

# Romanian farmers' market. A multinomial logit model approach\*

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## Abstract

*This paper analyzes the nature of the farmers' market in Romania and its position regarding the main rivals: the specialized stores and the supermarkets. We use a multinomial logit model to estimate the consumers' characteristics which determine their preference for a certain commercialization form of the fresh agricultural products. The estimations of the model show that farmers' market can keep a segment of consumers relatively stable, since it dominates its competitors through prices, proximity to the consumers, freshness and diversity of the products.*

**Key words:** agricultural products, farmers' market, Romania, multinomial logit

**JEL classification:** C25, Q13

## 1. Introduction

Nowadays, the Romanian society is characterized by sustained efforts in all domains - economy, social, culture, law and politics – in the perspective of adhesion to the European Union. Some of the most important criteria of adhesion formulated by the European Council are on one side, the stability of institutions which guarantee the democracy, the supremacy of the law, the protection of the human rights and on the other side, the existence of a functional competitive market economy. Having in view that more than one half of the Romanian population lives in the rural areas and that the rural space covers over 90% of the country area, in these conditions, the agriculture and the

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rural economy, characterized by the existing level of performance and by the specific structure, are very important in the process of adhesion to the E.U.

The transition period through which Romania has been passing since the 1990s is characterized by a set of structural changes in the entire economy, in general, and in agriculture in particular. The most important legal text which has put its mark on the agriculture is the law of the land number 18/1991. This was the legal base for the abolition of the agricultural production cooperatives (C.A.P.) and for the appropriation of the former owners according to the surface of land owned at the moment of subscription in the C.A.P. and the volume of performed labor. After this law, millions of land owners have appeared. The problem is that most of them own very small surfaces of 1-2 ha. The problem of land property and the success of the agricultural structures reform are closely related to the evolution of the agricultural market, characterized by major disparities between the offer and the demand of most of the basic agricultural products

The agricultural market has many forms of existence, but when the commercialization of fresh agricultural products is concerned, the most important form is the farmers' market. However, in the past years, competitors such as specialized stores and supermarkets have become stronger on the agricultural market. If the farmers' markets existed and developed substantially before and after 1989, the same could not be said either for specialized stores or for supermarkets. The latter began to spread only after 1995, when a few supermarket chains, well-known over the world, decided to build their stores in the proximity of the largest cities. In spite of strong competition, the farmers' markets continue to exist as the most important form of the commerce with fresh agricultural products.

This article proposes an analysis of the perspectives of the farmers' market facing the strong competition of the other distribution agents – specialized stores and supermarkets. At the present in Romania, farmers markets occupy a privileged position and dominate the mains competitive through price, proximity, freshness and quality of the agricultural products and the range of agricultural products. On the basis of a sample of consumers we study the elements which determine the behavior of the consumers caught between the three types of commercialization forms. We use a multinomial logit model to estimate the consumers' behavior.

## **2. Literature review**

In a historical perspective, in some developed countries from Europe and the USA, the farmers' market was faced with a critical period from the beginning of the 20th century until the end of the 1990s, when it almost disappeared from the scene of agricultural trade. However, in late 1990s the number of farmers' markets has grown almost exponentially.

Thus, Youngs (2003) completed an investigation on the viability, sustainability and development of farmers' markets in the north-west of Great Britain from three perspectives: from the point of view of the consumers, the farmers and the managers. The conclusions of the author show that more than one half of the existing markets in the analyzed region find themselves at a high level of development and prosperity, the loyalty of the consumers being the key factor of their success. The author enumerates the main problems on the farmers' markets: the lack of proper promotion and the low variety of agricultural products.

Tippins, Rassuli and Hollander (2002) sustain that the forms of direct distribution of agricultural products have known a rapid development beginning with the 1990's. The main distribution channels are: farmers' markets, roadside stands, pick your own, entertainment farming, subscription farming, community-supported agriculture and mail order.

Next to the amplitude of the farmers' markets phenomena we can also identify the growth of their profitability. In an empirical study, Govindasamy et al. (2003) have concluded that over 61% of farmers who sell agricultural products through farmers' markets are satisfied with the returns they generate.

Hinrichs (2000) studies the producers' markets from a sociological point of view. He describes the social relations of two types of direct agricultural markets: the farmers' market and community supported agriculture. The farmers' market creates the context for the development of closer relationships between producer and consumer, but which can still remain in the sphere of commercial relationships.

Some researchers (Cacho, 2003) have studied the phenomena of the apparition of supermarkets in the developing countries and its implications affecting the small farmers. He notes that smallholder farms take the risk of being marginalized with the introduction of a new market which poses specific competition requirements.

The farmers' market is also studied from the consumer's perspective. Thus, Archer et al. (2003) have studied the attitude of the current and potential consumers on the farmers' markets in the north-western part of Great Britain. The goal of the research is to improve the advertising and the marketing of the farmers' markets in order to attract new groups of consumers, but keeping the existing ones. Here is what the study confirms: 94% of the consumers who buy from the farmers' market will steadily return to buy products once again, due to the following elements, in the order of priority: the freshness of the products, the diversity of products, the local origin of the goods and for the upholding of the local producers.

Andreatta and Wicklife (2002) have been also preoccupied with the same problem: the growth of the success of the farmers' market. This time, the researchers concentrated on the region of North Carolina in the USA. The central purpose of their re-

search was to explain and understand the cultural relationships which bind the actors of the market of agricultural products.

Szmigin, Maddock and Carrigan (2003) talk about the farmers' market as an alternative to buying healthy, local, organic products. The main competitor - the supermarket – starts to be more and more the target of the consumer protests against the genetically modified products and the origin of certain agricultural products.

The farmers' market is the subject of various studies and researches. The main aspects covered by these studies are bound to the renewal of this phenomenon in the developed countries, where after a long decline period, people have become more and more aware of the benefits of the farmers' market. Other researchers concentrate on the means by which the success of the farmers' markets could be improved; meanwhile some authors observe the intensification of competition between the farmers' markets on one side, and between the farmers' market and the supermarkets on the other side (a well-known phenomenon, especially in the developing countries).

The references mentioned above explain almost exhaustively the variables which influence the behavior of the consumers regarding the decision to buy food stuffs from the farmers' market or from other sources, as supermarkets or specialized stores. The variables characterize both the market type (the freshness and the quality of agricultural products, the variety of assortment, the level of prices of the agricultural products, the proximity of the market to the consumers' residences, the possibility to buy other products than fresh agricultural products) and the consumer (age and sex). As the consumer has three choices (three market types) the dependent variable is qualitative and we use a multinomial logit model.

### **3. A note of farmers' market situation in Romania**

The farmers' market situation is connected with the general situation of Romanian agriculture and is a reflection of problems that exist in the agrarian system. This situation is well presented by Otiman (1999) and Zahiu (2000):

- in Romania over two thirds of farms poses under 5 hectare agricultural land and from that 60% poses less than 1 hectare;
- over 50% of the Romanian population lives in rural areas and the principal occupation is agriculture;
- Romanian agriculture is characterized by an advanced degree of lack of functioning of land improvement works;
- The farmers' access to the investment and development funds is making hard and the interests perceived by the banks are extremely high for the realities in Romania;

In these conditions the great majority of farms are placed in the subsistence category. They are producing merely for the internal consumption of the farm. Parallel with this phenomenon it can be observed a bigger and bigger interest of the farmers to produce more for the market. So, in the last period the quantities of agricultural products have grown, phenomenon observed by Istudor (2000).

Farmers' market is looked in a different way in Western Europe than in Romania. In Western Europe a farmers' market is one at which farmers, growers or producers from a defined local area are present in person to sell their own product, directly to the public. All products sold should have been grown, reared, caught, brewed, pickled, baked, smoked or processed by the stallholder. In Romania the farmers' market is a special by arranged place from a locality destined for the commercialization of the agricultural or nonagricultural products. The main difference is that in the first case the local producers are protected by forbidding the access of producers that are from other geographical areas, while in Romania this "protectionism" is not present and the farmers' market is a mixture of agricultural, non agricultural or general use products commercialization. Because of that confusion the laws which establish the commercialization through farmers' markets are inadequate.

Farmers' markets in Romania are characterized by a poor organization and administration from their managers. Their aspect and functioning principles are very old. Even if some markets are in process of modernization the phenomenon is relatively of lower intensity. Also, farmers' markets in Romania are characterized by tradition - a lot of them have existed from ancient times and have functioned at the same place, since then. If we are adding to this the fact that the placement of farmers' markets is very good (in the center of towns or cities) we can say that the farmers' markets have a strong point in relation with the competition.

Farmers' market presents a high interest from the consumers because the prices are lower, the quality and freshness is better and the range of agricultural products is more diversified than in specialized stores or supermarkets.

Thus, over 57% consumers prefer farmers' markets, 20% specialized stores and 23% supermarkets. This phenomenon exists even if the problems are big: the majority of farmers' markets are much deteriorated and the attitude of sellers is arrogant and devoided of respect to wards consumers.

#### **4. Data and estimation model**

Our application involves consumers of fresh agricultural products. In June 2005, we made an empirical study on a sample of 138 individuals who perform the act of buying. Three different types of markets were taken into consideration: farmers' markets, specialized stores and supermarkets.

#### 4.1. The sample

The individuals from the sample were questioned about two kinds of variables: both attributes that characterize the three alternatives: farmers' market, specialized store and supermarket and characteristics of the individual buys fresh agricultural products.

##### Questionnaire

*regarding the fresh agricultural products consumers behavior*

*We invite you to respond to the following questions:*

1. *Where did you buy habitually the agricultural products?*

- from the farmers' market*
- from the specialized store*
- from the supermarket*

2. *How do you appreciate the freshness and quality of the agricultural products for the three alternatives?*

<i>The freshness and quality of the agricultural products</i>	<i>Farmers' market</i>	<i>Specialized store</i>	<i>Supermarket</i>
1. <i>Very bad</i>			
2. <i>Bad</i>			
3. <i>Good</i>			
4. <i>Very good</i>			
5. <i>Excellent</i>			

3. *How do you appreciate the range of agricultural products for the three alternatives?*

<i>The range of agricultural products</i>	<i>Farmers' market</i>	<i>Specialized store</i>	<i>Supermarket</i>
1. <i>There is only a very limited range of agricultural products</i>			
2. <i>There is only a limited range of agricultural products</i>			
3. <i>There is quite a large range of agricultural products</i>			
4. <i>There is a large range of agricultural products</i>			
4. <i>There is a very large range of agricultural products</i>			

4. How do you appreciate the price level of agricultural products for the three alternatives?

<i>The price level of agricultural products</i>	<i>Farmers' market</i>	<i>Specialized store</i>	<i>Supermarket</i>
1. <i>Very high</i>			
2. <i>High</i>			
3. <i>Medium</i>			
4. <i>Low</i>			
5. <i>Very low</i>			

5. How close from your residence is the farmers' market, the specialized store and the supermarket?

<i>Proximity from the residence</i>	<i>Farmers' market</i>	<i>Specialized store</i>	<i>Supermarket</i>
1. <i>Very far</i>			
2. <i>Far</i>			
3. <i>Close enough</i>			
4. <i>Close</i>			
5. <i>Very close</i>			

6. How do you appreciate the existence or inexistence of other types of foods and/or domestic products which do you need in the three alternatives?

<i>The possibility to find other products</i>	<i>Farmers' market</i>	<i>Specialized store</i>	<i>Supermarket</i>
1. <i>I can't find other products that I may need</i>			
2. <i>I can find very few products that I need</i>			
3. <i>I can find few products that I need</i>			
4. <i>I can find quite enough products that I need</i>			
5. <i>I can find almost all the products that I need</i>			

7. Age. You have \_\_\_\_\_ years

8. Sex. You are

Male

Female

## 4.2. The model

Supposing that each one of the individuals of the sample chooses only one type of market (commercialization form of the fresh agricultural products), the decision of choosing the market is discreet. Consequently, the model chosen for explaining the choice is a discreet one, so the estimation is made using the econometrics of discrete regression and qualitative choice models. The model is a multinomial one because the qualitative dependent variable  $y$  has more than two values,  $y_i = j, j = 0, 1, \dots, m$ , respectively. In our application, the values of  $y$  represent the three types of commercialization form.

*The multinomial logit model.* The multinomial logit is actually an extension of the binary logit model, having more than two values for the dependent variable. Let  $(p_0, p_1, \dots, p_m)$  be the probabilities of  $m+1$  alternatives of choice. The probability of an individual  $i$  to choose the alternative  $j$  is given by:

$$p_{ij} = P(y_i = j) = \frac{\exp(x_i b_j)}{1 + \sum_{j=1}^m \exp(x_i b_j)} \quad j = 1, 2, \dots, m \quad (1)$$

where  $x_i$  is the vector of the independent variables associated to the individual  $i$ , and  $b_j$  is the vector of parameters associated to the alternative  $j$ .

*The conditional multinomial logit model.* The generalization of the logit model for the multinomial case is made by taking different parameters  $b_j$  depending on the alternatives of choice, such that the independent variables  $x_i$  remain constants depending on the products. Still, there is another possibility: the McFadden's conditional logit model which considers a constant vector of parameters  $b$  and allows the independent variables  $x_{ij}$  to depend on the alternatives (McFadden 1974, 1980). The probability of an individual  $i$  to choose the product  $j$  is given by:

$$p_{ij} = P(y_i = j) = \frac{\exp(x_{ij} b)}{\sum_{k=1}^m \exp(x_{ik} b)} = \frac{\exp(x_{ij}^* b)}{1 + \sum_{k=1}^m \exp(x_{ik}^* b)} \quad j = 1, 2, \dots, m \quad (2)$$

where  $x_{ij}^* = x_{ij} - x_{i0}$ , and the ratio of the probabilities is:

$$\frac{P(y_i = j)}{P(y_i = l)} = \frac{\exp(x_{ij}^* b)}{\exp(x_{il}^* b)} = \frac{\exp(x_{ij} b)}{\exp(x_{il} b)} = \exp[(x_{ij} - x_{il}) b] \quad \forall j, l = 1, 2, \dots, m \quad (3)$$

which, as in the case of the multinomial logit is independent of the other alternatives of choice.



When computing the marginal effects, we are interested in the estimated variation of the probability of an individual  $i$  to choose the product  $j$ , when the independent variable  $k$  associated to a product varies. We have:

$$p_{ij} = \frac{\exp\left(\sum_{k=1}^K x_{ijk} b_k\right)}{1 + \sum_{h=1}^m \exp\left(\sum_{k=1}^K x_{ihk} b_k\right)} \quad (4)$$

and the marginal effect  $\frac{\partial p_{ij}}{\partial x_{ilk}}$  being:

$$\begin{cases} b_k p_{ij} (1 - p_{ij}) & \text{if } j = l \\ -b_k p_{ij} (1 - p_{il}) & \text{if } j \neq l \end{cases} \quad (5)$$

*The general multinomial logit model.* Due to the fact that our application involves both attributes of the markets and characteristics of the individual, we use a more general model, which contains both the multinomial and the conditional logit models. The probability for an individual  $i$  to choose the alternative  $j$  is given by:

$$p_{ij} = P(y_i = j) = \frac{\exp(x_{ij} b + x_i b_j)}{\sum_{k=1}^m \exp(x_{ik} b + x_i b_k)} \quad j, k = 0, 1, 2, \dots, m \quad (6)$$

Once the parameters have been estimated, by replacing the values of the independent variables with the mean values from the sample, we can obtain an estimation of the probability  $\tilde{p}_j$  that a randomly chosen individual (average individual) will choose the product  $j$ . By multiplying this number by the total number of consumers  $N$ , an estimation of the demand (or of the market share) for the choice (market)  $j$  can be obtained:

$$\tilde{D}_j = \tilde{p}_j \times N \quad (7)$$

We can also obtain simulated market shares, computed for other values of the explicative variables, thus facilitating the foundation of some governmental policies.

#### *The variables*

*Choice* – the dependent variable (1 for the market type choose by the individual, 0 for the other markets)

*Freshness* – values from 1 to 5

*Diversity* – values from 1 to 5

*Proximity* – values from 1 to 5

*Price* – values from 1 to 5

*Other products* – values from 1 to 5

*Age* – years

*Sex* – 0 if the individual is a woman, 1 if it is a man.

*Farmers' market* – dummy variable. Equal to 1 if farmers' market is chosen, 0 otherwise.

*Specialized store* – dummy variable. Equal to 1 if the specialized store is chosen, 0 otherwise.

*Supermarket* – dummy variable. Equal to 1 if the supermarket is chosen, 0 otherwise.

$Age\_farmers' market = Age \times farmers' market$

$Age\_specialized store = Age \times specialized store$

$Age\_supermarket = Age \times Supermarket$

$Sex\_farmers' market = Sex \times farmers' market$

$Sex\_specialized store = Sex \times specialized store$

$Sex\_Supermarket = Sex \times Supermarket$

### 4.3. Results presentation

*Descriptive statistics.* Before we estimate the model we will present and discuss some descriptive statistics obtained in the sample.

Table 1: The average values of variables in the sample

	Variables						
	Freshness	Diversity	Proximity	Price	Other products	Sex (% males)	Age (years)
Farmers' market	4.13	4.14	2.91	3.77	1.47	30.4	53.2
Specialized store	2.21	2.49	4.01	2.62	2.99	39.3	44.6
Super Market	2.91	3.7	2.35	3.74	4.46	51.6	40.2

Source: Author's calculations

The farmers' market is above the mean value for the variables *freshness* and *diversity* of agricultural products. In what concerns the variable *price*, the values are above the mean for the farmers' market and supermarket and the two values are very close. The farmers' markets and of the supermarkets are not very close to the consumers residence but specialized stores are. In consequence, the value for the *proximity* for specialized stores is above the mean and for other two the values are underneath the mean. In the supermarkets the consumers can find more products (agricultural or nonagricultural products) than in specialized stores or farmers' markets. The value of the variable *other products* for the supermarket is much over the mean, but for the farmers' market is much underneath the mean.

The majority of consumers who choose the farmers' market and specialized stores are women (70% respectively 60%). For the supermarkets the percentages are almost identically between men and women. The average *age* of farmers' market consumers (over 53 years) is very high but for supermarkets and specialized stores the age of consumers is between 40 and 45 years.

*The estimation of the model.* For estimating the parameters, the LIMDEP 7.0 program will be used and as an estimation algorithm, the Newton-Raphson method.

Table 2: Parameters estimates - Discrete Choice (multinomial Logit) model

Variable	Coefficient	Standard Dev.	P[ Z >z]
<i>Freshness</i>	0.339	0.184	0.065
<i>Diversity</i>	0.470	0.233	0.043
<i>Proximity</i>	0.429	0.190	0.023
<i>Price</i>	0.336	0.205	0.102
<i>Other products</i>	1.404	0.258	0.000
<i>Age_farmers' market</i>	0.039	0.012	0.002
<i>Age_specialized store</i>	0.000	fixed parameter	-
<i>Age_supermarket</i>	-0.056	0.015	0.000
<i>Sex_farmers' market</i>	-0.428	0.556	0.440
<i>Sex_specialized store</i>	0.000	fixed parameter	-
<i>Sex_supermarket</i>	0.359	0.640	0.574

Maximum Likelihood Estimates. Number of observations: 138. R-sqrd = 0.426  
 Source: Author's calculations

The values of the parameters are according to expectations. The positive signs for *freshness*, *diversity*, *proximity*, *price* and *other products* show an increased probability of choosing the alternative when the values of these variables increase. The posi-

tive sign for *age\_farmers' market* shows the fact that when age increases, it increases the probability of choosing farmers' market, with respect to the reference alternative, the specialized store. The negative sign for *age\_supermarket* shows the fact that when age increases, it decreases the probability of choosing the supermarket, with respect to the reference alternative, the specialized store. The parameters of the variables *sex\_farmers' market* and *sex\_supermarket* are not statistically significant.

For each individual, we can compute according to the formula (6) the probability of choosing each of the three alternatives (Table 3).

Table 3: Predicted probabilities (\* marks chosen, + marks prediction.)

Individual	Farmers' market	Specialized store	Supermarket
1	0.7434*+	0.0516	0.2050
2	0.8554*+	0.0378	0.1067
3	0.9645*+	0.0152	0.0203
.....	.....	.....	.....
80	0.3136	0.5573*+	0.1290
81	0.7901 +	0.1736*	0.0363
82	0.5536 +	0.2036*	0.2428
.....	.....	.....	.....
136	0.3434	0.2545	0.4021*+
137	0.1795	0.0060	0.8145*+
138	0.0941	0.1907	0.7152*+

Source: Author's calculations

A study of the estimated probabilities shows that the model is a performant one from the point of view of the predictive accuracy, the percentage of correct prediction being 74.6%.

#### 4.4. The applicability of the model

We may consider the case when the values of the explicative variables change. We compute the marginal effects, the percentage variations of the share markets of the products respectively, when the variables: *freshness*, *diversity*, *proximity*, *price* and *other products* are increased by 1.

Table 4: The marginal effects (%) for the variable *proximity*

		The marginal effect over the alternative		
		Farmers' market	Specialized store	Supermarket
The alternative for which <i>proximity</i> varies	Farmers' market	6.31	-3.20	-3.11
	Specialized store	-3.20	4.79	-1.59
	Supermarket	-3.11	-1.59	4.70

Source: Author's calculations

The results obtained are according to expectations: the increase of the *proximity* of an alternative determines the increase of its market share. The market shares of the other alternatives decrease, but of different values. The increase of *proximity* for the supermarket has a greater impact over the farmers' market. It can quantify the impact that the construction of a new supermarket in a certain area will have on the farmers' market. The marginal effects calculated for the other variables are presented in Tables 5-8:

Table 5: The marginal effects (%) for the variable *freshness*

		The marginal effect over the alternative		
		Farmers' market	Specialized store	Supermarket
The alternative for which <i>freshness</i> varies	Farmers' market	4.99	-2.53	-2.46
	Specialized store	-2.53	3.79	-1.26
	Supermarket	-2.46	-1.26	3.71

Source: Author's calculation

Table 6: The marginal effects (%) for the variable *diversity*

		The marginal effect over the alternative		
		Farmers' market	Specialized store	Supermarket
The alternative for which <i>freshness</i> varies	Farmers' market	6.90	-3.50	-3.40
	Specialized store	-3.50	5.24	-1.74
	Supermarket	-3.40	-1.74	5.14

Source: Author's calculation

Table 7: The marginal effects (%) for the variable *price*

		The marginal effect over the alternative		
		Farmers' market	Specialized store	Supermarket
The alternative for which <i>freshness</i> varies	Farmers' market	4.93	-2.50	-2.43
	Specialized store	-2.50	3.74	-1.24
	Supermarket	-2.43	-1.24	3.67

Source: Author's calculation

Table 8: The marginal effects (%) for the variable *other products*

		The marginal effect over the alternative		
		Farmers' market	Specialized store	Supermarket
The alternative for which <i>freshness</i> varies	Farmers' market	20.61	-10.46	-10.15
	Specialized store	-10.46	15.65	-5.19
	Supermarket	-10.15	-5.19	15.34

Source: Author's calculation

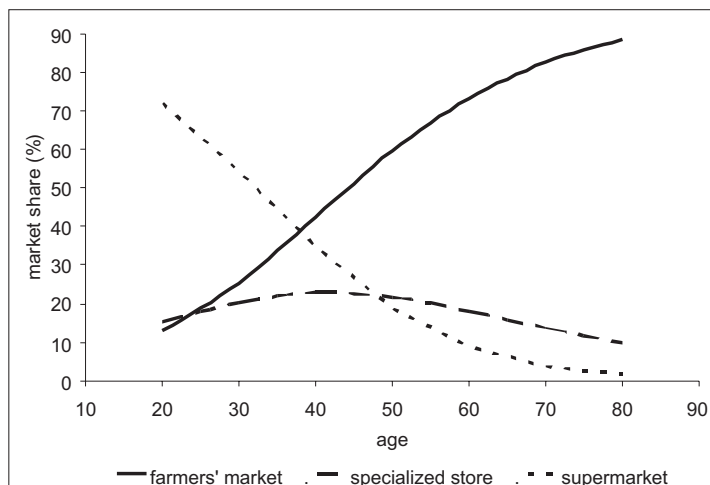
The model can be utilized too for estimating a correlation between the values of the consumers' characteristics and the market share of each alternative. Considering this, we estimate the markets shares of the three alternatives, for different values of the variable *age*. The other variables keep their average values from the sample.

Table 9: The estimated market shares (%) for the three alternatives

	Age						
	20	30	40	50	60	70	80
Farmers' market	12.9	25.4	42.4	59.6	73.2	82.5	88.5
Specialized store	15.2	20.3	22.8	21.7	18	13.7	9.9
Supermarket	71.9	54.3	34.8	18.8	8.9	3.8	1.6

Source: Author's calculation

Figure 1: The estimated market shares with respect to the age



Source: Based on the table 9

## 5. Conclusions

We are contriving to explain different aspects of fresh agricultural products market using a multinomial logit model. The demand for each type of market is well predicted as well as the market attributes and characteristics of the individuals which determine the consumers' choice. The marginal effects obtained for each independent variable are the signs that we expected. It would be easy to deduce what would be the changes which might interfere in the market share structure as a result of variables values changes. These results indicate the steps which governmental or local institutions have to do for encouraging agricultural products commercialization forms.

The three forms of commercialization can co-exist, each of them having a relatively loyal consumer segment. As it can be seen from the results of the model, the young population prefers super markets, especially because of the possibility to purchase other non-agricultural products at the same time. The older population and especially the retired people prefer farmers' markets due to freshness, price and proximity to their homes.

We consider that it is an opportunity of Romanian farmers' markets to expand due to the fact that they have a high market share providing ecological and very diverse products. Moreover it insures a commercial market (outlet for small agricultural producers). The government should support farmers' markets more through a suitable legislation, fiscal measures and facilities for infrastructure investments.

From our study results that farmers' markets occupy a privileged position in rapport with the other two competitive forms: specialized stores and supermarkets. On the short term, we estimate that farmers' market will keep the actual segment of consumers relatively unchanged, since it dominates its competitors through prices, proximity to the consumers, freshness and diversity of the products.

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## Rumunjsko tržište farmera. Pristup putem modela Logit Multinomial

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### **Sažetak**

*Ovaj članak analizira stanje tržišta farmera u Rumunjskoj i stav o glavnim suparnicima: specijalizirane trgovine i supermarketi. Koristi se logit model kako bi se procijenilo one karakteristike potrošača koje određuju njihovu sklonost prema određenom obliku komercijalizacije svježih poljoprivrednih proizvoda. Rezultati modela pokazuju da tržište farmera može zadržati jedan relativno stabilan segment potrošača jer je bolji od ostalih konkurenata po: cijeni, po zemljopisnom položaju bliži je potrošačima, po svježini i raznolikosti proizvoda.*

**Ključne riječi:** *poljoprivredni proizvodi, tržište farmera, Rumunjska, logit multinomial*

**JEL klasifikacija:** *C25, Q13*

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