

TRUST AND RECIPROCITY IN BARTER OPERATIONS MARKET

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ABSTRACT

The purpose of this study is to analyze the mediating role of trust in the cooperative relationship between reciprocity and intentions to perform barter operations. The study, quantitative-descriptive, used survey techniques with 133 farmers, members of grain production cooperative, located in the northern state of Rio Grande do Sul, Brazil. The instrument used scales from Sirdeshmukh, Singh and Sabol (2002) and Pervan, Bove and Johnson (2009). The results show that reciprocity has an indirect effect on intentions to carry out barter operations by farmers. This effect is mediated by the trust that farmers have in the cooperative, indicating that reciprocity is an important predictor of trust, which in turn predicts intentions to perform barter operations. The findings show the importance of reciprocity in economic transactions of this market and its impact on expanding volume of contracts made.

Keywords: Barter; Trust; Reciprocity Market.

1. INTRODUCTION

Brazilian agriculture has undergone major changes since the second half of the twentieth century, driven especially by technological advances and the globalization of markets. Among the results of this process, there has been greater openness to the market, the intensification of the use of money and the development of a farming business with close ties to the domestic and world market.

However, not all agricultural transactions are monetized, making room for a trading system called "Barter operations". This mechanism is used in large-scale Brazilian agribusiness sector, working as a financier of inputs used in the production in exchange for agricultural commodities. Basically, the Barter is an exchange without monetary intermediation, inputs such as fertilizers, seeds, pesticides for agricultural commodities (Silva; Lapo, 2012). Its difference from the exchange is that the service, provided by large multinational corporations, is brokered and operated by off-taker (cooperatives and food processing industries) converted with settlement on products that are harvested or produced later. Two conditions are therefore fundamental to the functioning of this market: no use of money as an exchange mechanism and the existence of off-takers to allow the transaction between farmers and corporations.

It is estimated that between 30 and 35% of agricultural inputs business in Brazil are carried out by means of Barter operations, demonstrating the importance and significance of this topic. These figures become even more significant if we consider the impact of agribusiness in the formation of the Brazilian GDP, something like 23%. Among the economic benefits of such transaction is to reduce the dependence of the banks and the absence of

taxes, tariffs and interest. Another crucial factor is the greater autonomy of producers to decide on the timing of the closing of the financing agreement, as decreased risk is supported by the idea that price is fixed at the closing of the deal, avoiding losses from market fluctuations during the term of the contract.

On the other hand, while such transactions are frequent, the relationship of trust between producers and off-takers becomes a central element option for this type of transaction, as it must be considered forecasts of price movements in the market, effectiveness and quality of products offered by corporations and the technical assistance necessary for the proper running of production. To expand the trust, intermediary organizations bet on strengthening the relationship with producers through training activities and guidance in decision making.

With this background, we assume that market relations are not based purely on depersonalized relationships and their terms of equivalence are not marked only by the rules of free competition. The objective of the study is to analyze the mediating role of trust in the cooperative relationship between reciprocity and intentions to perform Barter operations.

Data were collected in the operating region of the Cooperative ABC (not its real name), 15 municipalities in the northern Rio Grande do Sul state, Brazil. This region is called "Region of the Production" and contributes mainly in grain production which is one of the major producing state of cereals. This cooperative has been acting in the grain market for 57 years, employing more than 1,200 employees and serving more than 5,000 associated farmers.

The theoretical basis guiding the study is based on the writings of Karl Polanyi (1889-1984) on reciprocity and embeddedness of the economy to then situate the analysis model from the studies in reciprocity of Pervan, Bove and Johnson (2009) and trust of Sirdeshmukh, Singh and Sabol (2002) and Singh and Sirdeshmukh (2000).

2. THE SOCIAL STRUCTURE OF THE MARKETS

The expected formation of an autonomous market for the governmental determinations and self-regulated in the pricing is the great project of modernity. In this context, shed light on the course of economic action of the agents becomes a capital subject to the fields of economics, sociology, ethics and management. How to develop in individuals predisposed and interest carry trade and seek to build? How to ensure that the environment changes, marked by depersonalization, are not destroyed by opportunism and malfeasance? How to generate trust in a self-regulated economy where price formation follows the law of free competition?

Critically, this article demonstrate that economic transactions are not opposed to institutional logic, but that the strategies of economic agents are influenced by symbolic landmarks that define use and the function of commercial transactions. The study follows the theoretical line indicated by Abolafia (1996) which shows the importance of social bonds for the functioning of a market structure, since avoid opportunism and bad faith, increasing safety in economic transactions. His conclusion is that trust is a fundamental element for the market in that it influences and changes the economic transactions.

Therefore, for purposes of this study, markets are social structures that work from two variables: the historical context in which they live and the idea that the instrumental rationality does not include the explanatory sufficiency of the mobilization of individual and collective action. The market can be defined as a place historically situated and marked by laws, conventions and own institutions of the actors in it exchange products and build symbols. The historical demarcation of these spaces of exchange allows therefore speak of "markets" restricted to local and human interactions, located in time and space. In this sense, markets are more than just a financial result between producers and consumers vying pricing, but a form of social life. In the words of Abramovay (2004, p. 39), "a form of social coordination, characterized by conflicts, facilities, structures and unpredictability", that is, markets are social structures and therefore can be studied from an institutional angle, historical, anthropological, psychological and sociological.

2.1. Reciprocity and the pattern of symmetry in economic relations

Karl Polanyi (1886-1964) in the work *The Great Transformation* (2012, p. 62) proposes the thesis that the economic process (or system) can only be understood as a social institution and economic facts are conditioned for four economic principles: market, domesticity, reciprocity and redistribution. These principles sometimes compete and sometimes complement each other and provide that the economy cannot be reduced to the commercial principle, as we perceive it today. Although today the "market behavior" is hegemonic, economic organization involves also other principles such as reciprocity, redistribution and domesticity.

The market principle means an organization in a self-regulating system where all production is for sale in this market - "and nothing but market prices" - and monetary gain, the ultimate purpose of the system, arises from the business relationship. On the other hand, according to the principle of reciprocity, economic transactions are crossed by human relations, guided by the institutional pattern of symmetry. The reciprocity covers movements between correlative points of symmetrical groups, ie, it involves the presence of two or more symmetrically arranged groups, where members can behave similarly in relation to each other. This symmetry is not restricted duality and reciprocal groups need not result from mutuality attitudes (Polanyi, 2012, p.51).

Studies on reciprocity, such as Pervan, Bove and Johnson (2007) describe this idea as a fundamental interpersonal building for social stability and as conductor of a change in relationship. The commonly accepted definition of reciprocity is as a rule driven by a sense of debt, where there is an expectation that something is returned in return for something received. However, the definition is extended to include also designed to stabilize the behavior changes. If seen in this way, reciprocity may prove as a buffer, which temporarily suppresses negative emotions, satisfying those involved in an exchange ratio.

Also according Pervan, Bove and Johnson (2007), reciprocity is shown as an exchange, so that the expected returns may not come immediately, or in the form of financial gain. Recurrences occur over time when the exchange equilibrium is reached, and this balance arises only when the reciprocal exchange is appropriate and proportionate. Therefore, the authors state that this consistent search for the well-being in the relationship may result in increased trust and commitment to the relationship. In this sense, the conflict and the balance are in permanent action in reciprocal relationship, and the response or lack of response in some situations can be crucial for the stability of the relationship. Therefore, reciprocity can be characterized as a three-dimensional construction, which incorporates the exchanges, the search for prevent damage, and the repair of any damage.

2.2. Verification of trust

Knowing that reciprocity is as a stabilizer in relations, it can be said that trust can increase this proximity between the involved. As Singh and Sirdeshmukh (2000) on consumer behavior and its relationship with companies, development of trust is of great importance in trade characterized by the high level of uncertainty on the performance of the service provider, the "high degree of involvement" and the great interdependence.

Thus, one of the central goals of relationship marketing strategies is the achievement of customer loyalty. So maintain customers confident and offer them high value in relational exchanges are fundamental to this achievement (Sirdeshmukh, Singh & Sabol, 2002). In the model of inter-relationship between trust, value and loyalty proposed by Sirdeshmukh, Singh and Sabol (2002), trust is a variable that precedes loyalty, exerting positive influence on it. The construct "value" emerges as a mediator between the trust and loyalty.

More than check the consumer's trust consequences, this model represented by the value and loyalty, Sirdeshmukh, Singh and Sabol (2002) proposed verify the antecedents of trust. The authors propose that trust is a multifaceted construct due to two distinct dimensions that precede it: the trust on frontline employees and the trust on policies and management practices of the company. In its findings, studies have shown that trust is, in line with their background, two facets: contact employees and policies and management practices. In the model, these two dimensions of reliability are directly influenced by three different constructs that are operational competence, operating benevolence and guidance for troubleshooting.

To Sirdeshmukh, Singh and Sabol (2002), consumers evaluate differently the behavior of contact employees, in addition to being able to identify those that are the policies and management practices of an organization. For them, the reliability of contact employees is valued by consumers by observing employee behavior during the meeting services; and the reliability policies and management practices is evaluated by the judgment of consumers regarding policies and practices that guide the positioning of the company. For the authors, the company demonstrates reliability when employee behavior and policies and established practices indicate motivation and direction in favor of consumer interests.

The operational competence, presented in the model of Sirdeshmukh and Sabol (2002), as influential reliability of consumers is related to consumer expectations in relation to competent performance of the company. The perception of the competence of an organization can be crucial to the maintenance or the breakup of a relationship.

To Sirdeshmukh, Singh and Sabol (2002), benevolence is an important dimension in the trust explanation, as is characterized by state favorable actions to the consumer and that go beyond what is outlined in contracts or pre-established standards. Thus, they conclude that the "guidance for troubleshooting" as the last of the dimensions

preceding the trust and define this dimension as "motivations to anticipate and satisfactorily solve the problems that may arise during and after an exchange of services" (p. 18). That is, the authors state that the problems should be seen by the company as an opportunity to show its commitment to the service offered.

Based on the above about reciprocity and trust, it is believed that the reciprocation has an influence on the intentions of the subject in performing Barter operations. However, this relationship may be mediated and explained by the trust that the farmer develops the cooperative. In this sense, reciprocity can have a positive effect on trust, and the more reciprocal actions are performed, the greater the farmer's trust in the cooperative, and consequently, the greater the intentions in this perform Barter operations. Therefore, we present the guiding hypothesis of this research:

H1: Reciprocity has an indirect effect on the intention to carry out barter operations, mediated by the trust that the customer has in the cooperative.

3. METHOD

In order to analyze the mediation of trust in the cooperative in the relationship between reciprocity and the intention to carry out operations Barter, this research is characterized as descriptive, quantitative nature and cross section.

Members of an agricultural cooperative that performed Barter transactions in the last harvest as study population were considered. The ABC Cooperative has 5,000 members, and of these, 1,500 have performed Barter operations and 1,000 associates held Barter transactions in the last harvest. For the sample selection, we used the sampling technique non-probabilistic. Members were contacted by researchers and invited to participate. Thus, 133 associates agreed to participate and formed the final sample. Based on the defined population (1,000 members), and the amount of validated questionnaires (133), it is estimated that the sampling error is 8% and the level of confidence 95% (Santos, 2014).

Data collection was done through a survey with self-administered questionnaires. In the questionnaire to verify the trust of respondents regarding the cooperative, we used the scale presented by Sirdeshmukh, Singh and Sabol (2002). To measure the reciprocity we used the scale developed and validated by Pervan, Bove and Johnson (2007). And to assess the intention of conducting Barter transactions a questionnaire was developed by the study authors, from the readings made on the subject. All the questionnaires used a Likert scale with 7 points. Descriptive statistics of the scales is presented in Appendix.

After the preparation of the questionnaire, it applied a pretest to 12 members of the cooperative in order to verify that the questionnaire was a suitable language and how to fill is clear. No problem was diagnosed.

The data obtained in the survey were tabulated in an Excel spreadsheet and analyzed using the SPSS software (v. 20). To analyze the mediation, Zhao, Lynch & Chen (2010) state that, for a mediation is detected, the indirect effect of the independent variable on the dependent variable should be significant. Thus, mediation occurs even though the total effect (c) is insignificant. With the use of bootstrapping, the indirect effect is considered significant when the confidence interval (95%) does not contain zero, ie when such a range does not contain a null effect. For the indirect effect is found the paths between the independent variable and the mediating variable, and between mediating variable and the dependent variable should be significant. Furthermore, Zhao, Lynch & Chen (2010) also consider that mediation is complete when, in the presence of the mediator, the direct effect of the independent variable on the dependent variable is negligible; this being partial when such an effect is significant. Thus, mediation analysis was made following the procedures described by Zhao; Lynch and Chen (2010) through the scripts proposed by Preacher and Hayes (2004).

Before analyzing some statistical assumptions were verified. Data normality was verified by the Kolmogorov-Smirnov test; multicollinearity was analyzed by ad bivariate correlation; and homoscedasticity was verified by the Levene test. Data were considered suitable for the analysis could be performed.

4. ANALYSIS AND DISCUSSION OF RESULTS

4.1. Description of the sample

Of the 133 members surveyed, 93.1% are male; as the age of respondents, the average is 51.6 years ($\sigma = 11.1$ years), and the youngest surveyed is 23 and the oldest, 79 years; regarding the size of the farm, the average size is 375 acres ($\sigma = 479$ acres), and the lowest property has 17 acres and the largest 3,706 acres.

Among respondents, some are associated with the cooperative for 50 years, and the average association time is 19.6 ($\sigma = 11.6$ years) years. Also in relation to time, members perform Barter of operation for an average of 9.1 years ($\sigma = 6.4$ years), and the most experienced associated with operations of this kind for 32 years.

Regarding the financing of production, members responded that, on average, 40% of production is dependent on Barter operations. Dependence on bank finance is present in most of the farms studied, as 49.6% have bank financing, 33% in shares, and 17.2% do not have this type of financing. Also wondered whether the realization of the crop from its own resources. The associated questioned, 12.1% reported that they have their own resources, 19.6% do not possess, and 68.1% have own resources in parts.

4.2. Hypothesis testing

To test the hypothesis of mediation presented to the study, reciprocity was considered the dependent variable, trust the mediator and the intention to hold Barter operations was used as the dependent variable. The effect of the independent variable of the mediator variable was positive and significant ($a = .41$; $t = 7.50$, $p < .001$) in the same way that the effect of the reliance on the intention of performing operations Barter was also significant, and positive ($b = .41$; $t = 2.03$, $p < .05$). Although the total effect ($c = .16$, $t = 1.27$; $p = .20$) is not significant, the indirect effect was positive and significant ($a \times b = .17$, $z = 1.98$, $p < .05$). The confidence interval (95% with 5000 resampling) for the indirect effect did not include the value zero (.03 to .35), which could make no effect.

In turn, the direct effect of reciprocity intending to perform operations Barter ($c' = -.007$; $t = -.04$; $p = .962$) had no significant values. Thus, trust totally mediates the effect of reciprocity intending to perform operations Barter. Therefore, it is understood as reciprocity can affect the intent of the associated in performing this type of operation. This result supports the hypothesis 1 and is shown in Figure 1.

Insert Figure 1

To eliminate any alternative explanation that the reciprocity has a direct effect on the intention to perform operations Barter, when the trust is not present in the model, a linear regression analysis was performed. In this analysis reciprocity was considered the independent variable and the intention to hold Barter operations, the dependent variable. In this analysis, it was found that there is no significant relationship between the variables ($\beta = .11$; $t = 1.27$, $p = .20$). This result supports the effect that reciprocity perceived by the member intending to hold these Barter operations is completely mediated and explained by trust generated by reciprocity.

5. FINAL CONSIDERATIONS

Agriculture accounts for a significant portion of Brazil's GDP, and accounts for a large percentage of the country's workers. The objective of this study was to analyze the relationship between reciprocity and intent to carry out operations Barter, mediated by the trust in the cooperative. The research operationalized through a survey showed that there is a relationship between the measured constructs, especially the conclusion that reciprocity has an indirect effect on the intention to carry out operations Barter, mediated by the trust that the customer has in the cooperative.

The conclusion can highlight the close relationships that members have with the cooperative, evidenced by the high mean time association (19.6 years). This information suggests the consolidation of the relationship and its maintenance forecast with this cooperative, providing for the consecutive realization of Barter operations and the low probability of these operations with another cooperative.

In this line, the verified trust of members in relation to agricultural technicians and cooperative proved to be very close to 7 on the scale, the maximum possible answer. It is in this sense a study to further research as to the trust. It is suggested, therefore, to conduct a qualitative research that could inform in great detail the relationship of trust established.

With respect to reciprocity, the numbers also showed near 7 on the scale, indicating that the perceived reciprocity is high. Also, in this regard, conducting qualitative research is relevant, seeking to deepen the data already collected. Also, there is possibility of applying the questionnaire to the cooperative, trying to assess reciprocity from the point of view of this.

Future studies with other off-takers could enable a comparison between companies and cooperatives, since cooperatives operate with partners, indicating a greater proximity and customization. In addition, it is suggested the application of the theoretical model of this study to a larger number of members, including those who do not realize Barter operations, to compare the trust of associates who perform with those who do not carry out these operations.

Finally, the data presented demonstrate the theory underlying this study, showing that markets are social structures oriented logic of human interaction. It was shown that this Barter market, generating trust and reciprocity formats economic transactions, allowing us to conclude that even in apparently depersonalized relationships between producers and large corporations suppliers of inputs, mediators play a key role in the transactions occur.

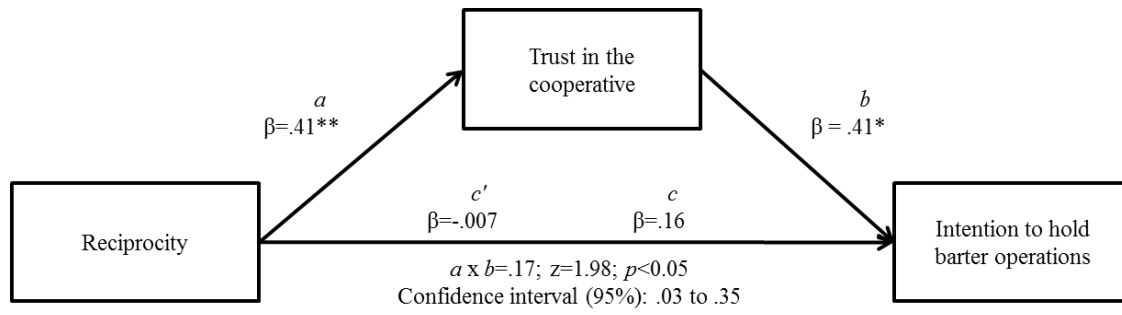
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Appendix 1 - Table 1 - Study Scales

Constructs / Indicators	Reability	Average (d.p.)
Reciprocity	.93	5.94 (.85)
Generally the relationship has equal benefits		5.42 (1.22)
There is balance in our relationship		5.78 (1.12)
There is equality in our relationship		5.74 (1.23)
Both parts receive and offer benefits over time		5.98 (1.04)
If any of us realize that we did an inadequate response seek to remedy the situation		5.95 (1.17)
We correct any problems that may have caused the other		6.12 (.98)
We communicate one another about problem caused any one another		6.14 (.89)
If any of us do not respond appropriately, always inform the other		5.97 (.88)
We are honest with each other about the problems that may arise		6.40 (.83)
Trust	.83	6.44 (.63)
I realize that the Cooperative is:		
Very unreliable / Very reliable		6.56 (.69)
Very incompetent / Very competente		6.44 (.88)
Very low integrity / Very high integrity		6.47 (.69)
Low responsiveness to requests from consumers / High responsiveness to requests from consumers		6.32 (.83)
Intention to hold barter operations	.66	3.78 (1.26)
I intend to conduct Barter operations next harvest		5.11 (1.84)
I intend to increase the amount of Barter operations next harvest		4.37 (1.82)

Figure 1 - Indirect effect of reciprocity



Obs.: * $p < .05$; ** $p < .001$.