decision making process. It is measured on a scale of one to five (1 being the lowest and 5 being the highest grade).

More detailed results from the survey are presented in Table 2, and discussed integrally with the notes from the observation and informal conversations.

Table 1: Assesment of the influence of the desion making factors

	R. Macedonia	R. Ireland
Changes in politics	2.73	2.20
Changes in legislation	2.67	3.40
Changes in economy	2.40	3.27
Demographic changes	3.07	2.13
Technology	2.87	3.07
Suppliers	3.73	2.93
Buyers	4.20	3.53
Competition	3.40	3.13
Family members	2.67	2.67

*Scale: 1 to 5 (1-lowest rank, 5 highest rank)

The general assessment and perception of the influence of the desion making factors are relatively moderate. In R. Macedonia, the specific external factors are

perceived to have higher influence, especially the buyer (4.20), whereas changes in the general external factors (economy, legislation, politics and technology) a much lower influence (2.40, 2.67, and 2.73 respectively). In R. Ireland, buyers are also perceived as the most influential factor, although perceived at a lower ranking than in R. Macedonia. Irish farmers perceive the changes in politics and demography as the least influential factors (2.20 and 2.13, respectively).

Table 2: Description of farmers and their main management decisions

	R. Macedonia	R. Ireland
Age, range (average)	35-64 (51.73)	42-75 (57.33)
Gender (male)	15	15
Subsidy beneficiary	14	15
Institutional pressure for increasing production	0	3
Institutional pressure for increasing quality	9	9
Age of mechanization used: range (average)	10-45y (22.1)	5-20y (12.8)
Last purchase of mechanization (average)	2012	2009
Application of same technology	14	14
Information about other available technology	11	15
Use of internet	6	9
Family members (average number)	2-6 (3.87)	1-9 (4.27)
Child work (average hours)	7.80	6.46
Child start to be engaged at farm (average age)	9.50	9.92
Children interest for further education in ag.	2	14
Interest for farm inheritance	3	10
Availability of qualified labour	13	13
Other workers employed	3	11
Seasonal workers	3-4 yearly	1-3 yearly
Payment of other employed workers	1.6 euro/hour	30 euro/hour
Constant supplier of inputs	7	14
Access to finances	12	13
Source of financial loan: bank /family /friends	4 /6 /5	15 /0 /0
Main source of advice for production: advisory service / family/ friends	2 /5 / 7	13 /2/ 0
Contact advisory service	6	14
Frequency of contact with advisory service	2-4 times/year	3-5 times/year
Constant buyer	11	12
Consumer preferences considered	7	4
Production different from competition	4	2
Decision making – alone vs. group	8 / 7	10 / 5

***Politics*.** As a European Union (EU) member state since 1972, the political situation in R. Ireland is stable. The stability is supported by the two primary parties, Fianna Fail and Fine Gael, which consistently dominated in the politics of the country since the 1930s. The Common Agricultural Policy (CAP) of the EU also applies in R. Ireland. The development of the agricultural sector in R. Ireland is outlined in the program Food Harvest 2020. The main agricultural development

goals focus on: increase of agricultural production through increasing available agricultural land, further development of natural resources including greater usage of clean renewable energies and the reduction of actions which generate significant emissions contributing to climate change.

In R. Macedonia the political situation is much more unpredictable. The development of the Macedonian agricultural sector was determined by a number of events and processes, such as: the separation from Yugoslavia, the political instability in the region, the ethnic conflict in 2001 and receiving the status of a candidate country for the EU in 2005. The recent changes in country leadership in 2016 are expected to reflect on the country's economy and the agricultural infrastructure also.

Legislation. The influence of legislation is more prominent and restrictive in R. Ireland when compared to R. Macedonia. This is due to stricter control and implementation of the agricultural sector due to Irelands' membership within the EU.

Agricultural legislation in R. Macedonia is a product of the process of systematic harmonization of the national policy towards the CAP, as a step towards becoming a member of the EU. It is outlined in the Law for agriculture and rural development, whereas the implementation and control is under the Agency for financial support in agriculture and rural development.

Agricultural legislation in R. Ireland is outlined in the Agricultural Act of 1931 and under the control of designated inspectors and local and regional organizations. The Commission for European Agriculture and Rural Development is responsible for all aspects of the CAP which applies in Ireland as an EU member state. A certain modification of this legislation is expected: currently being proposed are strategies concerning international trade to help overcome the expected consequences of Brexit since the United Kingdom is Irelands' biggest trading partner (Taylor, 2017).

Regarding the farmers' perception on institutional pressure, none of the Macedonian farmers and only a few of the Irish surveyed farmers stated that they feel pressured to increase their production, however contrastingly 60% of farmers in both countries stated that they feel pressured to increase the quality of their production.

Economy. This paper uses the agricultural sectors' share in the Gross Domestic Product (GDP) and the rate of unemployment as indicators for describing and comparing the two countries' economies,

The share of the agricultural sector in the GDP in 2016 is 8.3% in R. Macedonia (SSO, 2017), and 1.6% in R. Ireland (CSO, 2017). The higher share in R. Macedonia indicates insufficient industrialisation and high dependence on the agricultural sector. The rate of unemployment in R. Macedonia in 2016 is 23.7%, whereas in R. Ireland it is 6.9%. The average monthly earning in the sector is 381€ in R. Macedonia, whereas in R. Ireland it is 3,154€.

The lower share in GDP and the unemployment rate in R. Ireland are consequences from a period called '*The Celtic Tiger*'. During this period the country was dramatically transformed from one of the poorest countries in Western Europe to one of the wealthiest (Kearney, 2010). This period is characterized by rapid economic growth and development with a rapid expansion of the Irish economy occurring up until 2008 (Kearney, 2010), when the European economic crisis appeared. Development of the country's infrastructure and economy occurred with extremely low unemployment rates during this time. 'The Celtic Tiger' era was fueled primarily by direct foreign investments encouraged by a low corporate taxation rate, but also by the low wage costs of Irish workers and their effective communication with Americans, in contrast to other low-wage, non-English-speaking EU nations (Kearney, 2010). These factors encouraged many high-profile American companies such as Dell, Intel and Microsoft to choose Ireland as their European headquarters. Other supporting factors of this process were the EU structural cohesion funds and increased trade within the EU relieving Irelands' dependence on the United Kingdom. The majority of farms are family farms (99.6%), but much bigger in size: 24.4% of them are between 10 and 20 ha, whereas only 18.1% of farms are less than 10 ha (Teagasc, 2017).

The economic environment in R. Macedonia developed through few processes in the last two decades: transition towards market economy, privatisation of the state-owned companies, whose closing resulted in the release of labour forces that overflowed into the agricultural sector (playing its role of social buffer), losing the traditional markets in the other former Yugoslav republics. With the historical background as a base, further supported with the mentioned processes, the agricultural sector in R. Macedonia is dominated by small farms; the average size is 1.9 ha, and almost 60% are less than 1ha in size. Almost all of them (99.8%) are family farms.

Social. The observations and informal conversations with the farmers revealed one social difference between the two countries that deserved special attention in further research. This noticed social difference is in the perception people have of the farmers in their country. In R. Macedonia, farmers are considered as uneducated and a low class of the society, whereas in R. Ireland, farmers are generally considered as middle to high class of society.

The perception on agriculture as a sector and as a way of life is significantly advanced in R. Ireland, mostly due to the influence of the Farmers Journal. The farmers themselves greatly value their occupation but they also transfer this passion to future generations. Through many observations it became more evident that young people are very interested in agriculture as a potential prosperous business sector. The campaign *'Wrap it pink'* is an excellent example of the way the agricultural sector, especially family farms, are perceived by the public in R. Ireland. The purpose of this campaign is to replace the conventional black bale wrap and instead to utilise pink wrap supplied by the local agricultural co-operatives. The farmers have a choice and by purchasing the pink wrap instead of

the standard black, a percentage of the price of the pink wrap is donated towards certain research or a charity. The donations gathered from this action in 2016 were used to finance ground-breaking research within the Irish Cancer Society and as a contribution to finding a cure for cancer. This initiative has proven to be highly successful and raised 17,500€ for the cause during the 2016 campaign. This campaign results in Irish fields dotted with bright pink bales every summer which provides a visual representation of the broadness, social influence and social perception of the agricultural sector in R. Ireland.

Contrary to this, it is a rare case in R. Macedonia to see the agricultural sector having the role of providing financial assistance for another sector. During the survey, it was noticed that some farmers lack confidence in their own knowledge about their occupation and fear that they won't know the right answer (although beforehand specified that there are no right or wrong answers in the survey). In the conversation prior to the survey, a tone of sarcasm and protectiveness was evident by the farmer in question; most likely caused by the unwillingness to answer financial questions which resulted in an apparent unreliability of some of the answers. The perception on farming and farmers, but also the perception farmers have for themselves can cause one farmers' protectiveness and another ones' withdrawal. This makes the influence of the perception farmers have for themselves more evident.

Additional difference between the two countries are the values that the society is striving for: in R. Macedonia they are striving towards better training and education of the farmers and modernisation of the sector, whereas in R. Ireland the main goals are the reduction of emissions leading to climate change, and the greater development of renewable energies in the country through energy crop cultivation, such as willow and miscanthus, (Kearney, 2010).

Technology. The level of technology influences each organization's level of cost-effectiveness, competitiveness and profitability. Almost all of the family farms surveyed in both countries haven't changed the production technology since the start of their working, although, some small rationalisations were made through time, mostly by supply of new mechanisation and equipment.

In terms of total investments in the agricultural sector, the investment in mechanisation is two times greater in R. Ireland than in R. Macedonia. According to the survey half of the Irish farmers bought new mechanisation during 2007 (during the Celtic Tiger period). In R. Macedonia, there is an obvious need and a tendency for modernisation of the mechanisation observed by the increased governmental support and increased investments since 2007. The mechanisation that Macedonian farmers utilise is about 20 years old on average.

In R. Macedonia, the traditionalism of family farming as a form of organisation and their way of production is also a cause for the farmers' negative attitude towards new and modern innovations. During the observation and conversations, it was very obvious that the farmers are proud of their traditions. The extent of this pride sometimes made them closed towards innovations and institutions, whether it

was educational institutions, or organisations formed to offer them help, advice or information.

All of the Irish farm owners stated that they are regularly informed of new innovative ways of production and available technologies, but even though 60% of them use the internet as a means of research, still for the most part they stay informed through the Farmers Journal or through the agricultural advisory service "Teagasc". The Irish farmers usually communicate 3-4 timers per year with the advisory services.

Regarding new innovative ways of production and available technologies, about 73% of the Macedonian farm owners stated that they are informed through television, as their main source of information. The internet, as a source of information, is used by only 40% of the surveyed farmers.

Globalisation. Globalisation is a process that affects the country's economy mainly through trade. In terms of agro-food trade, R. Macedonia is an import-oriented country with an increasing negative trade balance, since import is increasing faster than export (Dimitrievski et al 2014). As an EU candidate country, trade with EU members is high, especially with Germany and United Kingdom.

The exit of the United Kingdom from the EU will have a huge impact on the Irish economy and consequently its agriculture, since the United Kingdom is the main importer of Irish agricultural products. New and considerably increased trade prices will apply between the two countries following United Kingdom's exit from the EU which will majorly affect their trade partnership (Taylor, 2017).

The informal conversations with the Irish farmers were mainly focused on this foreign policy issue. Most of the farmers expressed their fear from the consequences that United Kingdoms' exit from the EU would bring. This is expected to have a significant effect on international trade between R. Ireland and the United Kingdom, due to the consequences expressed above.

Suppliers. In terms of supply, we consider the suppliers of inputs, financial services and advisory services. All of the Irish farmers and only half of the Macedonian ones have a constant supplier of inputs. When in need of a financial loan almost all of the Irish farmers would turn to the bank, whereas most of the Macedonian farmers would turn to either family members or friends. All of the surveyed Irish farmers communicate with the advisory services, about 3-5 times per year. Less than half of the surveyed Macedonian farmers communicate with the advisory services, and those that do, communicate about 2-4 times per year.

Consumers. Most of the farmers in both countries have a constant buyer and their influence on the decision-making process was highly ranked in the survey (4.20). However contrary to this statement, only 47% of the Macedonian farmers and 37% of the Irish farmers stated that they incorporate the consumers' preferences into their decision-making process.

Competitors. Although the production process of family farms in both countries doesn't significantly differ from their competitors, the competitors' influence on

the decision-making process was ranked moderately high (3.40 in R. Macedonia and 3.13 in R. Ireland).

Workforce. Although the workforce as a factor is defined as an external factor, in the case of family farms it is as an internal factor, since most of the farms' workforce are the family members, including the offspring that is qualified as unpaid labour. The offspring on family farms have to choose, whether to focus on education and other social aspects of every child's life, or helping and working on the family farm which, as emphasised by the parents, would financially benefit the family. Although the offspring's help on the family farms has its advantages, it is also misused (consciously or unconsciously) with its traditionalism as an excuse. This being said, maybe the most important question about the structure of family farms is: when does the farm end and the family begin?

In R. Macedonia, children usually start working and helping on the family farm around 9 years old for an average of 8 hours per day. Almost all of the offspring are already attending school, however, only small share of them are interested in furthering their education in agriculture. This is understandable when take into account that only 25% of them are interested in inheriting the family farm.

In R. Ireland, children start working and helping on the family farm around 10 years old for an average of 6 hours per day. All of the offspring are already attending college and half of them are interested in furthering their education in agriculture, since most of them (71%) are interested in inheriting the farm.

Most of the farmers in both countries stated that skilled qualified workforce is available and more than half of them employ seasonal workers yearly. In R. Macedonia an average of 3-4 seasonal workers are employed yearly which are usually paid around 1.6€ (100 MKD) per hour, whereas in R. Ireland, an average of 1-3 seasonal workers are employed which are usually paid around 30€ per hour. Irish farmers do this through a contract with a company that offers agricultural services and possesses specific machinery needed for a particular work process.

Organizational structure and the decision making. One of the characteristics of family farms is their structure. All of the surveyed farm owners were male and generally between the ages of 35 to 64 years old in R. Macedonia, and 42 to 75 years old in R. Ireland. The women are housewives and workers on the family farm responsible for many, but not so specific tasks, whereas the men are responsible for fewer, but more specific tasks.

The decision making is stated to be an individual process by half of the Macedonian farmers and two thirds of Irish farmers. Yet, the influence of the family members in the decision-making process was estimated to be relatively low (2.67 in both countries). In R. Macedonia, the observation revealed an intriguing tendency for the decisions to be made as a group by the whole family, however to be later presented, through non-verbal communication and gestures, as final decisions made solely by the men. This statement is yet to be confirmed with a bigger and more representative sample.

Another characteristic of the decision-making process on family farms is that very often it is a reflex decision. These decisions are repetitive without considering possible changes that could help achieve some level of rational thinking within the production process.

Conclusions

The aim of this research was to identify and compare the factors that influence the decision-making process of family farms in two countries. The research concludes that the general external factors, although not so obvious, have more permanent consequences than the specific external factors. Improvements in the agricultural infrastructure of R. Macedonia must start through a change in the social perception of farming and agriculture in general. Encouragement of future generations to perceive agriculture as an ultimately respected aspect of society with many profitable and immense business opportunities, as it is currently viewed in R. Ireland, is vital in order to improve the current agricultural situation in R. Macedonia.

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