Available online at www.fooddynamics.org

INTERNATIONAL JOURNAL ON FOOD SYSTEM DYNAMICS

Int. J. Food System Dynamics 7 (1), 2016, 50-65

DOI: http://dx.doi.org/10.18461/ijfsd.v7i1.715

Determinants of Sustainable Relationships in the Albanian Apple Production Sector

Blendi Gërdoçi[1] Engjell Skreli[2], and Drini Imami[3]

[1]*Faculty of Economy, University of Tirana, 1001 Tirana, Albania*
[2]*Faculty of Economics and Agribusiness, Agriculture University of Tirana, Albania*
[3]*Faculty of Economics and Agribusiness, Agriculture University of Tirana, Albania, and Affiliate Fellow at CERGE EI, gblendi@yahoo.com; eskreli@ubt.edu.al; dimami@ubt.edu.al*

Received September 2015 accepted January 2016, available online February 2016

ABSTRACT

This paper analyses the behaviour of Albanian apple growers and their relations with buyers based on a structured survey. We develop a model of relational governance that highlights the importance of sustainable (lasting) relationships and draws upon different theoretical frameworks such as transaction cost economics and social network theory and focuses on determinants of relational exchange. The findings support the social network argument that the presence of verbal agreements between business partners strongly and positively affects exchange relationships. Asset specificity and competition among buyers also affects such relationships. The results and their implications at the management and policy-making level are discussed in detail

Keywords. relational governance, verbal contracting, channel choice.

JEL codes: Q13, Q18

1 Introduction

Fruit production is one of the most important and fastest growing agriculture subsectors in Albania. The production of fresh fruit has grown by 38% since 2007 reaching 394,960 tonnes in 2013 (FAO, 2013). The orchard sector has also been considered a priority sector by the Albanian government (MAFCP, 2007; MARDWA, 2014).

In terms of cultivated area, apples are the most important fruit, followed by figs and grapes, respectively. On the demand side, household expenditures on apples are the second highest for all fruits and vegetables combined, after tomatoes (USAID's AAC, 2008). Some of the reasons for the importance and widespread production of apples are their easy long-term storage, the possibility of cultivation in different climate conditions and a long local tradition in terms of both production and consumption.

Apple production has increased more than five times in the period between 2000 and 2013 (Table 1). Moreover, apple production is expected to further increase in the coming years, because of the creation of new plantations stimulated by government subsidy schemes. These schemes have been introduced by the Ministry of Agriculture* due to a high domestic consumer demand.

*Until 2013 the full name of the Ministry of Agriculture was the 'Ministry of Agriculture, Food and Consumer Protection (MAFCP)'. Thereafter the name was changed to the 'Ministry of Agriculture, Rural Development and Water Administration (MARDWA)'.

Table 1.
Dynamics of production and gross supply of apples

Category		2000	2007	2010	2011	2012	2013
Production	Mt	12,000	36,000	54,604	56,000	71,300	62,065
Import	Mt	28,163	22,516	17,702	11,399	11,469	8,853
Export	Mt	0	147	1,097	2,323	4,309	2,569
Supply	Mt	40,163	58,369	71,209	66,399	78,460	68,349
Export/import	%	0.00%	0.70%	6.20%	20.30%	37.57%	29.02%
Production/supply	%	29.90%	61.50%	76.70%	84.30%	90.87%	90.81%
Import/supply	%	70.10%	38.60%	24.90%	17.10%	14.62%	12.95%

Source: FAO (production), UNSTAT (import – export)

Such dynamic developments in the sector have had an impact on the supply chain as a whole, its actors' behaviour and the relationships between them. The objective of this research is to analyse the determinants of exchange (trade) relationships between orchard farmers and their buyers, using transaction cost economics (TCE) and network theory (NT) perspectives.

This paper aims to provide both practical and theoretical contributions. In practical terms, insight into determinants of vertical coordination in the fruit value chain represents useful information for public policy makers and the most feasible option in support of vertical relationships; this is critical for a sector in expansion beyond the domestic market. The research seeks to provide a modest contribution to the scientific literature by 'testing the limits' of TCE and NT in a post-communist transition country with weak law enforcement institutions.

The paper is organised in six sections. Section 2 consists of a review of the theoretical background focusing on transaction cost economics and network theory arguments followed, in section 3, by a general description of the business relationships between farmers and different categories of buyers, depending on the marketing channel used by famers. Based on theoretical considerations and the overview of exchange relationships presented in section 3, Section 4 analyses the method used and the empirical model proposed by the authors. Section 5 reflects on the empirical research findings, whilst section 6 provides the discussion, conclusions, further research recommendations and limitations of the study.

2 Theoretical background

2.1 Transaction cost economics

Transaction cost analysis (TCA) is one of the most frequent theoretical frameworks applied in research on business relationships (Heide, 1994). Transaction cost economics (TCE) focuses on opportunistic behaviour as a constant in transactions between buyers and suppliers, and its variation can be explained by the characteristics of transactions (1) the level of uncertainty, (2) the likelihood of recurrence, and (3) the degree of asset specificity (Williamson, 1979). Within the framework of TCE, supplier-buyer relationships should be structured in such a way as to minimize transaction costs (Williamson, 1975, 1993a, b).The structure of governance ranges from (spot) market relationships to vertical integration or hierarchy with hybrid governance forms (contracts) in between (Williamson, 1979, 1999).

The trend in governance has, in recent years, been moving toward the adoption of bilateral tools of governance (Heide, 1994). This bilateral approach to governance has been described as networks (Powell, 1990), strategic alliances (Achrol, 1991), hybrids (Williamson 1991), and relational exchange (Dwyer, et al., 1987), cooperatives (Ménard, 2007), and vertical coordination (Stern and Reve, 1980). Alternative means of ensuring and empowering hybrid transactions include trust, reputation, and financial hostage (Klein, 1980; Dyer, 1996). Hybrid or intermediate forms of governance are seen as a valid alternative to hierarchy since both partners can limit opportunism by cooperating with each other. The advantages of cooperation exceed gains from market competition while autonomous units provide more flexibility (Ménard, 2012). Such a view is in line with the theoretical reasoning in network theory (e.g. Powell, 1990; Uzzi, 1996).

2.2 Network theory

Network theory applies a wider perspective to the study of relationships compared to the dyadic approach of TCE since it takes into account the social context in which firms operate. Conceptually, a

network consists of a large number of actors and the nature of relationships that tie them together (Iacobucci and Hopkins, 1992), including both horizontal and vertical relationships. Networks can be considered as an independent coalition of economic entities that operate without hierarchical control embedded in a shared value system that define membership roles and responsibilities (Achrol and Kotler, 1999). Sociologists like Granovetter (1985) suggest that the network perspective should be carefully considered since social structure has an impact on the economic activity of firms and the outcome of transactions. This conception of networks has an impact on governance mechanisms and the instruments applied to enforce them. Investigating such mechanisms sheds light into the different relationships between buyers and suppliers embedded in social networks.

2.3 Social networks, contractual governance and alternatives

By embedding itself in networks, a firm creates new opportunities for intermediate forms of governance. The rather simplistic choice between contract bidding and administrative fiat appears unsuitable when alternative and 'cheaper' governance mechanisms can be adopted. Contractual governance, as agreements reached by parties to reduce risk and uncertainty in exchange relationships (Hughes, 1994), could constitute a useful instrument for regulating such relationships, among others..

The formal contract represents pledges and promises to perform specific actions in the future (Macneil, 1978), hence protecting firms from opportunistic behaviour of their partners (Williamson, 1975). Contracts also serve as a coordinating instrument, clarifying mutual expectations and establishing a basis for shared common ground by defining rules, roles and responsibilities (Das and Teng, 2004). Empirical studies support the arguments that standardized contracting is an instrument the purpose of which is to overcome the problems of uncertainty (Poole et al, 1998).

In the agriculture sector, contract farming is a significant institutional arrangement that facilitates market access for smallholders, especially when the transaction costs of direct market participation are high for producers and/or traders (Costales and Catelo, 2008). The evidence also suggests that larger farms prefer formal contracts, whereas informal contracts are more accommodating to the needs of smallholders (Fafchamps and Lund, 2003; Grimard, 1997). However, formal contractual relationships are less frequent when there is little trust in legal enforcement (Bakucs et al., 2010). In the case of weak law enforcement institutional framework, farmers often prefer informal and self-enforcing arrangements (Jabbar et al., 2008; Bouis and Haddad, 1990). Furthermore, small farms rely more on reputation mechanisms and on network contacts to support such mechanisms instead of detailed (formal) contracting (Nooteboom, 1999). On the other hand, theorist like Williamson (1985) argue that as exchange hazards rise so must contractual safeguards turning contracts into a rather difficult and expensive device. Additionally, contracting is just one of the devices to structured hybrid governance (Ménard, 2012). Trust, reputation and verbal agreements constitute valuable mechanisms when legal enforcement is missing and relational ties emerge such as in the case of the Albanian apple sector.

2.4 Relational governance – converging network and transaction cost arguments and defining determinants

The network, in which exchange relationships occur, can have a strong influence on business partners' behaviour and the outcome of the exchange itself. Repeated exchanges in embedded relationships protect against transaction hazards by encouraging cooperative behaviour that enables the selection of trustworthy (trade) partners (Poppo and Zenger, 2002). These forms of cooperative, relational exchange are based on a social component, largely represented by trust (Macneil, 1978). Trust characterises relational ties that constitute an essential ingredient in many business relationships. Additionally, the nature of networks in which Albanian apple farmers operate is characterised by a great number of ties between farmers and local collectors, granting farmers access to a significant amount of information. In high density networks, information and resources spread quickly and efficiently because of the many interconnections between network members (Coleman, 1990). In relational-governed exchanges involving access to information, reputation and trust between partners, informal agreements limit opportunism and enable the enforcement of obligations and promises.

The sociological and network literature focuses more on long socialization processes as a factor leading to durable, lasting and sustainable business relationships, with little attention being paid to other determinants such as specific assets, level of uncertainty and competition in shaping such relationships. Investing in specific assets can be viewed as a "credible commitment" to the relationship (Williamson 1983, 1985). Bilateral relations can be crafted by means of a reciprocal "hostage exchange," in which two parties make "separate but concurrent investments in specific assets" (Williamson 1983, p. 532). Such strategies can help to create a self-enforced agreement between the parties involved in a transaction. Furthermore, perceptions of high levels of environmental uncertainty may negatively affect the

willingness of exchange partners to invest in the long term sustainability of the relationship (Joshi and Campbell, 2003). Moreover, competition can affect the willingness of both buyers and suppliers to commit themselves to durable exchange relationships, depending on the level of uncertainty (Walker and Weber, 1987). It appears that a combination of TCE and network arguments in investigating embedded business relationships provides a deeper understanding of relationship dynamics.

Based on the theoretical background discussed above, we analyse the influence of various aspects of the TCE framework such as specific assets uncertainty and determinants derived from both TCE and network theory, including verbal contracting and competition between buyers in sustained business relationships. Our analysis considers other factors such as marketing channels used by farmers, focusing on their participation in sustainable embedded transactions, helping to better define the dynamics of the various modes of governance in the apple sector.

3 Market channels and business relationships

Farmer – local collector channel

Local collectors are important actors in the fruit value chain. The significant increase in domestic production has certainly encouraged local apple wholesalers, and especially larger farmers (who often act as traders), to invest in cold storage warehouses. Although their principal market function is to serve as collectors by aggregating and selling produce, their role is becoming increasingly important in coordinating the chain upstream, given that farmers tend to relate to local actors who they know (and trust).

Farmer – wholesaler channel

The role of the (larger) wholesalers as “chain captains”, at least in this sub-sector, is diminishing due to the increased power of local collectors. However, they continue to exercise a degree of control in their outlet channels due to experience and long-standing collaboration 3.3 with many retailers.

Farmer – exporter channel

The function of the exporter is usually carried out by importers, or by one of the above categories of players, and often on sporadic basis. It may also be assumed by traders from the region who come and import directly from Albania. The standards required by export markets constitute a major challenge for farmers. The wholesalers and local collectors that are striving to “upgrade” to export market requirements increasingly seek to coordinate their efforts with selected farmers to meet such requirements. This is becoming an imperative for such actors due to the saturation of the domestic market.

Farmer – processor channel

There are no reported data on the number of processors, and related quantities of apples processed. According to the authors’ observations in the market, however, apple processing is a minor activity for only a few processors (just two relevant cases have been identified). According to Imami et al (2013), only a small share of apples is sold to processors (ca 5%), and an even smaller share is processed on farms (less than 1%). Therefore, at present, processors do not represent an important channel of sales for apple farmers.

Farmer – retailer channel

Supermarket chains were introduced only recently in Albania (in mid 2000). At present, supermarket chains play a minor role in fruit sales – only 5% of consumers in Tirana (the largest city in Albania) mainly buy apples at supermarkets (Imami et al, 2012). This figure is lower in smaller towns, where supermarket chains are not yet the norm. Supermarket chains are typically supplied by wholesalers. At the retail level, most fruit and vegetables are sold in (specialised) *green markets* (GTZ, 2010). In fact, most consumers (56%) in Tirana buy apples in such green markets (Imami et al, 2012). Greenmarket retailers are typically supplied by wholesalers, but there are also cases of direct supply from farmers, while farmers often sell their produce directly to consumers in the greenmarket. Furthermore, there are *convenience shops* in every neighbourhood and close to every large residential building that sell fresh fruit and vegetables. To conclude, most small retailers are supplied on the wholesale market, buying mainly from wholesalers and eventually also from farmers (Imami, 2011).

4 Research hypothesis, methods and materials

Research model and hypotheses

Determinants from the transaction cost perspective

We consider two key determinants of transaction costs in this section – the degree of asset specificity and perceived uncertainty related to price and product specifications.

Asset specificity

Asset specificity refers to durable and specialised investments that are undertaken in support of particular transactions that have limited value for alternative uses. The presence of specific assets constitutes an important factor for a buyer or supplier in pursuing a higher degree of coordination as a safeguard from asset expropriation (Williamson, 1985).The problem of safeguarding specific assets could be a serious one for many Albanian farmers, especially in those areas with few potential buyers. If farmers lack an alternative market for their produce, hold-up by the local consolidator poses a considerable threat although not as considerable as in the case of perishable products such as milk or some fruits (e.g. cherries), etc. We focus on the risk of farmers' exposure to eventual opportunistic behaviour, arguing that higher levels of asset specificity increase requirements for a coordinated form of governance. Thus, we expect a positive effect of asset specificity on sustainable (lasting) exchange relationships:

H1. Investments in specific assets are expected to be positively associated with the likelihood for farmers to establish sustainable (lasting) relationships with their buyers.

Uncertainty can be related to the inability to predict partner behaviour or changes in the external environment. Behavioural uncertainty, in particular, creates the problem of performance evaluation, leading to an increase in transaction costs and renegotiation of contract terms (Rindfleish and Heide, 1997). Organisations' efforts to minimize transaction costs arising from uncertainty may lead to the development of internal governance structures (Williamson, 1985, John and Weitz, 1988) or vertical coordination under low levels of asset specificity (Buvik and Gronhaug, 2000).

In agriculture sectors, and in particular the apple sector, performance evaluation is problematic since the quality attributes of products are subjective, hence giving rise to uncertainties among buyers and farmers. Higher levels of uncertainty are expected to increase coordination between business partners. We test this assertion through the following hypothesis:

H2. Increased uncertainty increases the likelihood for farmers to establish sustainable (lasting) relationships with buyers.

Determinants from the network theory perspective

Based on such a conceptual outlook of networks, and evaluating carefully the research settings, we consider two key determinants of networks: (a) verbal contracts as an expression of responsibility, mutability, trust and coordination complementing relational governance and (b) competition between buyers.

Verbal contracts – expression of embedded transactions

In the Albanian apple sector the fragmentation of production, high costs of formal contracts and the difficulty in measuring performance are some of the reasons why farmers and local collectors use informal contracts as instruments to govern their relationships. In such conditions, formal contracts are not deemed to be the most feasible device to control and coordinate exchange relationships. Hence, a legitimate question may be the following: what is an appropriate substitute to formal contracts for the safeguarding of transaction? If verbal contracts are the answer - what is the nature of such mechanisms?

Relational governed exchange, as an alternative to contract governance, can mitigate hazards associated with performance measurement and uncertainty. Relational governance can reduce environmental uncertainty and lower adaption costs in buyer-supplier relationships (Noordewier et al., 1990). Furthermore, as empirical evidence suggests, relational ties based on trust can have an impact on contract enforcement (whether verbal or written contracts) hence reducing behaviour uncertainty. Examining the apple sector in Shandong province (China), Cai and Ma (2015) found that contract enforcement choice is significantly influenced by transaction costs, as well as by farmers' cognition trust to the exchange partners. Empirical research in the Albanian medicinal aromatic sector concluded that increased trust and lower behaviour uncertainty have a positive effect on the enforcement of verbal agreements and leads to sustainable (lasting) exchange relationships (Gerdoçi, 2014). We argue that verbal agreements represent

not only the mechanisms that strengthen relational ties but also constitute the proof of the existence of such relations.

The presence of verbal contracts is also an indication of coordination between exchanging partners. Empirical research confirms the link between sustainable exchange relationships and the coordinating aspects embodied in verbal contracts. Focusing on buyers, Ali and Kumar (2015) investigated verbal contracts between farmers and contractors, comparing risky pre-flowering mango contracts with more beneficial post-flowering ones. The author found that management-related contract characteristics such as contract enforcement mechanisms, contracting pricing and duration are less likely to affect the decision of contractors to enter into post-flowering contracts. The results indicate that contractors who place comparatively less importance on management related characteristics (forms of coordination), are more likely to enter into post-flowering contracting. Underlying the role of effective communication and personal bonds between buyers and suppliers, Reynolds et al., (2009) found that these factors are key determinants of sustainable business relationships.

Hence, we argue that verbal contracts represent not only an expression of trust and personal bonds but also mutual commitment and in many cases coordination between business partners. Thus, we expect informal contracts to have a positive effect on sustainable relationships between farmers and their buyers:

H3. Presence of verbal contracts as forms of agreements/coordination increases the likelihood of farmers establishing sustainable (lasting) relationships with buyers.

Based on TCT, the external environment is usually encapsulated within measures of competitiveness based, on the assumption that the lower the competition the more likely a firm will be exposed to "small numbers bargaining" (Williamson, 1985). There is a clear relation between competition and environment uncertainty. As uncertainty regarding a buyer's future requirements increases, as well as corresponding potential adjustment costs for suppliers, buyers are more inclined to adapt hierarchical forms of governance to mitigate hazards of opportunistic behaviour (Williamson, 1975). Based on this assumption, we expect that the greater the competition between buyers, the more likely farmers are willing to behave opportunistically. We test this assertion through the following hypothesis:

H4 Increased competition between buyers is negatively associated with likelihood for farmers to establish sustainable (lasting) relationships with buyers.

Figure 1 provides a schema of the research model of sustainable relationships (observed through repeated exchanges) and their determinants.

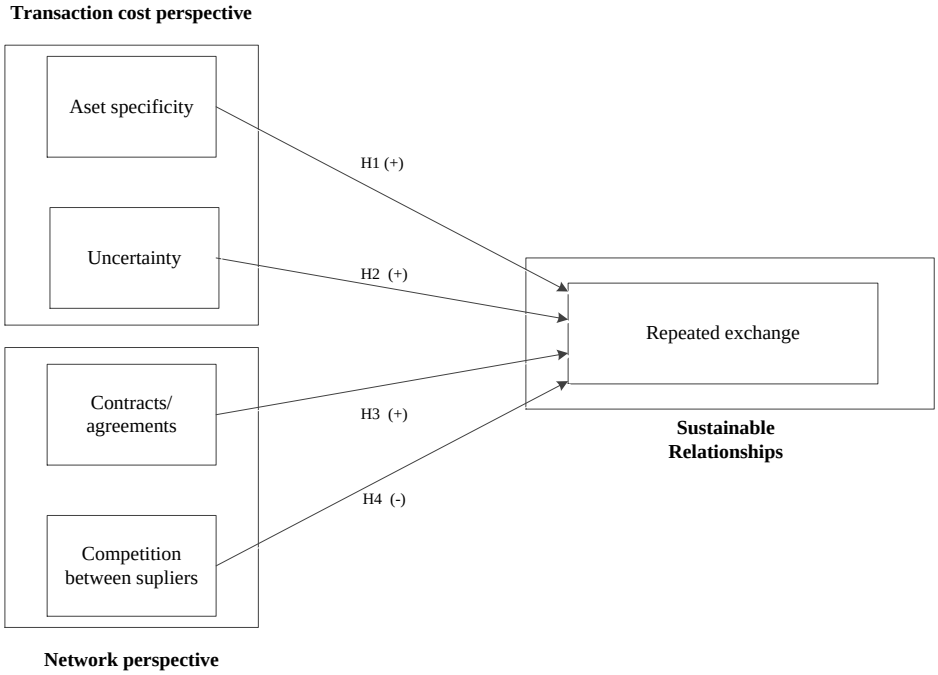

Figure 1. Research model of transaction costs and network determinants of sustainable relationships

Data

This paper is based on a survey of orchard farmers specialised in apple production and in-depth exploratory interviews with farmers and their buyers. The survey was conducted by way of a structured questionnaire that was designed based on an extensive literature review, in-depth interviews with network actors and consultations with agricultural economists, scholars and practitioners. The questionnaire was initially tested on selected farmers and further improved after testing. The survey instrument collects basic information about farm structure and production, farm household demographics, relations with buyers as well as farmer perceptions regarding the enabling environment and other related information needed to test the study hypothesis.

The data were collected by interviewing 182 orchard farmers in the main apple production areas in Albania (namely, Korce and Diber); the sample size lead to a margin of error of 7% (Israel, 1992). Due to the lack of an apple farmer list/database, a haphazard selection of farmers was used - farmers were approached randomly in the villages, neighbourhoods, streets, etc. Almost all of the farmers that were approached participated in the survey. The structured survey was carried out during April-May 2013 in the largest orchard (apple) producing regions in Albania, namely Korçë (situated in the South) and Peshkopi (situated in the North). Most interviews were carried out in Korça (Table 2) since it counts for more than half of the country's apple production (GTZ, 2010). One hundred and eighty (180) questionnaires were subject to further analyses (2 were disregarded due to missing data).

Furthermore, 7 in-depth (with open-ended questions) interviews with agronomists, wholesalers, local collectors and farmers were also conducted by the authors of this paper to increase their understanding of the governance dynamics in this sector, which depends on the marketing channel selected by farmers. This provided additional inputs for the design of the structured questionnaire too.

About two-thirds of the interviewed farmers have orchards that are larger than 0.5 ha. In terms of representativeness, it is estimated that the study sample covers a considerable share of the larger farm segments. The sample includes a few small farms (up to 0.2 ha, according to our classification) (Table 2).

Table 2.
Distribution of the farm population and sample according to orchard size

	Population		Sample		Sample/
Ha	Freq.	Share	Freq.	Share	population
0 – 0.2	43,086	70.6%	10	5.5%	0.0%
> 0.2 – 0.3	6,034	9.9%	21	11.5%	0.3%
> 0.3 – 0.4	4,766	7.8%	12	6.6%	0.3%
> 0.4 – 0.5	3,115	5.1%	20	11.0%	0.6%
> 0.5 – 0.75	2,243	3.7%	27	14.8%	1.2%
> 0.75 – 1	1,321	2.2%	38	20.9%	3.0%
> 1 – 1.5	449	0.7%	37	20.3%	8.2%
> 1.5 – 3	36	0.1%	17	9.3%	47.2%
Total	61,050	100%	182	100.0%	0.3%

Source: Field survey (for the sample), Ministry of Agriculture Food and Consumer Protection (MAFCP), Statistical Sector, upon request (national population).

The questionnaire was designed to operationalize the constructs discussed in the *Research Model and Hypothesis* section and summarized in Table 3. The following information was collected: relationships between suppliers and buyers (sale to the same or different buyer), reasons for selling to the same buyer (secure market, trust, fair prices, closer economic and financial relationships, inertia, shorter distance, agreement, quick and secure payment), price and product characteristic uncertainty, contracting and reasons for the lack of formal contracts, asset specificity (farming experience, cultivated area, production and income, assets and investments), level of cooperative action, competition among farmers, and competition among buyers. Other relevant information was also included in the questionnaire such as: demographics (age, education, gender, household size, and main employment), marketing channel chosen by farmers, time and form of payment, transport time and costs, information and negotiation costs.

Measurements

Details of the constructs and the operationalization of variables are provided in Table 3 and are discussed below.

Sustainable relationship

Following Klein(1996), and consistent with the conceptualization of relational ties as the means of determining a supplier's dedication to its buyer, we measure this construct in terms of repeated exchanges with one or more selected buyers. This is also consistent with the empirical research of John and Weitz (1988) and Zaheer and Venkatraman (1995) who used similar measures. We use a dummy variable to measure repeated exchanges. The variable takes the value 1 for "sell to the same buyer/s" and 0 for "sell to different buyers".

Specific assets

Although the concept of specific assets is clear, the operationalization of specific assets, especially in the farming sector, could end up being more complicated. Fertő and Szabó (2002), in their investigation of the vegetable sector, examine the effect of specific assets on the type of selling channel chosen by farmers. They operationalized specific assets as investments made, intention to invest and human specific assets by using age and level of education as proxies. On the other hand, resource-based theory (RBT) sustains that advantages from asset ownership can endure for certain periods of time and can also arise from owning assets that are valuable, rare, inimitable and non-substitutable (Barney, 1991). Based on this theoretical conceptualization, and following the empirical research of Fertő and Szabó (2002), we focus on specific assets, respectively as the contribution of apple cultivation to the family income and experience in farming. We argue that the more farmers are dependent on their income from this activity, the more they consider cultivated surfaces as specific valuable assets that are the sole means of ensuring their livelihoods. The contribution of the main activity to the family income is measured by *Contribution_income*, a variable measuring the percentage of income from apple cultivation to the total income. Meanwhile, experience in farming can be associated with other characteristics of specific assets, i.e. rarity and inimitability. Experience in farming is measured by *Experience_farm*, a single scale variable indicator measuring years of experience. The significant standard deviation (6.567 years) compared to the mean (12.16 years) provides some significant evidence of potential differences between farmers, in terms of know-how and experience accumulated, strengthening the possibility of an eventual effect on the nature of the relationship with their buyers.

Uncertainty

As discussed, we believe that high levels of uncertainty will prevent the channel member's commitment to a sustainable relationship. By investigating the relationship between farmers and their buyers we identify behaviour uncertainty as the main cause of overall uncertainty. Following Zaheer and Venkatraman's (1995) conceptualization, we operationalize behavioural uncertainty with two indicators related to uncertainty regarding pricing and product specifications. Considering pricing as an indicator that can be influenced by other factors, it can be argued that it can partly measure the environment uncertainty. But, taking into account the dense networks in this sector, and the overall availability of information, we can argue that eventual opportunistic buyer behaviour can be mostly associated with uncertainty regarding price. This assumption is validated by the very good result of the reliability test, *Cronbach Alpha* at 0.897.

Competition between buyers

The perception of competition between buyers is measured by a single scale variable indicator - *Competition_buyers*, taking values 1 "very low" to 5 "very high".

Size a control variable

Empirical research on governance using the transaction cost approach has often included size as a control variable (e.g., Zaheer and Venkatraman, 1995), since large suppliers are more reluctant to be "locked" into exchange relationships with one buyer. However, we do not hypothesise a direction for this variable in our model, but rather include it as a control variable.

Table 3.
Details of constructs and measures

Construct and Concept	Operationalization	Number of items	Measurement
Dependent variable			
Sustainable relationship	Repeated exchange	1	*Dummy*, 1= sell to the same buyer/buyers , 0= spot market exchange
Independent variable			
Specific assets	1. Contribution to main income 2. Experience in farming	2 separate indicators	Scale, percentage of income and number of years
Verbal contract	Presence of verbal contracting related to price and product specifications	1	*Dummy*, 1= verbal contract, 0 = no contract
Uncertainty	Uncertainty related to: 1. Price 2. Product specifications	2	Ordinal scale (low-high, 3-points scale)
Competition between buyers	Perception of competition between buyers	1	Ordinal scale (low-high, 5-points scale)
Control variables			
Size	Produced quantity as a *proxy* for size	1	Apple production (kg/year/farm)

Source: Authors' elaboration

Empirical model

A binary logistic regression model is used to estimate the farmers' likelihood to engage in exchange relationships that are consistent with relational governance. This model was selected considering the dichotomous nature of the dependent variable (Hosmer and Lemeshow, 1989).

This model has the following form:

$$Ln(\frac{P_i}{1-P_i}) = a + b_i x_i + e \quad (1)$$

Where P_i is the probability that supplier *i* is engaged in exchange relationships that can be considered as sustainable; $1\text{-}P_i$, the probability that the supplier *i* engages in spot market exchanges; *a*, a constant; x_i the variables standing for independent variables, specific assets, verbal contracts, competition between buyers, and uncertainty; and b_i vectors of parameters to be estimated.

The odds ratio will be given by the equation below:

$$\frac{P}{1-P} = e^{a+b_i x_i} \quad (2)$$

The odds ratio for the case at hand should be interpreted as follows: a one unit change in the asset specificity increases the ratio of probability that a supplier engages in exchange relationships that can be defined as sustainable by e^{b1} to probability that farmers engage in spot market exchanges.

5 RESULTS

5.1 Descriptive statistics results

Apple production represents an important economic activity for the area investigated. More than half of family income (58.7%) is from apple production (Table 4); it ranges, however, from a minimum of 5% to 99%, in exceptional cases, representing almost full specialisation,. The first quartile is 40%, meaning that for the lowest 25% "ladder", the contribution of apple production to family income is less than 40%. The third quartile, for its part, is 80% meaning that for the highest 25% "ladder", apple contribution to family income is greater than 80%.

Table 4.
Contribution of apple production to family income

Mean	Minimum	Maximum	Percentile 25	Median	Percentile 75
58.7	5.0	99.0	40.0	60.0	80.0

Source: Field survey

Apple farmers in Albania tend to sell to the same buyers; more than half of farmers included in the survey (50.5%) state that they sell mainly to the same buyer (Table 5).

Table 5.
Farmers' stability in sale relationships

	Frequency	Percent	Valid Percent	Cumulative Percent
Sales to the same buyer	92	50.8	50.8	50.8
Sales to different buyer	89	49.2	49.2	100.0
Total	181	100.0	100.0	

Source: Field survey

Farmers mainly sell to local collectors – an important value chain actor represented mainly by large farmers who have invested in cold storage infrastructure. Slightly less than half of interviewed farmers (48.4%) sell their fresh produce to local collectors, and more than one-third of them (34.6%) sell to more distant wholesalers who, in previous years, were the main actors.

Farmers have more stable relationships with local collectors, underscoring the role played by social ties in building sustainable exchange relations. This fact is confirmed by the stated reasons for selling to the same buyer (in order of importance), namely: (1) the buyer represents a secure market, (2) personal trust, (3) the buyer ensures secure and quick payment, and (4) fairer product prices. Furthermore, local collectors engage in field observations as a method of ensuring quality control, hence suggesting a higher level of coordination.

As expected, formal (written) contracts are not common. However, informal agreements exist – about 20% of the farmers interviewed apply largely informal agreements (Table 6).

Table 6.
Contracting relations by type of clients

Category		Contracting/agreement				Total
		No answer	Written	Unwritten	No contract	
Wholesalers	Count	0	0	11	52	63
	%	0%	0%	17%	83%	100%
Local	Count	0	0	23	65	88
Collectors	%	0%	0%	26%	74%	100%
Other	Count	1	1	2	26	30
	%	3%	3%	7%	87%	100%
Total	Count	1	1	36	143	181
	%	1%	1%	20%	79%	100%

Source: Field survey

Investments in cold storage infrastructure motivated by sector profitability, and also recent public support, have contributed to the development of downstream businesses. These businesses now face rather tough competition. More than two-thirds of farmers (66.9%) (Table 7) perceive "average

competition" to "very strong competition" among downstream actors.

Table 7.
Competition among downstream actors

	Frequency	Percent
No competition at all	10	5.5
Weak competition	50	27.6
Average competition	64	35.4
Strong competition	45	24.9
Very strong competition	12	6.6
Total	181	100.0

Source: Field survey

5.2 Empirical model results

Although the descriptive analysis provides some good hints in identifying determinants of sustainable relationships, the model analysis and in-depth interviews provide a deeper understanding. Table 8 summarizes the results of the logistic regression for the significant relations between independent and dependent variables only. The *Hosmer* and *Lemeshow* test shows p>0.05, ensuring the validity of the model (0,526). Around one-third of the variance can be attributed to the independent variables (*Nagelkerke R Square* is 0,316). Classification tables show that the model predicts 70.6% of cases, against 51.1% for the initial classification table. By analysing production size as a control variable, as well as the rest of the predictors (by including them in the analysis in separate blocks), we conclude that there is no significant variability in the relationship between predictors and depending variables due to the effect of the control variable. This effect is statistically insignificant. While this variable is significant when its relationship with the sustainable relationship is tested in the first block (Exp (B) =1,003), it proves to be insignificant when tested in the model in the second block. In depth interviews confirm divergent behaviour of farmers that produce large quantities of apples; some tend to be more opportunistic, exercising their bargaining power, whilst some others prefer to have a secure market. The following interpretation is based on the final results of our analysis:

Hypothesis 1 is supported only for one of the variables measuring asset specificity. The contribution of income from apple production to the total income as a *proxy* of asset specificity is positively and significantly associated with sustainable relationships. The parameter Exp(B) for *Contribution_income* is 1,017, hence statistically significant at p<0.05 (Table 8) and demonstrating that farmers that earn most of their income from apple cultivation are slightly more "keen" to engage in sustainable and long-term relationships (the standard deviation is significant at 28%, with a mean of 58.7% substantially increasing the odds). The likelihood of engaging in sustainable relationships versus spot market exchanges - the odds ratio (P/1-P) - increases by 2.5 times[†] when switching from apple contribution to the family income minimum value of 5% to an average value of 58.7% and by 4.9 times when switching from a minimum value to a maximum value of 99% (Table 4). It is therefore clear that although Exp(B) is small, given the farmers' distribution in terms of apple contribution to family income, the effect of specialisation is quite substantial.

Table 8.
Results of the logistic regression

Variables in the Equation	B	S.E.	Wald	p-value	Exp(B)
Production size	,001	,001	,619	,431	1,001
Contribution_income	,017	,007	6,219	,013*	1,017
Experience_farm	-,006	,027	,047	,828	,994
Uncertainty	-,340	,268	1,611	,204	,712
Contract_dummy	2,317	,591	15,387	,000**	10,149
Competition_buyers	-,344	,174	3,898	,048*	,709
Constant	,293	,959	,093	,760	1,340

**p<0, 01, *p<0, 05 Source: Authors' calculations

[†]Given Exp (B) of 1.017 and the difference between average and minimum apple contribution to family income of 53.7% (58.7% - 5%), the odds ratio increases by 2.4 times ($1.017^{53.7}$). The same applies when switching from minimum to maximum apple contribution to family income

Meanwhile, the hypothesis positing a positive relationship between experience in farming and relational governance was not supported, as it is not statistically significant (Table 8).

Hypothesis 2 is rejected. This hypothesis, positing a positive relationship between uncertainty and sustainable relationships, was not supported; it is not statistically significant (Table 8).

Hypothesis 3 is supported. As hypothesised, the presence of verbal contracts as forms of agreements/cooperation is positively and significantly associated with sustainable relationships. The parameter Exp (B) is 10,149 and statistically significant at $p<0.01$ (Table 8), showing that farmers engaging in verbal contracts with buyers are 10 times more likely to engage in sustainable relationships with their buyer/s rather than spot market exchanges. Qualitative research confirms increased collaboration between farmers and local collectors, in particular when their relationships have matured to verbal or "gentlemen's" agreements. Local collectors tend to be reliable markets for many farmers who, in some cases, tend to follow buyers' instructions regarding plant nutrition, harvesting and post-harvesting procedures and farmers tend to prefer buyers with whom they have an verbal agreement. When farmers are offered higher prices by other buyers they tend to seek a solution with a preferred buyer before abandoning the preferred relationship (and usually find one).

Hypothesis 4 is supported. Perceived high levels of competition are negatively and significantly associated with sustainable relationships. The parameter Exp (B) is 0,710, statistically significant at $p<0.05$ (Table 8), shows that farmers are less likely to engage in sustainable relationships with their buyer/s under conditions of high perceived competition between buyers. The likelihood of establishing sustainable relationships with buyers versus spot market sales, or odds ratio (P/1-P), twofold twice - from 0.71 to 0.36 - for farmers perceiving very strong competition compared to farmers perceiving weak competition among buyers. Such situation is confirmed by interviews with buyers who affirm that "a lot of bargaining" takes place with farmers during the "short period" of harvesting due to the presence of many potential buyers.

6 Discussions and conclusions

The study investigates the determinants of sustainable relationships between farmers and their buyers in Albania – a post-communist transition country. The results validate some TCE propositions related to asset specificity and network theorists' arguments sustaining that interactions embedded within close ties will yield sustainable relationships (e.g., Granovetter, 1985; Powell, 1990).

Consistent with TCE, the research found that farmers' propensity to cooperate with buyers is positively associated with investment in specific assets measured by a percentage of income used as a proxy for specific assets. The effect proves to be non-trivial (considering the significant standard deviation and its effect on the odds value), hence underscoring the relevance of farm specialisation and its impact on business relationships. *It seems that specialised Albanian farmers tend to be more inclined to engage in sustainable relationships. This result has some interesting implications since the number of such farms in this sector is increasing steadily.* Yet, our research does not provide sufficient insight into the effects of specialisation associated with large production capacity on exchange relationships. The evidence of increased bargaining power on the part of large farmers raises some questions related to the type of mechanisms, other than relational ties, used to safeguard specific assets from opportunistic behaviour. Some of the findings seem to be valid for other value chains in the Albanian context, as supported by Gerdoçi (2014) who argued that investment in specific assets by farmers operating in the medicinal and aromatic plant sector are positively associated with their willingness to cooperate with other downstream actors.

Our results are less consistent with the TCE framework with regard to whether suppliers select relational exchanges in response to increased levels of uncertainty. Focusing on behaviour uncertainty, the present research operationalized uncertainty with two items that proved to be reliable in measuring the level of uncertainty, but failed to prove a significant relationship with sustainable relationships. This result contrasts with previous research (Gerdoçi, 2014) focussing on a different sector, which confirmed the role of uncertainty as a quasi-moderator for sustainable (lasting) relationships. Further research focused on a deeper disaggregation of the construct based on the sub-sector context, seeking to separate the effects of both environment and behaviour uncertainty, should be explored. *Additionally, testing the hypothesis at a later date, considering uncertainty as a dynamic (changing with time) variable, could also prove insightful in understanding the relationship between uncertainty and sustainable (lasting) relationships, given that the Albanian fruit sector is prone to uncertainties related to domestic market saturation.*

Our empirical test confirms the network theorist argument that embeddedness is an important factor in explaining exchange relationships (Granovetter, 1985). *The strong link between informal*

contracts/agreements and sustainable relationships, and especially the role local consolidators, confirms that agreements based on trust, mutuality and discrete levels of coordination constitute the leading factor in shaping sustainable relationships. Interviews confirmed the developing nature of such mechanisms, ranging from personal trust and "given word" to the coordination of efforts, information exchange and support by buyers. Further research on the nature of such agreements could prove to be particularly relevant from both a theoretical and practical perspective. On the theoretical level, investigating the direct and indirect effects of such agreements on sustainable relationships, and levels of uncertainty and trust,could provide insights into developing constructs that measure different facets of the informal contracts/agreements. From a practical standpoint, understanding the various levels of commitment that such agreements imply would be very helpful for buyers in the development of sustainable relationships.

Our results indicate that an increase in the perceived level of competition between buyers constitutes a significant determinant of relational governance. This result is consistent with TCE main prepositions on opportunism as a constant feature of business relationships and the findings of Walker and Weber (1987) on the role of competition. *The implications are particularly interesting for buyers who need to coordinate better with their supply base to avoid volume and market uncertainties in an increasingly environment.* Further research using uncertainty as a moderator can shed some light on the role of competition under different levels of uncertainty.

The research findings have both policy and managerial implications. On the policy level, the results support the notion that farmers who depend more on apple production are more inclined to establish more stable relationships with chain actors downstream. Therefore, it is important that any government or donor programme that is intended to strengthen vertical coordination in the apple value chain *consider, above all, those "specialised" farmers with dependence on orchard farming.* In-depth interviews confirm that vertical chain organisation works better when actors downstream work with groups of farmers rather than with individual farmers. In this context, any government intervention or donor agency intervention may consider *establishing public-private partnerships – key value chain actors (local collectors, exporters) and farmers assisted in groups by public extension services - with the objective of strengthening both vertical cooperation and cooperation amongst farmers*. At the managerial level, it is expected that farmers' opportunistic behaviour, induced by perceptions of high levels of competition downstream, should motivate businesses downstream – mainly local collectors and wholesalers – to establish stable relationships with farmers should they target new markets or markets with differentiated apple products. Meeting such market requirements can be very difficult unless stable relationships are established between such businesses and farmers. In this context, managers should consider very carefully the possibility of developing informal or formal agreements and extending their level of cooperation with farmers to ensure their commitment. *Public institutions and policies may also consider supporting "chain leaders" in their efforts to establish chain leadership*.

One factor that may contribute to high transaction costs is the lack of supply chain management practices. Adoption of supply chain management practices, such as product standardization, can contribute to reducing transaction costs between producers and buyers (Coronado et al., 2015). *Thus, public support policies that support the improvement of supply chain management practices, and in particular standards would provide better market access and lower transaction costs for farmers. Such policies imply developing and supporting better coordination between buyers and farmers.*

This study has some limitations that imply caution in generalization of its findings. A first limitation concerns the development stage of value chain governance in Albania; some forms of governance are just now emerging and are substituting the classical spot market. As sector development is likely to undergo dynamic change due to increased production and new market trends, some findings may only be temporary and subject to change in the short to medium term. A second limitation is related to conducting a study in a "calm period" when environmental uncertainty is very low. The authors could not prove or contradict the hypothesised influence of environmental uncertainty on farmers' propensity to cooperate or isolate eventual effects on behaviour uncertainty. Hence, the consideration of periods with more pronounced market uncertainty due to expected saturation of the domestic market could constitute "good ground" for future studies. The failure to conduct a rigorous random sampling limits the generalisation of the study results for the orchard sector; sampling data show that the results are biased towards more commercial sectors.

Despite its limitations, this study contributes to a deeper understanding of the relationship between farmers and their buyers, as well as the channels adopted by commercial actors in the apple sector and the determinants explaining the governance modes investigated. Our arguments and empirical results confirm some TCT propositions and in particular the important role of informal agreements in shaping exchange relationships embedded in social networks. Finally, we highlight the practical importance of our research for policy-making and the management decision making. Further analyses applying longitudinal

models could provide a deeper insight into the dynamics between sustainable relationships and their determinants over time.

Acknowledgements

This paper is largely based on a survey conducted by the authors of this study in the context of the Project "Preparation of inter-sector strategy for agriculture and rural development in Albania", funded by the EU and implemented by the FAO in close collaboration with MAFCP.

References

Achrol, R. S. (1991). Evolution of the Marketing Organization: New Forms for Turbulent Environments. *Journal of Marketing*, **55** (4): 77-93.

Achrol, R. S., Kotler, P. (1999). Marketing in the Network Economy. Journal of Marketing 63 (Fundamental Issues and Directions for Marketing): 146-163.

Ali, J., Kumar, S. (2015). Understanding the structure contract for mango and empirical analysis of its determinants. *British Food Journal*, **117**(8): 2161-2181.

Bakucs, L.Z., Fertő, I., and Gábor, G.S. (2010). Contractual Relationships in the Hungarian Milk Sector. Paper presented at IAMO Forum 2010. Institutions in Transition –Challenges for New Modes of Governance, Halle, Germany. Available at: http://www.iamo.de/fileadmin/uploads/forum2010/papers_forum2010/Bakucs_IAMO__Forum_2010.pdf (Accessed April 2013).

Barney, J. B. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, **17**(1): 99-120.

Bouis, H., Haddad, L. (1990). Agricultural commercialisation, nutrition and rural poor: A study of Philippine farm households. Washington, Lynne Rienner Press.

Buvik, A., Gronhaug K. (2000). Inter-Firm Dependence, Environmental Uncertainty and Vertical Co-Ordination in Industrial Buyer-Seller Relationships. *Omega*, **28**(4): 445-454.

Cai, R., Ma, W. (2015). Trust, transaction costs, and contract enforcement: Evidence from apple farmers in China. *British Food Journal*, **117**(10): 2598-2608.

Costales A, Catelo, M.A.O.(2008). Contract Farming as an Institution for Integrating Rural Smallholders in Markets for Livestock Products in Developing Countries: (I) Framework and Applications. FAO Publication. Available at: http://www.fao.org/ag/againfo/programmes/en/pplpi/docarc/rep0812_contractfarming.pdf (Accessed April 2013).

Coleman, James S. (1990). Foundations of Social Theory. Harvard University Press, Cambridge, MA.

Coronado, A. J., Bijman, J., Omta, O., and Lansink, O.A. (2015). A case study of the Mexican avocado industry based on transaction costs and supply chain management practices. *Economía: theory práctica*, **42**(1): 137-165.

Das, T. K., Teng, B. S. (2004). The risk-based view of trust: A conceptual framework. *Journal of Business and Psychology*, *19*(1): 85-116.

Dwyer, R., Schurr, P., and Oh, S. (1987). Developing Buyer-Seller Relationships. *Journal of Marketing*, **51**(2): 11-27.

Dyer, J.H. (1996). How Chrysler created an American keiretsu. Harvard Business Review 74(4), 42–56.

Fafchamps, M., Lund, S. (2003). Risk-Sharing Networks in Rural Philippines. *Journal of Development Economics,* **71**(2): 261-87.

FAO. (2013). Statistical database of Food and Agricultural Organization of United States. Data of the production section. Available at: http://faostat3.fao.org/download/Q/QC/E. (Accessed June 2015).

Ferto, I., Szabó, G.G. (2002). Vertical Co-ordination in Transition Agriculture: A Co-operative Case Study. Institute of Economics, Hungarian Academy of Sciences, Discussion Papers, 2002/4. Available at: http://econ.core.hu/doc/dp/dp/mtdp0210.pdf. Accessed, June 2015.

Gerdoçi, B. (2014): Governance and its determinants – a combined approach of transaction costs and other network theories. Dissertation, University of Tirana, Tirana, Albania. Available at: http://www.doktoratura.unitir.edu.al/wp-content/uploads/2014/05/Doktoratura-Blendi-Gerdoci-Fakulteti-Ekonomik-Departamenti-i-Manaxhimit.pdf. Accessed, June 2015.

Granovetter, M. (1985). Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology,* **91**(3): 481-510.

Grimard, F. (1997). Household Consumption Smoothing through Ethnic Ties: Evidence from Cote d'Ivoire. *Journal of Development Economics*, **53**(2): 391-422.

GTZ. (2010). Analysis of Fruits and Vegetables Sector (Technical Report), Tirana, Albania.

Heide Jan, B. (1994). Inter-organizational Governance in Marketing Channels. *Journal of Marketing*, **58**(1): 71-85.

Hosmer, D., Lemeshow, S. (1989). Applied Logistic Regression. John Wiley and Sons, Inc.

Hughes, D. R. (Ed.). (1994). Breaking with tradition: building partnerships and alliances in the European food industry. Kent, Wye College Press.

Iacobucci, D., Hopkins, N. (1992), Modelling Dyadic Interactions and Networks in Marketing. *Journal of Marketing Research*, **29**(1): 5-17.

Imami, D. (2011). Analysis of agro-food value chain actors' choices in Albania. Dissertation thesis, Alma Mater Studiorum University of Bologna. PhD in Food and Agriculture Economics and Policy, 23 cycle.

Imami, D., Skreli, E., Zhllima, E., Cela, A. (2012). Analysis of consumer preferences for apple in Albania. Journal of Economics and Agribusiness, No. 4.

Imami, D., Zhllima, E., Viaggi, D., and Bokelmann, W. (2013). Between weak markets and weak regulations: determinants of contracting in orchard farming in Albania. *Journal on Chain and Network Science*, **13**(1): 37-46.

Israel Glenn, D. (1992). Sampling the Evidence of Extension Program Impact Program Evaluation and Organizational Development. IFAS, University of Florida.PEOD-5.

Jabbar, M. A., Rahman, M. H., Talukder, R. K., and Raha, S. K. (2008). Alternative institutional arrangements for contract farming in poultry production in Bangladesh and their impacts on equity. Research Report 7. International Livestock Research Institute.

John, G., Weitz A.B. (1988): Forward Integration into Distribution: An Empirical Test of Transaction Cost Analysis. *Journal of Law, Economics and Organization*, **4**(2): 337-355.

Joshi, A. W., Campbell, J. A. (2003). Effect of Environmental Dynamism on Relational Governance in Manufacturer-Supplier Relationships: A Contingency Framework and an Empirical Test. *Journal of the Academy of Marketing Science,* **31**(2): 176-188.

Klein, B. (1980). Transaction cost determinants of unfair contractual arrangements. *American Economic Review,* **70**(2): 56-62.

Klein, B. (1996). Why hold-ups occur: the self-enforcing range of contractual relationships. *Economic Inquiry*, **34**(3): 444-463.

Macneil, I.R. (1978). Contracts: Adjustment of long term economic relationship under classical, neoclassical, and relational contract law. *Northwestern University Law Review*, **72**(6): 854-906.

MAFCP. (2007). Sectorial Strategy of Agriculture and Food 2007-2013. Tirana, Albania.

MARDWA. (2014). National Inter-sectorial Strategy for Agriculture and Rural Development, Tirana, Albania.

Ménard, C (2007). Cooperatives: Hierarchies or Hybrids? In Jerker Nilsson and Kostas Karantininis (Ed.), Vertical Markets and Cooperative Hierarchies. Berlin-Boston-Dordrecht-New York: Springer: 7-27

Ménard, C (2012). Hybrid Modes of Organization. Alliances, Joint Ventures, Networks and Other 'Strange' Animals. In Robert Gibbons and John Roberts (Ed.), The Handbook of Organizational Economics, Princeton University Press: 1066-1108.

Noordewier, T. G., George J., and John R. N. (1990). Performance Outcomes of Purchasing Arrangements in Industrial Buyer-Vendor Relationships. *Journal of Marketing,* **54**(4): 80-93.

Nooteboom, B. (1999). The dynamic efficiency of networks. In A. Grandori (Ed.), Inter-firm networks: Organization and industrial competitiveness, London: Routledge: 91-119.

Poole, N. D. C., Gomis, F. (1998). Formal contracts in fresh produce markets. *Food Policy*, **23**:131–142.

Poppo, L., Zenger, T.R. (2002). Do formal contracts and relational governance function as substitutes or complements? *Strategic Management Journal*, **23**(2): 707-725.

Powell Walter W. (1990). Neither Market nor Hierarchy: Network Forms of Organization. In Shaw, B., and Cummings, L. L. (Ed.), Research in Organizational Behaviour. Greenwich CT: JAI Press: 295-336.

Reynolds, N., Fischer, C., and Hartmann M. (2009). Determinants of sustainable business relationships in selected German agro-food chains. *British Food Journal*, **111**(8): 776-793.

Rindfleish, A., Heide, J.B. (1997). Transaction cost analysis: Past, present, and future applications. *Journal of Marketing*, **61**(4): 30–54.

Stern, L. W., Reve, T. (1980). Distribution Channels as Political Economies: A framework of Comparative Analyses. *Journal of Marketing*, **44**(3): 52-64.

USAID's AAC. (2008): The Albanian apple, value chain. Study Report. Available at: http://pdf.usaid.gov/pdf_docs/PNADN415.pdf. Accessed, June 2015).

Uzzi, B. (1996). The Sources and Consequences of Embeddedness for the Economic Performance of Organizations: The Network Effect. *American Sociological Review*, **61**(4): 674-698.

Walker, G., Weber D. (1987). Supplier Competition, Uncertainty, and Make-or-Buy Decisions. *The Academy of Management Journal*, **30**(3): 589-596.

Williamson O.E. (1985). The Economic Institutions of Capitalism. The Free Press, New York.

Williamson, O. E. (1991). Comparative Economic Organizations: The Analysis of Discrete Structural Alternatives. *Administrative Science Quarterly*,**36**(2): 269-296.

Williamson, O. E. (1999). Strategy research: governance and competence perspectives. *Strategic Management Journal*, **20**: 1087-1108.

Williamson, O.E. (1975). Markets and Hierarchies. The Free Press, New York, NY.

Williamson, O.E. (1979). Transaction-Cost Economics: The Governance of Contractual Relations. *Journal of Law and Economics*, **22**(2): 233-261.

Williamson, O.E. (1983). Credible Commitments: Using Hostages to Support Exchange. *American Economic Review*, **73**(4): 519-40.

Williamson, O.E. (1993a). Transaction cost economics and organization theory. *Industrial and Corporate Change* **2**: 107-56.

Williamson, O.E. (1993b). Calculativeness, trust, and economic organization. *Journal of Law and Economics*, **36**(1): 487-500.

Zaheer A. Venkatraman N. (1995). Relational governance as in inter-organizational strategy: An empirical test of the role of trust in economic exchange. *Strategic Management Journal,* **16**(5): 373-392.