

New Institutional Economics as a Tool for Improving Transaction Governance in the Polish Fruit Sector^{1*}

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It was expected that price liberalisation and privatisation in transition economies would spontaneously result in the necessary institutions that underpin Western market economies. However, these institutions are not developing as expected. The objective of the paper is to understand why these institutions are not developing in the Polish fruit sector. It mainly focuses on transaction cost economics and its link with economic development. Based on interviews with all participants in the Polish fruit chain, hold-up problems are identified and solutions proposed.

Es wurde erwartet, dass Preisliberalisierung und Privatisierung in den Transformationsländern zu den Institutionen führen würden, die auch die westlichen Marktwirtschaften untermauern. Diese Institutionen entwickeln sich jedoch nicht wie erwartet. Dieser Beitrag soll zeigen, warum sich diese Institutionen in der polnischen Obstbranche nicht entwickeln. Hauptsächlich fokussiert er auf die Transaktionskostenökonomie und deren Einfluss auf die Wirtschaftsentwicklung. Basierend auf Interviews mit Akteuren der polnischen Obstbranche werden Probleme identifiziert und Lösungen vorgeschlagen.

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1. Problem definition and objective

Enlargement of the EU is an important opportunity for supporting stability and prosperity on the continent. A single set of rules, tariffs and administrative procedures will simplify business and allow more efficient organisation structures. A more positive investment climate will be created in the Central and Eastern European Countries (CEEC's) (Kawecka-Wyrzykowska, 1996; Baldwin et al., 1997). An important element in the accession process consists of the adoption and implementation of the *acquis communautaire* (European Commission, 2000). It relates to the set of rules, norms and standards valid in the EU, which require considerable investments. This is particularly the case for the agri-business sector. Moreover, agricultural and food production activities are not included in the association agreements between the candidate countries and the EU and subject to limited liberalisation (Rabinowicz, 2000). The applying of the CAP under the scenario that all ten candidate countries enter the EU in 2002 would be an additional cost of 11 billion EURO's per year (Banse et al., 1998). Under Agenda 2000, the EU is politically not capable of paying such huge amount of money. Consequently, it can be expected that CAP will be adapted and a good functioning agri-food market will be essential to face competition with the current member states.

In the transition process from a centrally planned to a market economy, the agri-business sector is crucial because food security is essential to individuals' welfare on the one hand and because of the relative importance of this sector in the national economies on the other hand. Effective transition requires a new institutional framework ranging from constitutional guarantees to hygienic and sanitary standards that might enhance or hamper competitiveness (Frohberg & Hartmann, 2000). It was supposed that price liberalisation and privatisation during the 1990's would spontaneously result in the institutions that underpin Western market economies (Hobbs et al., 1997).

However, the necessary institutions are not developing as expected. Given this fact, it is extremely important to understand the key role of institutions in the transition process. Western agri-food markets are characterised by a set of specialised institutions that facilitate the functioning of all participants in the multiple set of market chains.

The objective of this paper is to investigate whether or not the considerations in the new institutional economics theory can be helpful in understanding the role of institutions in transition economies in general and in the Polish fruit sector in particular. We will not focus on the decision-making process for agricultural policy and the institutions intervening in this process. The paper will concentrate on the need of market efficiency and industrial organisation to guard against opportunistic behaviour: What kind of hold-up problems exist and how can this situation be reversed? Hereby, the role of institutions in the agri-business

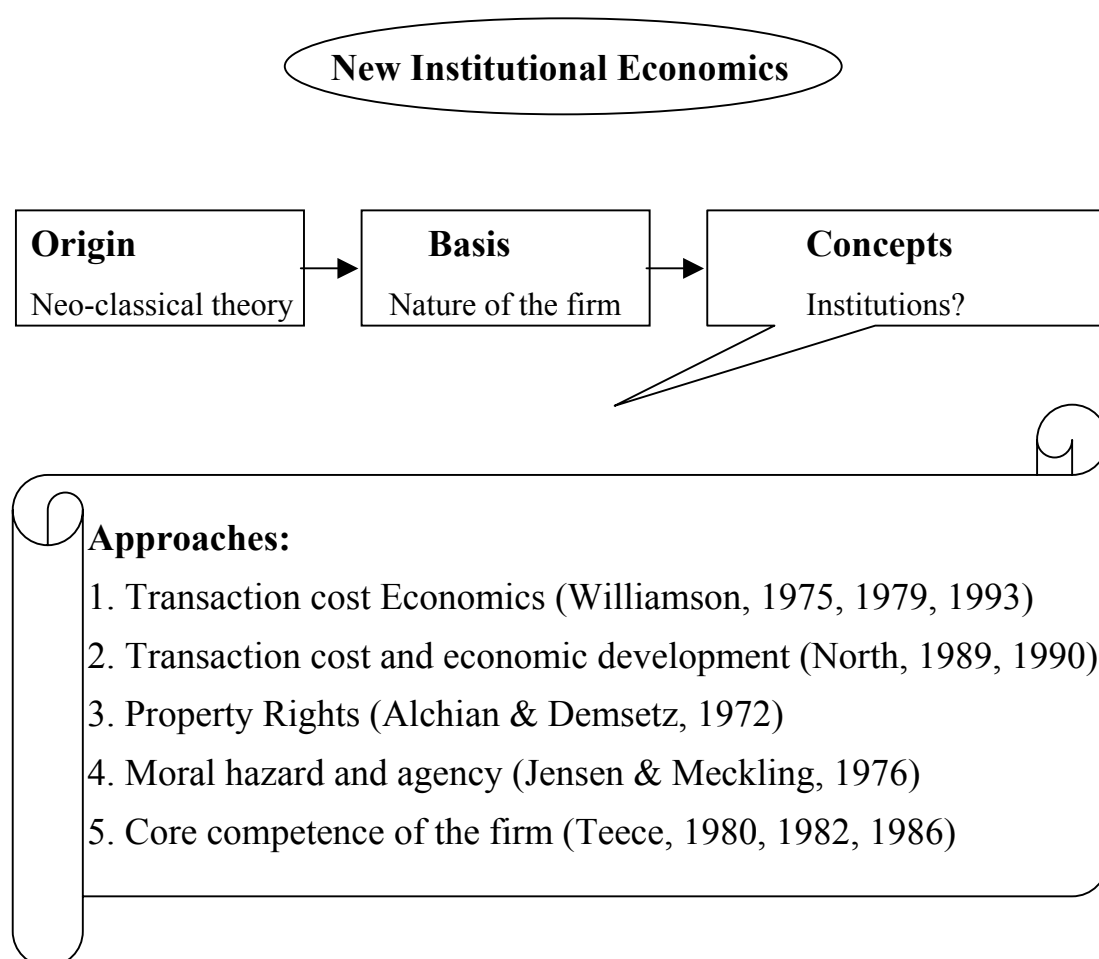
sector and more specifically in the marketing of fruit products in Poland is a central point of discussion.

After discussing the principles of the new institutional economics theory, the importance of the Polish fruit sector is illustrated. Next, the research methodology is described and hold-up problems identified. Finally, an institutional strategy to tackle the hold-up problems is proposed and conclusions are drawn.

2. New Institutional Economics

After the introduction, the different approaches present in the economic literature on new institutional economics are discussed.

Figure 1: The origin, basis and concepts of new institutional economics.



2.1. Introduction

The figure below indicates new institutional economics (NIE) in relation to its origin, its basis and what different concepts can be considered as part of new institutional economics. The term 'new' refers both to the fact that now we are

able to explain why institutional arrangements are as they are (Cheung, 1992) and to the fact that real economic problems are explained (Verhaegen, 2001).

Economic analysis of markets, industries and the firm is largely based on the neo-classical economics. The reasoning in the neo-classical theory is based on the concept of a single product firm operating in a perfectly competitive industry. This industry is characterised by a large number of firms producing the same product under the same cost conditions, having the same necessary information to be able to make rational choices within the exchange process and all facing the same market demand curve (North, 1989; Loader, 1996; Hobbs et al., 1997). However, this kind of markets where transactions are characterised by demand that equals supply resulting in the equilibrium price and quantity, only exists in introductory microeconomics textbooks. In reality, the market mechanism includes costs and this hypothetical benchmark of perfectly competitive general equilibrium does not exist in reality.

New Institutional Economics (NIE) is a mix of several scientific disciplines: economics, law, organisation theory, political science, sociology and anthropology (Klein, 2000). Williamson (1975) introduced the term NIE. It mainly focuses on economics and explains institutions: what institutions are, how they arise, function, evolve and if they should be reformed. The basis of this theory originates from Coase's analysis of the firm (Coase, 1937), in which the author explains why firms exist and how firms operate. Using the market mechanism involves costs such as discovering prices, costs of negotiating and specifying individual contracts. Firms can avoid these market costs by producing the required product/service themselves. This means that firms will take over production activities until the costs of producing the required product/service within the firm equal the costs of working through the open market ('make-or-buy decision'). Firms exist because transaction costs exist.

NIE maintain the basic concept of the neo-classical theory, namely scarcity and competition. However, the concept of perfect competition without institutions is abandoned. Institutions are the rules of the game and can be formal (constitutions, laws, property rights) or informal (social conventions, norms) (North, 1990). These institutions are constraints for perfect competition. It also is important to consider that institutions are not always set up to be socially efficient. Often the rules are created to serve the interests of those with the bargaining power to change the rules. Organisations are the players and include political parties and governmental organisations, firms, households, schools. Given this context, players in the economy make choices that are subject to both formal and informal constraints. To explain these institutions (formal and informal) and its consequences, five approaches can be identified in literature (see Fig. 1). Although transaction cost mostly is associated with the work of Williamson, the core concepts are fundamental to all branches of the NIE. The approaches differ in the focus on the type of economic problem.

2.2. Transaction cost economics

In the transaction cost economics (TCE) approach, the focus is on governing transactions (institutional arrangements) with the spot market and the fully vertically integrated market as the two extremes. Transaction costs include information, negotiating and monitoring costs (Williamson, 1985). The core concepts or behavioural assumptions of TCE are bounded rationality and opportunism. Bounded rationality means that human action is intended to be rational, but limited because of cognitive limits (Simon, 1961). Opportunism refers to the behaviour of economic agents who seek to exploit a situation to their advantage (Williamson, 1979). The risk of opportunism is greater when bargaining power is larger.

Because of these concepts, contracts between members of the production and distribution chain are incomplete (Williamson, 1990). Because of incomplete contracts, risks occur for the partners involved in the contract. Unexpected changes in circumstances can result in ineffective contracts. The failure to adapt contracts to such unforeseen circumstances creates 'maladaptation' costs (Williamson, 1991a). The most often discussed example is the hold-up problem. It is defined as the general business problem in which each party to a contract worries about being forced to accept disadvantageous terms later, after it has sunk an investment, or worries that its investment may be devaluated by others (Milgrom & Roberts, 1992). It means that hold-up problems originate from transaction costs and problems with contract enforcement.

Contractual difficulties can arise from several sources (Klein, 2000):

- Bilateral dependence;
- Weak property rights;
- Measurement difficulties and/or oversearching
- Intertemporal issues that can take the form of disequilibrium contracting, real time responsiveness, long latency and strategic abuse;
- Weaknesses in the institutional environment

In this way, TCE can be seen as the study of alternative institutions of governance. Economic organisation is mainly an effort to align transactions (which differ in objectives) with governance structures (which differ in costs) in a transaction cost economising way. TCE explains how partners choose from several institutional alternatives, the arrangement that protects their relation-specific investments at the least costs (Williamson, 1991b).

In the approach of TCE asset specificity, uncertainty and frequency are considered as the dimensions of transactions. Asset specificity relates to relation-specific investments such as physical and human capital, R&D, knowledge and capabilities (Williamson, 1985). These investments have no or

little value in an alternative use than the specific transaction and result in post-contractual opportunistic behaviour of the partner with the most bargaining power in the transaction. It is clear that the more firms are vertically integrated, the least asset specificity is at risk. However, in the case of fully integrated markets, incentives to maximise profits are weaker than in the case of the other extreme, namely the pure spot market. It means that the installation of the most adequate governance structure is the result of a trade-off between the pure market form and its properties on the one hand and the safeguards of the central co-ordinating approach on the other hand.

Uncertainty about the outcome or output of a transaction (e.g. quality and quantity of agricultural products) leads to a more formal type of vertical co-ordination. Low levels of uncertainty are characteristic for transactions on spot markets. Uncertainty about the quality of a product is particularly important in the case of agricultural and food products. With the idea to lower the measurement costs (sorting + monitoring) related to quality, governance structures such as warranties, brand names, quality assurance schemes or vertical integration are installed.

Frequency of transactions indicates the number of contacts between buyers and sellers. In the case of frequent transactions, reputations are important. When frequency is high, the temptation of opportunistic behaviour is lower and vice versa. Frequent transactions tend to be carried out on spot markets. The combination of the three dimensions of transactions (asset specificity, uncertainty, frequency) will lead to different vertical co-ordination arrangements (governance structures).

2.3. Transaction costs and economic development

The approach followed by North focuses much more on the consequences of institutional change and considers its determinants related to transaction costs. In the approach of Williamson, the focus is more on the study of governance (theory of the firm), while in the approach of North the broader environment is more central. Development is seen as a response to institutional change that supports both social and economical relationships. Hereby, price theory is important in understanding institutional change, as it is considered as a consequence of change in relative prices. Changes occur when players believe that restructuring exchanges results in a better situation, which in turn is a result of learning and competition. The connection between institutions and production costs is transaction costs such as trade, banking, finance, insurance and management (Wallis & North, 1986). Industrialisation or economic development requires institutions to lower and control costs associated with transactions.

To improve the performance and obtain successful economies, it is not always simple to indicate how this should be realised. Related to the link of economic performance and institutions some ideas are suggested by North (1990):

- Economic performance relates to formal rules, informal norms and enforcement characteristics of both. Copying institutional systems from one economy to another will result in different economic performance because the informal norms and enforcement characteristics differ. It is not sufficient to copy the formal political and economic rules that are successful in Western Europe to CEEC's because the legitimacy for these rules is provided by the norms. These norms differ between Western Europe and CEEC's.
- Political institutions are stable when these institutions are supported by organisations with interest in their perpetuation. It implies that organisations are essential to obtain reform.
- Changing norms, which is essential to legitimise new rules is a lengthy process and in absence of such legitimisation formal rules will be unstable.
- In the short run, economic growth can occur with autocratic regimes. In the long run however, economic growth entails the development of the rule of law and the protection of civil and political freedom.
- Informal norms or constraints are essential for a performing economy. Societies with norms favourable to economic growth can sometimes prosper even with unstable or adverse rules. Under these conditions, the level of economic growth will be linked with the enforcement of the adverse political rules. Very little is known about the belief systems and consequent informal constraints although religions have clearly been a basic component of beliefs.
- The key to success is a flexible rather than static institutional matrix.

This list of influencing factors of institutional change relates largely to the concept introduced by Simon (1961), namely bounded rationality. As indicated above, human behaviour tends to be rational but only to a limited extent because people have limited knowledge and react often emotionally.

2.4. Property rights

The property rights approach argues that the set of rules or the distribution of property rights determine the level of output of the firm because these property rights are the incentives of each individual (Alchian & Demsetz, 1972; Allen, 2000). Property rights are defined as the rights to the use of resources. It considers not only the legal rights but also the ones originating from custom, reciprocity and voluntary restraints. The main research question in the property rights approach focuses on 'what explains the distribution of property rights?'. Within this approach, property rights have a broad meaning as it includes all sets of rules, governance structures and organisations. The hypothesis followed by

the property rights approach indicates that the optimal distribution of property rights is the one that generates a maximum of gains, taking into account all involved costs. The distribution of the property rights determines the level of output of the firm because they determine the incentives of each individual. The main difference with the TCE approach from Williamson relates to the fact that the property rights approach is limited to the internal organisation of the firm (Demsetz, 1988). Hereby, authority is crucial and not formal relations as indicated in the work of Coase (1988).

2.5. Moral hazard and agency

The approach of institutional arrangement based on moral hazard and agency focuses on explaining changes in the internal organisation of the firm. It focuses on the design of ex-ante incentive compatible mechanisms to reduce agency costs in the face of moral hazard (malfeasance) by agents (Klein, 2000). Agency costs are defined as follows (Jensen & Meckling, 1976):

- Monitoring expenditures of general management (e.g. landlord);
- Bonding expenditures by the agent (e.g. farmer);
- Residual loss

The residual loss represents the non-realised gains because general management is not able to provide the necessary incentives for the agent. In this approach, the firm is seen as a convenient label for the collection of contracts between owners and agents. The firm is not the subject of attention.

2.6. Core competencies and capabilities

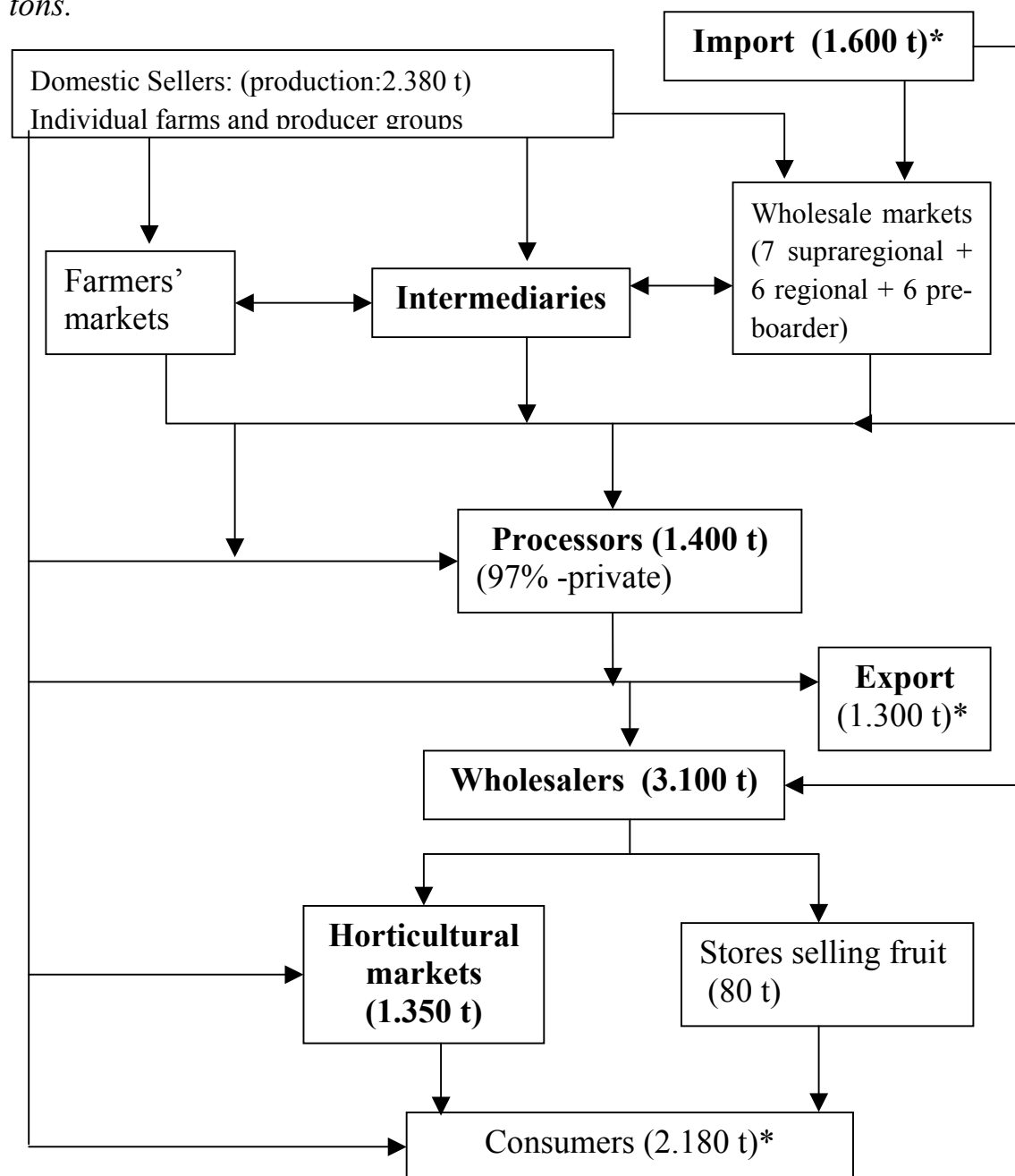
An alternative approach in explaining institutional arrangements relates to core competences and capabilities (Klein, 2000). In this approach, the firm is not considered as a nexus of contracts, but as a stock of knowledge (Teece, 1980, 1982, 1986; Hamel & Prahalad, 1994). In this sense, firms exist because they are superior institutional arrangements for accumulating knowledge (Foss, 1996). This approach relates to the resources based view on the firm, which stipulates that competitive advantage originates from resources that are difficult to imitate.

3. Importance of Polish fruit sector

The fruit sector represents 8,9% of the total value of the Polish agro-market in 1999. During the period 1990-1999, fruit production increases by about 60% to reach a level of 2.3 million tons in 1999. Apples represent about two thirds of total fruit production. Fruit production is mainly located in the central part of Poland. The top-4 fruit-growing voivodships (Mazowieckie, Lubeskie, Łódzkie,

Świętokrzyskie) represent 57% of the total fruit area in 1998 (Central Statistical Office Data).

Figure 2: Distribution network of the Polish fruit sector, 1999/2000 in 1.000 tons.



* in 1999/2000, calculated in terms of fresh fruit

Source: FAPA, GUS and own research

The distribution network of the Polish fruit sector is indicated in Figure 2. It becomes clear that about 60% of total domestic fruit production is processed. Two companies dominate the fruit processing market, namely Agros Holding

and Hortex Holding. Both companies benefit from foreign investments (Bank of America and European Bank of Reconstruction and Development in Hortex and Pernod Ricard in Agros).

4. Research methodology

To realise the objectives of the research, all stakeholders in the Polish fruit sector were involved in the study. To identify hold-up problems in the fruit chain and to formulate solutions in terms of an adapted institutional strategy, the relationships between the different links in the chain are investigated. Therefore, interviews based on a structured questionnaire were conducted during the year 2000 (see Tab. 1). Small as well as big companies are included in the research. Additionally to the different links, policy makers involved with the fruit sector were interviewed.

Table 1: Size of the sample and characteristics of the different links involved in the research.

Link in the chain	Sample size	Characteristics
Suppliers of production means	14 companies	Local and national suppliers of pesticides, fertilisers, cuttings, stocks, packaging materials
Fruit producers	120 farms	Individual farms and producer groups
Processors	35 companies	Local small companies and market leaders
Distributors	71 units	Wholesale markets, intermediaries and retailers
Consumers	150 people	Warsaw inhabitants

Based on the collected data and interviews with policy makers, the relationships between the different links in the fruit chain are described through focusing on hold-up problems. This is largely based on the concepts and dimensions of the TCE approach on the one hand and on the potential consequences in terms of economic development on the other hand. Next, suggestions for an adapted institutional strategy are derived.

5. Hold-up problems

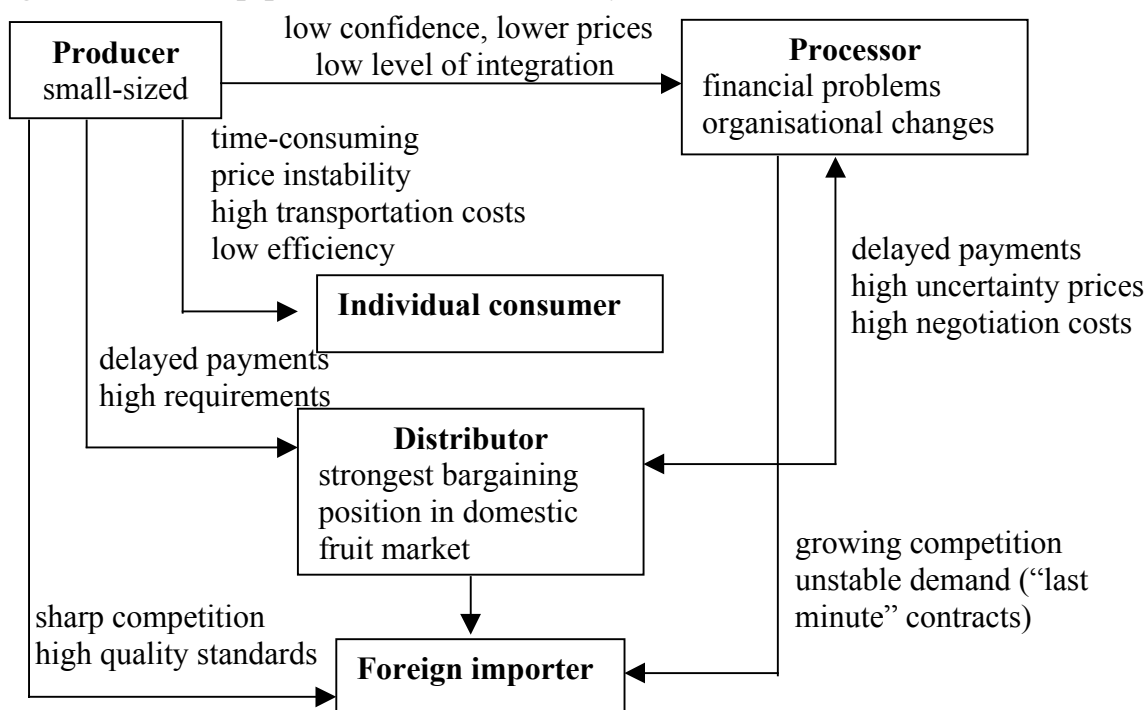
Hold-up problems in the Polish fruit sector are illustrated in Figure 3. Hereby, a distinction can be made between producer-buyer relationships and between processor-buyer relationships.

5.1. Producer-buyer relationships

The average size of the Polish fruit farm is very small. It is illustrated by the fact that Poland accounts about 400.000 farms with orchards, of which only 10% had more than 1 ha according to the agricultural census conducted in 1996 (Kubiak, 1998). This small size does not enable farmers to realise the necessary investments in modern equipment and especially in watering systems. Consequently, yields strongly depend on the weather conditions and vary from year to year. Economies of scale can not be realised and productivity is low. Moreover, storage capacity is insufficient, which results in quality variation, losses and price uncertainty.

The highly fragmented market structure inhibits the organisation of transactions through vertical integration. It would be too costly for both processors and distributors. Small farmers often sell directly on the spot market. Despite the fact that correct price formation is enhanced, it remains a time consuming and inefficient activity.

Figure 3. Hold-up problems in the Polish fruit sector.



The larger farms working with contracts consider processors as less loyal compared to supermarkets. Processors offer lower prices and face both organisation and ownership changes, which influences their financial position. However, payment delays remain a problem both at the level of processors and distributors. Payment delays are especially harmful in economies with a high inflation rate. It results in an overall reduction in investments in relation specific assets, because of lack of confidence in both up- and downstream partners. This

problem is enforced by the lack of legal or private enforcement, which results in a reduction of relation-specific investments and moves resources out of the affected sector. It ends up with desinvestments and adverse effects on productivity.

Because buyers govern transactions and set the terms, fruit growers feel the need to co-operate horizontally in order to strengthen the position on the market and to lower transaction costs. Since 1995, the process of establishing voluntary marketing systems started, but faces some problems:

- lack of tradition in establishing organisations and co-operation between producers as well as other market members,
- lack of clear legal and executive regulations following the legal Act no 983 of September 15, 2000 on the process of creating producers' groups in the agribusiness and managing the financial support for them,
- inadequate knowledge on the rules of free-market economies and accounting,
- lack of information,
- problems in finding a leader,
- opportunistic behaviour among members of existing groups,
- bad memories among older farmers of obligatorily agriculture collectivisation after the World War II,
- fear of excessive administrative costs related to organising the group.

The creation of a wholesale distribution system similar to the one in the EU was introduced under the governmental program "For Organisation of Wholesale Markets and Commodity Exchanges" in 1994. It should reduce transaction costs in terms of information, negotiation and monitoring costs for both buyers and sellers. However, the study reveals difficulties in the functioning of the wholesale market. On the one hand, small-scale farmers are used to the farmers' market and complain about the high transportation costs (Ciechomski, 1999). On the other hand, both small processors and small retailers want to maintain their dominant position in the negotiation process with farmers and want to avoid storage and waste costs.

5.2. Processor-buyer relationships

Poland accounts about 1.500 fruit processing companies in 1999 (Central Statistical Office Data). About two thirds employ less than six people. Only 3% employ more than 250 people. These small scale processing units have a poor financial situation and few potential to invest in the future (FAPA, 1998).

Processors consider the big yearly changes in prices of fruit products as a main hold-up problem. Trade partners react by opportunistic behaviour and hamper

the development of the sector. They renege on the contractual agreement if the market prices are much higher or lower compared to the pre-signed terms. Reputation as potential informal rule is of little importance in this situation. Commercial law is not able to consider the claim within an acceptable period. Processors react by no more contracts in the future between the parties.

During the interviews, processing companies as well as retailers working with contract production indicate less opportunistic behaviour of farmers in the last two years. It enables these companies to reduce supply risks and to invest in modern technology. However, this modern technology sets additional requirements to quality and size of the fruit entering the company. The next step is to introduce effective grading systems at farm level or quality assurance schemes in order to lower sorting and monitoring costs.

To negotiate contracts with individual suppliers is costly. Distributors look for producer organisations in the case of fresh food and for bigger companies in the case of processed food. Products have to meet the quality standards imposed by the retail sector. The retailers dictate contract terms and control procedures. Towards consumers, more and more communication focuses on the importance of fruits in a healthy diet.

6. Institutional strategy

In order to reduce negotiation, information and monitoring costs, the agri-business sector in the EU is characterised by different kinds of collaboration, co-operation or integration. From the farmer's side, situations can occur where no buyer is found for the perishable product, which is consequently lost. At the level of the processor, it can happen that growers are failing to supply but no stocks can be hold of the raw product to counterbalance such situation. Because both parties are at risk, vertical co-ordination is widespread in the agri-business.

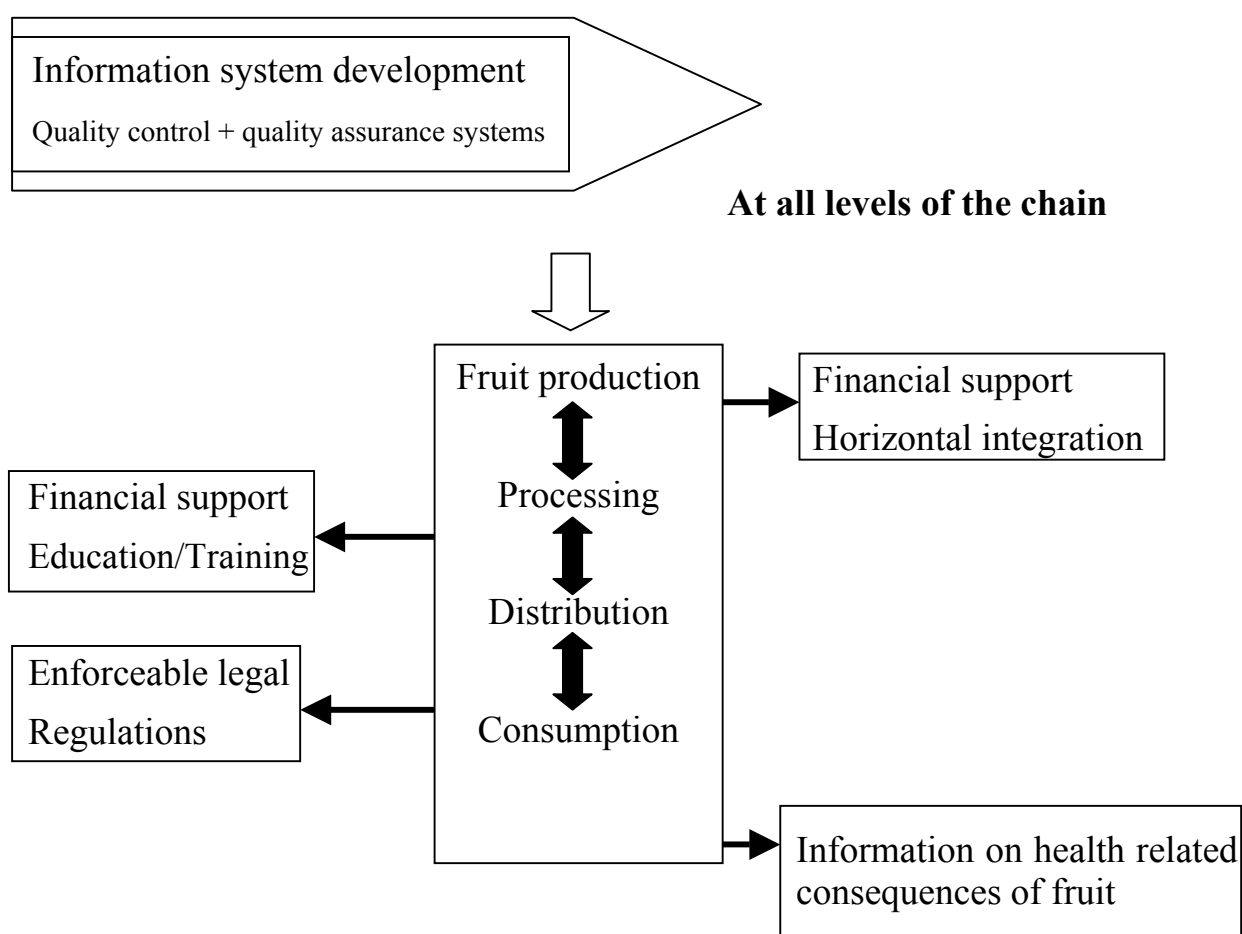
Different marketing institutions such as marketing boards, auctions, wholesale markets, co-operatives characterise the agri-business sector. The efficiency of these systems depends on several factors (Hobbs et al., 1997):

- Presence of effective commercial law;
- Availability of storage and transportation capacity for agricultural commodities;
- Existence of a system to disseminate market information among producers.

When these conditions are not fulfilled, the marketing channels will fail to generate correct prices and to allocate resources efficiently. It is clear that just liberalising the market is not sufficient to obtain properly functioning marketing channels. There is a clear need for underlying institutions.

Institutional strategies aimed at reducing hold-up problems and lowering transaction costs (including information, negotiation and monitoring costs) in the Polish fruit sector should include both institutional arrangements and contract enforcement mechanisms (Fig. 4). A readjustment of the institutional framework is already taking place due to the process of preparation for the integration with the European Union and harmonisation with the EU law. It seems however necessary to choose solutions in accordance with the specificities of the Polish fruit sector in order to make the process more efficient. Hereby, it is essential to be sure that the creation of new or adaptation of existing institutions can benefit from the necessary legitimacy through norms and values present at the level of the different players in the fruit chain.

Figure 4: Institutional changes needed in the Polish fruit chain.



Gow & Swinnen (1998) investigated several sectors in different CEECs and noticed that hold-up problems were more present in some sectors and not in other. They come to the conclusion that the classical institutional arrangements such as long-term contracts, co-operatives or vertical integration all have critical problems. However, the presence of foreign direct investments in terms of affiliates created private sanctions, which resulted in reliable relations and

provided the correct incentives to farmers to realise the relation-specific investments.

6.1 Information system

In the case of the Polish fruit sector the development of an effective information system, or rather overall improvement of communication in the whole agribusiness, is essential in order to reduce extremely high information costs along the chain. Reliable information on prices, quality standards, legal regulations, demand changes etc. should be quickly obtainable on all levels of the food-chains through mass-media, internet and specialised publications. Through such an information system monopolistic power in the chain can be counterbalanced.

6.2. Quality monitoring

To reduce monitoring costs, the implementation of an inspection system covering all stages in the chain should be a priority within the process of institutions building. Standardisation of products and the processing must be harmonised with EU-regulations. Quality assurance schemes applied nationally or established locally and self-control systems will accelerate the reduction of monitoring costs (tests, controls) and increase the reputation of the companies/marketing groups.

6.3. Horizontal integration

All stages of the Polish fruit chain are very fragmented. This situation results in difficulties in creating efficient exchange relations between all the actors in the sector. Transaction costs are high, information scattered and quality of products difficult to control. Producers are however reluctant to integrate horizontally and generally do not have the knowledge on why and how to do so. Fruit growers, who are used to competing rather than co-operating, are not aware of the importance of establishing marketing groups. The legal act on the creation of producers' groups was introduced in Poland in September 2000 (harmonised with EU law) but still lacks executive regulations. A nation wide information system regarding co-operation under market conditions in the agri-business sector, especially in the perspective of Poland's accession to the EU, seems essential to accelerate the process of development of the horizontal component in the institutional organisation of the sector.

6.4. Management Training

Another issue that seems very important in the light of the conducted research relates to the identified insufficient knowledge of fruit processors regarding cost

price calculation and the development of long-term product strategies. Educational institutions such as courses in accounting, business planning, marketing, data searching and issues concerning EU accession are essential to make better marketing decisions. Intensive courses in these fields could be organised by (for example) the Agricultural Advisory Service, or independent advisors. Informing entrepreneurs and managers of alternative institutional arrangements and improving their qualifications would reduce many hold-up problems in the sector and consequently strengthening the farmers' position, preventing opportunistic behaviour and therefore lowering negotiation costs.

6.5. Financial support

The level of fruit production in Poland shows big annual changes that are hard to predict. The development of technical infrastructure (irrigation system as well as fruit storage facilities with controlled atmosphere and cooling transportation means) is essential for the strengthening of the farmer's position in the sector and improvement of product quality. Investment in inputs should be institutionally supported, loans made more available.

The existing system of preferential loans, supervised by the Agency for Modernisation and Restructuring of Agriculture, is (according to the conducted research) very limited. Currently, the most readily applied for preferential investment loans among fruit-growers are the so-called MR credit-line loans aimed at young farmers (under the age of 40). The interest rate on this type of loan is 50% of a commercial bank loan. It should be paid off during maximum 15 years (term of amortisation). The banks are obliged to make sure that all the offered loans are fully available to potential beneficiaries. However many farmers feel that the age limit for applying for MR-credit line loans should be increased from 40 to 50 years.

Only 10% of the interviewed Polish farmers and fruit processors were informed about the SAPARD program which is to be a source of financial support in the period before Poland's integration with the EU. The Program also will be implemented by the Agency for Modernisation and Restructuring of Agriculture and is supposed to start in mid-2001.

6.6. Improving trade legislative regulations

The relationships in the fruit sector are characterised by the domination of distributors. This situation stimulates the processors to sign long-term agreements with distributors or create their own distribution chains. Opportunistic behaviour regarding payments puts the processing companies as well as farmers in a weaker market position. In this situation institutional changes in the form of legal regulations concerning the consequences of not respecting contractual terms must be introduced. Legal institutions regulating

(or controlling) transactions in the sector (especially concerning distributors) have to be developed in order to reduce negotiation costs and assure contract enforcement (see court system and judge).

6.7. Communicating with consumers

It is the duty of public authorities to monitor public health. Within this task, the link between food and health is essential. Hereby, the nutritional role of fruit and vegetables can be highlighted. In this way, reliable information is provided to consumers. Educated consumers can be willing to change current behaviour and to judge for themselves. It would result in a correction of market failure and lower the subsequent monitoring costs.

7. Conclusions

It is clear that in the agri-business sector public intervention is important related to the protection of the population as well as to the market organisation. However, very little is known about the exact economic effect of rules of the game (institutional environment) on transaction costs (Menard, 2000). Several examples clarify this lack in analysing the impact in Western European agri-business: organisations created to develop and commercialise quality products; the discussion on performance between co-operative and integrated market organisation.

Reforms made disappear the existing exchange system of the central planned economy, where opportunistic behaviour was limited. However, nowadays no valid alternative is currently available in most sectors of the agri-food business. Focusing on the relationships in the Polish fruit sector, the lack of adequate institutions is one of the major factors explaining the current problems. The Polish fruit sector is characterised by autonomous firms and spot markets without institutional arrangements and contract enforcement mechanisms. Without adequate market institutions, transaction costs remain high, competition is inhibited and monopolistic power develops. These institutions include financial, legal, communication and marketing institutions that underpin the agri-business sector in Western Economies. However, copying institutions from Western economies such as written contracts, wholesale markets or auctions into the CEEC's, has little assurance to be successful. Current priorities can be identified at other levels such as building reputations, providing information, grading, training and education. Opening markets and facing competition within the globalising economy is the only way to participate in the long run benefits. It will also reduce the costs associated with parties not willing to change and trying to maintain present institutions. The lack of necessary institutions together with a mass privatisation and liberalisation, risk to create monopolies

due to high transaction costs. Monopolies mean that welfare is not distributed according to the delivered efforts.

The important contribution of the transaction cost approach both in terms of institutional environment (rules of the game) and institutional governance (organisations) relates to the clarification of their impact on vertical co-ordination in the chain. Related to CEEC's, it is essential to understand how transaction costs emerge (hold-up problems) to be able to develop the correct policy reforms and consequently the adequate institutions. The latter should focus on the reduction of transaction costs through the creation of economic incentives to guard against opportunistic behaviour.

In order to illustrate the importance of NIE for understanding the failures and time consuming transition period, we propose to end with the words of Williamson (1996: p. 115): 'If we only had a better theory of organisation and institutions, the agonies - false starts, mistakes, conundrums - of economic reform in Eastern Europe and the former Soviet Union would be much relieved. Indeed, it is my belief that prices will largely take care of themselves once the reformers focus on and get the institutions right. The tendency to neglect institutions in favour of the pricing instruments that economists know best is understandable, but was more excusable for Oskar Lange in 1938 than it is today.'

References

- Alchian, A.A. & Demsetz, H. (1972). Production, information costs and economic organization. In: *American Economic Review*, 62, pp. 777-795.
- Allen, D.W. (2000). Transaction costs. In: Bouckaert, B. & De Geest, G. (Eds.). *Encyclopedia of Law and Economics, Volume I, The History and Methodology of Law and Economics*. Cheltenham, Edward Elgar, pp. 893-926.
- Baldwin, R.E.; Francois, J.F. & Portes, R. (1997). The costs and benefits of Eastern Enlargement: The impact on the EU and Central Europe. *Economic Policy*, CEPR.
- Banse, M.; Munch, W. & Tangermann, S. (1998). Accession of the Central European countries to the EU: Implications for agricultural markets, trade, government budgets and the macro-economy in Central Europe. PHARE-ACE Project.
- Cheung, S.N.S. (1992). On the new institutional economics. In: Werin, L. & Wijkander, K. (Eds.). *Contract Economics*. Blackwell, Oxford, pp. 48-71.
- Coase, R.H. (1937). The nature of the firm. In: Coase, R.H. (Ed). *The firm, the market and the law*. University of Chicago Press, pp. 33-55.
- Coase, R.H. (1988). *The firm, the market and the law*. University of Chicago Press, 217p.
- Ciechomski, W. (1999). Perspektywy rozwoju sieci dystrybucji owocow I warzyw. *Haslo Ogrodnicze*, 6.
- Demsetz, H. (1988). The theory of the firm revisited. In: *Journal of Law, Economics and Organization*, n°4, pp.141-161.

- European Commission (2000). European Union enlargement: A historic opportunity. Directorate General for Enlargement Information and Interinstitutional Relations Unit, Brussels, 47p.
- FAPA/SAEPR (1998). Określenie liczby organizacji producenckich w sektorze owoców i warzyw wobec perspektywy integracji Polski z UE.
- Frohberg, K. & Hartmann, M. (2000). Baltic Agricultural Competitiveness and Prospects under European Union Accession. In: Hartell, J.G. & Swinnen, J.F.M. (Eds.). Agriculture and East-West European Integration. Ashgate, pp.33-64.
- Gow, H.R. & Swinnen, J.F.M. (1998). How foreign direct investment has stimulated growth in the Central and Eastern European agri-food sectors: Vertical contracting and the role of private enforcement capital. In: Warsaw Agricultural University. Foreign Trade and foreign investment in agri-food sectors: Competitiveness and Policy Implications. Proceedings of the 61th EAAE Seminar, Warsaw, October 22-24, pp. 232-265.
- GUS (2000). Rocznik Statystyczny, Warszawa.
- Hamel, G. & Prahalad, C.K. (1994). Competing for the future. Harvard Business School Press, Boston, 357p.
- Hobbs, J.E.; Kerr, W.A. & Gaisford, J.D. (1997). The transformation of the agri-food system in Central and Eastern Europe and the New Independent States. CAB International, 394p.
- Jensen, M.C. & Meckling, W. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. In: Journal of Financial Economics, n°3, pp. 305-360.
- Kawecka-Wyrzykowska, E. (1996). On the benefits from accession for Eastern and Western Europe. In: Ambrus-Lakos, L. & Schafer, M. (Eds). Coming to terms with accession. Forum report of the economic policy initiative n°2, CEPR, Institute for East-West Studies.
- Klein, P.G. (2000). New Institutional Economics. In: Bouckaert, B. & De Geest, G. (Eds.). Encyclopedia of Law and Economics, Volume I, The History and Methodology of Law and Economics. Cheltenham, Edward Elgar, pp. 456-489.
- Kubiak K., Maciejczak-Kempińska U.(1999): Przestrzenne rozmieszczenie produkcji i skupu owoców i warzyw w Polsce w 1998 r. wg starego i nowego podziału administracyjnego kraju, COBRO, Warszawa.
- Loader, R. (1996). Transaction costs and relationships in Agri-Food Systems. In: Trienekens, J.H. and Zuurbier, P.J.P. (Eds). Proceedings of the 2nd International Conference on Chain Management in Agri- and Food Business, Department of Management Studies, Wageningen Agricultural University, May, pp.417-429.
- Menard, C. (2000). A new approach to the agro-food sector: New Institutional Economics. In: Trienekens, J.H. & Zuurbier, P.J.P. (Eds.). Chain Management in Agribusiness and the food industry. Proceedings of the 4th International Conference, Wageningen, pp.11-21.
- Milgrom, P. and Roberts, J. (1992). Economics, Organisations and Management. Englewood Cliffs, NJ: Prentice Hall.
- North, D.C. (1989). Institutions and Economic Growth: A Historical Introduction. J. World Development, 17(9): pp. 1319-1332.

- North, D.C. (1990). *Institutions, institutional change and economic performance*. Cambridge University Press.
- Rabinowicz, E. (1997). Eastward European Union Enlargement and the Future of the Common Agricultural Policy. In: Hartell, J.G. & Swinnen, J.F.M. (Eds.). *Agriculture and East-West European Integration*. Ashgate, pp.215-245.
- Simon H. (1961). *Administrative behaviour*. 2nd Edition, Macmillan, New York. 364p.
- Teece, D.J. (1980). Economies of scope and the scope of the enterprise. In: *Journal of Economic Behaviour and Organization*, n°1, pp.223-247.
- Teece, D.J. (1982). Towards an economic theory of the multi-product firm. In: *Journal of Economic Behaviour and Organization*, n°3, pp. 39-64.
- Teece, D.J. (1986). Transaction cost economics and the multinational enterprise: an assessment. In: *Journal of Economic Behaviour and Organization*, n°7, pp. 21-45.
- Verhaegen, I. (2001). *Governance structures of innovative food channels: a transaction cost perspective*. Ghent University, forthcoming PhD thesis.
- Wallis, J. & North, D.C. (1986). Measuring the transaction sector in the American Economy 1870-1970. In: Engerman, S.L. & Gallman, R. (Eds). *Income and wealth: Long-term factors in American economic growth*. University of Chicago Press.
- Williamson, O.E. (1975). *Markets and hierarchies: Analysis and antitrust implications. A study in the economics of internal organization*. The Free Press, New York.
- Williamson, O.E. (1979). Transaction-cost economics: The governance of contractual relations. *J. Law and Economics*, 22: pp.233-262.
- Williamson, O.E. (1985). *The economic institutions of capitalism*. New York Free Press.
- Williamson, O.E. (1990). A comparison of alternative approaches to economic organization. In: *Journal of Institutional and Theoretical Economics*, n°146, pp. 61-71.
- Williamson, O.E. (1991a). Comparative economic organization: The analysis of discrete structural alternatives. In: *Administrative Science Quarterly*, n°36, pp. 269-296.
- Williamson, O.E. (1991b). Strategizing, Economizing and economic organization. In: *Strategic Management Journal*, n° 23, pp.75-94.
- Williamson, O.E. & Winter, S. (1993). *The Nature of the Firm Origins, Evolution and Development*. Oxford University Press, New York.
- Williamson, O.E. (1996). *The mechanism of governance*. Oxford University Press.