# Farmers' Satisfaction and Intention to Continue as Members of Agricultural Marketing Co-operatives: A Test of the Neoclassical and Transaction Costs Theories[*]

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**Abstract**. Agricultural marketing co-operatives are one among a myriad of options that farmers have to market their products, making survival of the co-operative formula to depend on its capability to compete for the farmers' satisfaction and membership. This research uses Neoclassical Theory and Transaction Costs Theory to propose a number of antecedents of the farmers' satisfaction with the co-operative and their intention to remain members in the long term. With data obtained from a sample of 320 producers of fruits and vegetables, members of agricultural marketing cooperatives operating in the fresh fruit and vegetable chain, the results obtained show that 1) the liquidation price is more important to predict the farmers' satisfaction with the co-operatives than their intention to remain members; 2) transaction costs are important to explain satisfaction and to a larger degree the intention to continue the relationship with the co-operatives; and 3) that liquidation price is more effective upon satisfaction and continuity if transaction costs are lower.

## 1. Introduction

Producers of agricultural products in general and fruits and vegetable in particular are generally faced with the critical question of selling their production. In the fresh fruit and vegetable chain, several alternatives, or governance modes, compete to offer a suitable alternative to farmers (see Figure 1). These options, which actually compete against the co-operative, range from pure integration, represented by the option of direct distribution, to formulas such as auction centers where very close to pure market transactions happen[30]. Each alternative represents a different combination of three basic interdependent economic components of a transaction relationship, namely (1) the allocation of value (or the distribution of gains from trade), (2) the allocation of uncertainty (and any associated financial risk), and (3) the allocation of property rights to decisions bearing on the relationship[30]. In particular, agricultural marketing co-operatives represent a moderate level of integration since farmers are in fact owners of these organizations, created to bargain for better prices, to handle, to process and to sell their members' agricultural productions. Members are not only owners, but also users and controllers of a business that distributes benefits equitably on the basis of use or patronage[5].
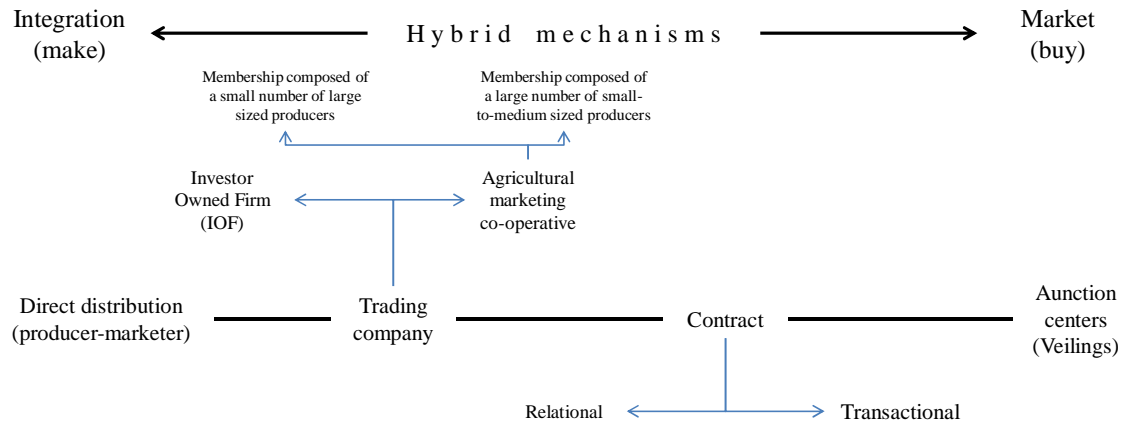
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Figure 1. **First level selling governance alternatives in the fresh fruits and vegetable supply chain**

Marketing co-operatives however constitute a special type of vertical integration for farmers, first, because the integration of the member firms, which still maintain their independence, is only partial, with a market element (the transaction relationship) and a hierarchal element (the control relationship) and, second, because the co-operative is owned by all member firms together[7]. This confers to the relationship established between the farmer's firm and the co-operative a critical role in the study of co-operatives leading us to conclude that, whether marketing co-operatives can remain significant players in the agrofood system and particularly in the fresh fruit and vegetables supply chain is a question of whether farmers' interests are better served by remaining members of a co-operative than by using any other feasible alternative[25]*.

Therefore, the members' satisfaction with the co-operative and their intention to remain in the co-operative in the long run become two variables of critical importance to determine the possibilities of the co-operative organizational form. This research explores the antecedents of these two variables. The point of departure of this research is the neoclassical assumption that marketing co-operatives serve their members' interests by marketing their products at better prices than those that could be obtained by the farmer by remaining independent[25]. In terms of the Neoclassical View of the Firm, farmers would be motivated by the maximization of benefits principle, so that they would pay attention to returns to the input they supply to the co-operative, i.e., to the liquidation price received for the product supplied to the co-operative[21]. However, other points of view have been recently applied to provide a finer focus by which to analyze relationships in co-operatives, mostly under the heading of the New Institutional Economics, with Transaction Costs Economics (TCE) as one of the most relevant[8] [9] [34] [30]. TCE pays attention to the transaction costs, i.e., the costs of organizing transactions and managing relationships. Although the analysis of agricultural co-operatives by means of using TCE is not rare[24] [23] the number of empirical studies are scarce and, to the best of our knowledge, application of TCT to the explanation of the members' stance toward co-operatives by means of using an empirical study over a significant sample of farmers is missing in the literature.

The main purpose of this research is to empirically assess the theoretical assertion about the incremental role of transaction costs over the explanation that the liquidation price provides of the members' satisfaction with agricultural marketing co-operatives and their desire to maintain the relationship in the long run. Moreover, by delimitating the three main problems that generate transaction costs, namely (1) the problem of safeguarding, (2) the problem of performance evaluation, and (3) the problem of adaptation, the second goal of this research is to figure out the differential importance of each one in

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* Although in this study the authors claim that, according to the co-operatives' producer orientation, these are variables of critical importance for the co-operatives survival, we are aware that from a customer orientation viewpoint some authors will condition the long-term survival of co-operatives to their abilities to adapt to new market dynamics and demands[6]. Both perspectives are complementary, since a co-operative will not be able to remain in the long run if it fails in any of the two orientations (towards the producer and towards the market).

influencing satisfaction and the desire to maintain the relationship from the viewpoint of the member. Finally, by means of an analysis of the interaction between the liquidation price and the transaction costs we will test to what extent the influence of the liquidation price on the dependent variables changes for different levels of transaction costs.

The rest of the paper is organized as follows: First, the dependent variables and the theoretical discussion about their antecedents are presented. Then, we discuss the methodology of data collection, the scales used for measuring the concepts as well as the methods of data analysis and the results obtained. We finalize the paper with a brief section on conclusions and implications.

## 2. Research hypotheses

Adopting the general definition of satisfaction in business relationships (e.g., [3]), the member´s satisfaction with the co-operative can be defined as a positive affective state resulting from the appraisal of all aspects of the farmer´s working relationship with the co-operative[14]. Satisfaction is therefore an affective state that, nonetheless, is directly caused by a summary assessment of outcomes[3]. The appraisal of outcomes obtained from the co-operative has the result of satisfied (or unsatisfied) members as they are compared to a base of evaluation[3]. According to the postulates of the theory of interpersonal relations[33], one member of a co-operative would feel satisfied when he perceives that outcomes equal or surpass: 1) the quality of outcomes the member of a marketing co-operative has come to expect from the co-operative, based upon present and past experience with the co-operative and other similar relationships, and knowledge of other farmers' similar relationships and 2) the member's average quality of outcomes that are available from the best alternative exchange relationship. The concept of satisfaction with the co-operative is consistent with measurements of relationship's performance found in the literature (e.g., [31]). The underlying logic is that satisfaction is a focal consequence of a working partnership[28] as the one established between a farmer and his marketing co-operative. It is not only a close proxy for concepts such as perceived effectiveness, but it is also predictive of future actions by the co-operative's members. Previous research has indicated that satisfaction with a business relationship is instrumental in increasing morale, cooperation between the parties, trust and commitment, and in reducing litigations and the propensity to terminate the relationship[12] [13].

About the intention on the issue of whether to continue in the co-operative or search for other alternatives, the member becomes increasingly aware of the inherent problems as well as the benefits that may be lost if operations ceased, members will have to consider their long-term strategic options (tradeoffs between the benefits and costs) and decide whether to exit, continue, or convert into another business form[25]. The farmer's intention to remain as member of the co-operative, the opposite of its exit intention, is therefore the direct result of its overall satisfaction that, on its side, is also influenced by the attractiveness of the best alternative relationship[27]. Therefore, the first hypothesis states:

> **H1.** **The member's satisfaction with the co-operative positively influences his/her intention to continue in the co-operative.**

From a Neoclassical point of view, agricultural marketing co-operatives[7] and other types of growers' associations are created to counterbalance the oligopsonistic (if not monopsonistic) power of processors and distributors of farm products, which is a consequence of the fact that their efficient size (due to economies of scale) is larger than the efficient size of the farming activity. In this sense, farmers generally have felt that they sell their outputs in markets with no control over the price and, therefore, their recourse to marketing co-operatives may be perceived as a mean to achieve some measure of redress[21]. Once the co-operative has been formed with the goal of enhancing the producers' prices by bargaining[16] the co-operative performance will be a function of the difference between the price returned to members and that received by non-members still suffering the oligopsonistic exploitations of processors and distributors[15]. According to this, the cooperative's optimization objective consists on maximizing benefits to members by maximizing the per unit value or average price by distributing all earnings back to members in proportion to their patronage volume or use[17].

The importance of liquidation price is therefore critical not only as a reason to form but also to maintain co-operatives when competitors adjust their prices and members of co-operatives seeing that they are achieving no difference in the current prices offered by competitors and those of their own association, particularly where a differential was observable in the past, may become disenchanted with the co-operative and withdraw their support[21]. In line with this reasoning, we propose:

**H2. The member's perception about the liquidation price increases his/her:**
    **a. satisfaction with the co-operative**
    **b. intention to continue in the co-operative**

Neoclassical economic theory assumes perfect knowledge without uncertainty or dishonesty and with no costs associated to specific investments (Those that lose value in other applications or alternative uses). However, real world shows that actors make mistakes in uncertain environments, break their promises, hide information and also that investments made for a certain purpose are not transformed into other uses without costs[24]. Compared to neoclassical theories and the traditional price analysis, Transaction Cost Economics (TCE) argues that the savings in the costs of transactions (search costs, negotiation, enforcement, adaptation and in the event, rupture of the relationship) is the determining criteria for the selection of one or another form of organization in a continuum which includes any formula from the extremes which constitute the market to vertical integration[37]. It is in a dynamic analysis of creation and evolution of cooperatives that prices start to differentiate little among cooperatives and their competitors at the origin[8]; for this reason transaction costs with the cooperative start to become progressively more important for their members. These transaction costs which are rarely considered in the heat of the monopolistic/monopsonistic exchange are now becoming important[8]. Therefore the third hypothesis proposes an incremental effect of transaction costs on satisfaction and the intention to remain in the cooperative, once price has been considered:

**H3. The member's perception about the transaction costs of the co-operative significantly increases the explanation provided by the liquidation price over his/her:**
    **a. satisfaction with the co-operative**
    **b. intention to continue in the co-operative**

Even if the first and more common applications of the TCT centre around the decisions of vertical integration[11] one stream of investigation is focusing on the study of said costs in the field of relationships between firms[29], and the relationship between farmer and cooperative can be regarded as such. In this type of relationship the transaction costs are a consequence of the joint effect of the two suppositions which the TCT makes in respect to human behavior (bounded rationality and opportunism) and the two key dimensions (specific assets and uncertainty). Together they give room for the three principal problems which generate transaction costs: The problem of safeguards, of performance evaluation and of adaptation[29].

The problem of safeguards in the relationship of member and co-operative arises always when the member dedicates specific assets which would have very little value outside of this relationship therefore increasing the risk that the co-operative takes advantage of the resulting vulnerability of the member. This way we can observe that opportunism and the investment in specific assets are precursors of this problem[29]. Vertical integration is a means to avoid the problem of safeguards[36]. Various studies for example, centered on the decision to integrate production of components within the company (make or buy), show that those which require high levels of investment in specific assets are generally produced internally instead of being bought externally[18] [22]. Nevertheless, within the field of inter-organizational relations or hybrid forms of organizing transactions, beyond the classical "make" vs. "buy", investments in specific assets are safeguarded in as much as those who make them (the members) have, in the first place, guarantees about the receipt of an adequate level of return on their investment[10] as well as in the second place access to governance mechanisms preventing opportunism by the other party, i.e. the co-operative[10] [35]. As a consequence hypothesis 4 was established:

**H4. The member's perception about better safeguards for himself increases his/her:**
    **a. satisfaction with the co-operative**
    **b. intention to continue in the co-operative**

The problem of performance evaluation arises when the member has difficulties to judge the compliance of obligations and performance of the co-operative[29]. As precursor to this problem we find bounded rationality and behavioral uncertainty. Again if there is a problem in the evaluation of performance vertical integration appears as an alternative to the market[1] [18]. In hybrid relationships, somewhere between complete integration and market, like those which exist between co-op member and the co-operative itself, the problems of the first to judge compliance of the co-operative translates into reducing his satisfaction and his desire to continue as a member in the co-operative. This gives rise to:

**H5:** **The member's perception about better information to evaluate the co-operative's performance increases his/her:**
   **a. satisfaction with the co-operative.**
   **b. intention to continue in the co-operative.**

The problem of adaptation exists whenever there are difficulties to modify the agreement between a member and the co-operative due to changes in circumstances of the external environment. This problem is a consequence of the presence of bounded rationality and uncertainty in the environment[29]). Adaptation is important because it guarantees that the relationship evolves over time in accordance with environmental changes and as much as is needed until the point is reached whereas recommending vertical integration will be the preferred option due to a highly volatile environment[36]. Nevertheless, it is necessary to say that this proposition has only yielded partial support. In the context of inter-organizational relations of the hybrid type, it is interesting that the results obtained by Klein and Roth [20] found that firms which confront an environment of minor uncertainty were more satisfied with their relationships within the distribution channel. In the context of our investigation we postulate that:

**H6:** **The member's perception about a better adaptation of the relationship maintained with the co-operative increases his/her:**
   **a. satisfaction with the co-operative.**
   **b. intention to continue in the co-operative.**

Finally, with an exploratory character, we propose an idea in regards to the possible interaction of price with each one of the variables considered in determining the dimension of transaction costs in the relationship member - co-operative (safeguards, information in order to evaluate performance and the perception of adaptation). The observation of significant effects allows us to test if the marginal effect of price on each dependent variable (satisfaction and intention to remain in the co-operative) increase as safeguards, information needed for performance evaluation and adaptation, improves[28].

In this case, in relationships with low transaction costs a little increase in the price obtained by the farmer provokes an important increase in satisfaction and desire to continue, while in relationships with high transaction costs the same increase in satisfaction and desire to continue requires a higher increase in the price received by the farmer. The underlying logic of this reasoning leads us to propose the following postulate:

**P1:** **The effect of liquidation price on the member's: a) satisfaction with the co-operative and b) intention to continue in the co-operative increases if:**
   **i. safeguards are perceived as better**
   **ii. information to evaluate the co-operative's performance is perceived as better**
   **iii. adaptation of the relationship is perceived as better**

## 3. Methodology and results

### 3.1. Data collection

This study's population consists of members of agricultural marketing co-operatives in the Spanish Region of Murcia. There are about 4,000 agricultural cooperatives in Spain which in 2006 had a turnover of 17,000 million Euros, more than 1 million members and more than 100,000 employees. Of these, 2091 are affiliated with the Confederation of Agricultural Cooperatives of Spain, to which the region of Murcia contributes 86 agricultural cooperatives, 3% of the total.

To identify the cooperatives in the Region of Murcia and the sample elements (the members) we counted on the collaboration of the Confederation of Agricultural Co-operatives of Murcia (FECOAM). Due to the characteristics of the population (occupation and advanced age) and the difficulties in obtaining information (attitudes and perception) we used personal interviews. To set up the questionnaire we performed a series of pre-interviews with key informants (members, members of the board of directors and cooperative managers as well as FECOAM personnel), which allowed us to have a better understanding of the problem in regards to the relationships subject to analysis. Afterwards we designed different versions of the previous questionnaire which were subjected to some preliminary pre-tests. All this served as a base for the elaboration of the final questionnaire.

Due to the difficulties in contacting the members of the sample because of their wide geographic dispersion we took advantage of the XIII meeting of the "Day of the Agricultural Cooperativist" which was organized by FECOAM and took place in the framework of the XXV Fair of Mediterranean Agriculture in order to collect the information. We randomly obtained 277 valid questionnaires. In a second run the collection of data was extended to members of cooperatives which had not been sufficiently represented in the initial sample with the idea of obtaining an adequate representation of all the Region's co-operatives. This resulted in 85 additional data for a total of 362 cases. Table 1 presents a description of the sample.

**Table 1**. Characteristics of agricultural co-operative members which form part of the sample

|  |  | Average |
|---|---|---|
| % of male members | | 92,5 |
| % of female members | | 7,5 |
| Age | | 58 |
| Years of membership in the co-operative | | 17 |
| % of members who have the following education: | Primary school not completed | 33,6 |
| | Primary school | 45,6 |
| | Secondary school graduates | 9,1 |
| | Professional training | 6,6 |
| | University studies | 4,8 |
| | Others | 0,3 |
| % of total income coming from the agricultural activity | | 60 |
| % of income from agricultural activity through the co-operative | | 89 |
| % of members who were part of the board of directors at some occasion | | 25 |
| Number of years they had been members of the board | | 9 |
| % of members who are presently part of the board of directors | | 14 |

## 3.2. Measures

For the measurements of the concepts we have tried to use multiple indicators which were inspired by the literature. Nevertheless, as none of the measurements had been previously used in the field of co-operatives, even less so in those of an agricultural nature, a major part of the work consisted of adaptation during pre-testing. Table 2 (left column) shows the concepts and items used in their measurement as well as the theoretical source they come from.

In regards to safeguards the degree of security of the farmers to obtain the yields of their investments was taken into account, which is a consequence of the certainty based on volume of transactions and the duration of the relationship[10]. Moreover, contractual and legal mechanisms as well as trust were considered as two mechanisms to avoid opportunism[10] [35]. Nevertheless, during the process of depuration of the scale it was observed that the item corresponding to legal guarantees represented a low correlation between item-total, as well as a low determination coefficient in the confirmatory factor analysis (CFA). For this reason the mentioned indicator was eliminated with the understanding that the essence of the safeguard concept was unaltered. The mentioned behavior of this item can be motivated by the particular relationship between member and cooperative, a relationship which is far from the normal standards found in inter-organizational relationships as described in the American literature. In the case of the reality which is object of this study, we first consider the fact that we are dealing with relationships with a greater level of integration with a contract of adhesion and where the member, generally of small size, would have great financial difficulties to obtain justice through a court of law. In any event, the literature stresses the higher importance of social mechanisms compared to contractual ones as safeguarding mechanisms[10].

**Table 2.** Scales and Confirmatory Factor Analysis

| Constructs and list of items anchored from 0= total disagreement to 10= total agreement | Standard coefficient (t-value ) |
|---|---|
| **SAFEGUARDS**[10]. Scale composite validity (SCR)= .72 | |
| 1. The co-operative offers you certainty about the acquisition of all your production | ,62 (12,24) |
| 2. The co-operative offers you security about the selling of your production in the long term | ,52 (9,78) |
| 3. You have legal guarantees to act against the co-operative in case it is necessary* | ------- |
| 4. The co-operative offers you a great deal of trust | ,88 (18,22) |
| | |
| **PERFORMANCE EVALUATION**[29]. SCR= .65 | |
| 1. It is very easy to assess whether the co-operative comply with its obligations with the members | ,70 (15,16) |
| 2. Obtaining information about the co-operative management has a great deal of difficulty for you | -,40 (-7,16) |
| 3. It is easy to supervise the activity of the Board of Directors | ,65 (12,46) |
| | |
| **ADAPTATION**[29]. SCR= .760 | |
| 1. Thanks to the co-operative, your business is much better adapted to the market's requirements. | ,72 (14,34) |
| 2. The co-operative is committed to understand the particularities of your cultivation | ,67 (13,18) |
| 3. The co-operative work with you to solve the problems and unforeseen contingencies faced in your business. | ,66 (12,78) |
| | |
| **SATISFACTION**[14] [3]) SCR= .768 | |
| 1. The co-operative is a good firm to do business with | ,47 (8,84) |
| 2. Overall, you are satisfied with the results of your membership in the co-op | ,87 (19,03) |
| 3. You are very pleased with the way the co-operative works as a firm | ,79 (16,60) |
| | |
| **INTENTION TO REMAIN AS A MEMBER** (Ping[26], Selnes[32]) SCR= .771 | |
| 1. You will not abandon the co-operative even though other alternatives were available | ,50 (9,55) |
| 2. Your relationship with the co-operative is a long-term alliance | ,81 (17,01) |
| 3. You want to continue as a member of the co-operative | ,90 (19,37) |

Fit statisticse: $\chi^2_{(79)}$= 197,79; GFI= ,93; RMSEA= ,067; SRMR= ,052; CFI= ,98; TLI (NNFI)= ,98.
[1]Scale composite reliability ($\rho_c$= $(\Sigma\lambda_i)^2$ var $(\xi)$ / $[(\Sigma\lambda_i)^2$ var $(\xi)$ + $\Sigma\theta_{ii}]$; Bagozzi and Yi, 1988)
* Item eliminated as a result of the scales´ refinement process

The evaluation of performance[29] is measured by items which are applied to the context of the relationship of a farmer with his/her agricultural marketing co-operative. There is emphasis on the ease of checking compliance of obligations of the co-operative, the difficulty to obtain information about the management (reversed), which is a mean of obtaining information about the performance of the general manager and the rest of the management team, and the ease of being able to control the activity of the board of directors.

In regards to adaptation, it is measured considering the problem of adaptation as a result of the difficulty of the relationship to rapidly and effectively adapt to the changes of the environment[29]. In our context, the different pre-tests suggest that the capacity of adaptation within the relationship can be measured as the contribution that the co-operative makes to the farmer's adaptation to the environment, the co-operative's interest in getting to know the particular problems of the member and the collaboration with the member to solve problems and unforeseen issues.

Finally, the two dependent variables, i.e., the member's satisfaction with the co-operative and his/her intention to continue in the co-operative, are measured with statements very slightly adapted from the literature[14] [3] [26] [32].

Unidimensionality of each construct was evaluated through the use of a confirmatory factor analysis (CFA)[2] of 5 constructs and 15 items with LISREL 8.80. Fit of the model was considered adequate as the RMSEA indicators (lower than .08) and the SRMR (0,052) show very low levels while the GFI, CFI and the NNFI are sufficiently above 0,9 and the latter two are very close to 1[4]. Therefore the scales shows reliability with scale composite reliability indices above 0.6, convergent validity with highly significant factor loadings (the smallest shows a significance value of p <.000) and discriminant validity, checked by assuring that the correlations between constructs never include 1 in their confidence interval at p<.01[2] [4].

## 3.3. Models' estimation and results

To empirically contrast the relationships suggested in hypotheses 1 to 6 as well as in proposition 1 we used regression analysis through ordinary least squares. Specifically, for each dependent variable (member's satisfaction with the co-operative and intention to continue) a hierarchical regression analysis was used through the addition of successive independent variables and subsequent test of the significance of the change in the coefficient of determination $R^2$ (see Table 3). In the first model we considered two control variables as independent variables. These are, first, the number of years the member is in the co-operative and, second, his/her perception in regards to the difficulty to break the relationship with the cooperative due to economic losses that would be incurred. Both variables have wide consideration in the literature of inter-organizational relationships (e.g. [19]). The successive models were analyzed with the conclusion that model IV in the case of satisfaction and model V in the case of intention to continue as a member are the best in terms of capacity of explanation taking into account their parsimony. This can be observed by the fact that they significantly increase the $R^2$ of the previous models. A major part of the discussion of the results is therefore based on these models.

**Table 3**. Results of the hierarchical regression analysis

| Dependent Variable → | Satisfaction | | | | Intention to continue in the co-operative | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Independent Variable↓ | M. I | M. II | M. III | M. IV | M. I | M. II | M. III | M. IV | M. V |
| | | | | | | | | | |
| Years in the cooperative | ,078[n.s.] | ,094[c] | ,077[n.s.] | ,067[n.s.] | ,060[n.s.] | ,019[n.s.] | ,026[n.s.] | ,025[n.s.] | ,032[n.s.] |
| Exit costs | -,018[n.s.] | -,001[n.s.] | ,038[n.s.] | ,021[n.s.] | ,101[c] | ,106[b] | ,109[b] | ,147[a] | ,151[a] |
| | | | | | | | | | |
| Satisfaction | ----- | ---- | ---- | ---- | | ,532[a] | ,491[a] | ,369[a] | ,364[a] |
| | | | | | | | | | |
| Price | | ,440[a] | ,272[a] | ,265[a] | | | ,095[c] | -,008[n.s.] | -,030[n.s.] |
| | | | | | | | | | |
| Safeguards | | | ,136[b] | ,194[a] | | | | ,137[b] | ,173[a] |
| Performance evaluation | | | ,127[b] | ,111[c] | | | | ,181[a] | ,150[a] |
| Adaptation | | | ,176[a] | ,214[a] | | | | ,106[c] | ,138[b] |
| | | | | | | | | | |
| Price X Safeguards | | | | ,214[a] | | | | | -,009[n.s.] |
| Price X Performance evaluation | | | | ,087[c] | | | | | -,081[n.s.] |
| Price X Adaptation | | | | -,033[n.s.] | | | | | ,133[c] |
| | | | | | | | | | |
| Adjusted R² | ,006 | ,192 | ,289 | ,331 | ,009 | ,290 | ,295 | ,375 | ,385 |
| Significance of change in R² | ,373 | ,000 | ,000 | ,000 | ,092 | ,000 | ,071 | ,000 | ,045 |

[a] $p<,01$; [b] $p<,05$; [c] $p<,10$; n.s.= not significant

In regards to hypothesis 1 it has been observed that satisfaction contributes significantly to the explanation of the desire to remain a member, significantly increasing $R^2$ in the transition from M.I to M.II for the dependent variable "intention to continue" and obtaining a positive coefficient at $p<.01$ in the final model (M.V). These results confirm hypothesis 1.

About hypothesis 2a, the effect of price on satisfaction, the introduction of liquidation price in M.II significantly increases the explaining power of the control variables (M.I). In model M. IV the effect of liquidation price on satisfaction remains positive and significant at $p<.01$ therefore confirming H2a. About the effect of liquidation price on the intention to continue (H2b), once the satisfaction has been considered, the direct effect of liquidation price is considerably reduced. On one side the increase of R2 in the step from M.II to M.III is only significant at 90%, on the other side the impact on continuing is not significant in model V. The data appears to support the idea of Cook[8] about the loss of relative importance of price in planning to continue as a member once transaction costs have been considered (M.IV and M.V) after the first impact over the price has been absorbed by the members during the creation of the cooperative (or when joining the same); nevertheless its indirect effect through satisfaction continues.

Hypothesis 3 about the incremental contribution that transaction costs have over the explanation of satisfaction and the intention to remain a member based exclusively on the liquidation price received. The changes observed in $R^2$ from model II to III in the case of satisfaction and from model III to model IV in regards to the intention to continue membership confirm that the transaction costs contributes significantly, as postulated in hypothesis 3.

The three variables of transaction costs considered, i.e., safeguards, evaluation of performance and adaptation, contribute positively and significantly to satisfaction (M.IV) and the intention to remain a member (M.V) thus confirming the expectations presented by hypotheses 4, 5 and 6.

Proposition I for its part pointed as an explication to the possible interaction of liquidation price and transaction costs. The high significance obtained in the change in R2 when passing from M. III to M.IV in the case of satisfaction, jointly with the observation of the two significant interactions, seems to indicate that such interaction takes place. The effect of liquidation price on satisfaction increases significantly when safeguards are greater as well as when the capacity of members to evaluate the performance of the co-operative is greater.

To say it in another way, those co-operatives that have low transaction costs for their members increase to a large measure the satisfaction of the members by even a small improvement in liquidation price while those which have higher transaction costs need a much higher increase in prices to obtain the same improvement in satisfaction.

In regards to intention to remain a member the interaction is less pronounced. This time adaptation of the co-operative is the variable which interacts positively with the liquidation price in determining the intention to remain a member. The result makes sense as in regards to the intention to continue membership it seems more logical that the most important factor is the flexibility of the relationship and its capacity to adapt to the environment in as much as the farmer would be more willing to give up certain advantages on the liquidation price if the capacity of adaptation is greater.

# 4. Conclusions

In a recent work, Bijman and Hendrikse[7] justify the creation of agricultural co-operatives due to three main reasons which affect the farmer: His market power (a neoclassical argument), the availability of incomplete and asymmetrical information and the necessity to invest in specific assets (these two factors are related to transaction costs). In this research, the Neoclassical Theory and the Transaction Cost Theory have been used in the context of the relationship of agricultural marketing co-operatives with their members to explain the members' satisfaction and intention to continue in the relationship. The results confirm the idea that the liquidation price plays an important role in explaining the members' satisfaction with the co-operative (therefore supporting the validity of the neoclassical theory). However, transaction costs play a more relevant role in explaining not only satisfaction, but also the desire to continue the relationship. This is in line with the findings by Cook[8] who found that the longer the co-operative persists in the market the lower the price difference between the co-operative and other competitors since co-operatives provoke a readjustment in market power; price then becomes a relatively less important factor while transaction costs increase in importance.

The management of the co-operative should therefore try to reduce the farmers´ transaction costs offering him safeguards, information which permits the members to have knowledge about the performance of the co-operative and at the same time adapting the relationship to changes in the environment. Specifically, members' satisfaction is much influenced by the presence of safeguards, which not only influence it positively, but also have a high interaction with the liquidation price. This means that when comparing the co-operative with other alternatives the sales price does not have to be the determining factor if safeguards are perceived to be higher. Something similar happens with the farmer's access to information which allows him/her to evaluate the performance of the co-operative. In regards to the desire to remain a member, this variable is of very high importance to the management of the co-operative, as it is a variable which explains the possibilities of long term existence of the co-operative as a market- operator. In this sense we observed that the liquidation price is not quite so important, as safeguards, performance evaluation and adaptation. Safeguards are so important because they give the member security about opportunistic behavior of the co-operative and the ability to evaluate performance also positively influences the desire to continue as a member. As long term membership is at stake this element is of high importance as a mechanism to control the decisions of the co-operative. The same is the case with adaptation, i.e., the higher it is the more it motivates the farmer to stay in the co-operative as it supposedly gives him a guarantee against the changes which can happen in the environment on the long run.

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