



**Mechanisms of enforcement
in international trade of perishable products:
the case of the Chilean exports of fresh fruit**

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Abstract

According to North (1991), two main problems have historically arisen in the long distance trade: agency and contract enforcement. In this article we analyze the mechanisms that allow Chilean exporters of fresh fruit to face the strong trade hazards that result from uncertainties specific to international trade and from uncertainties coming out of the properties of transacted products. Our findings are based on 38 in-depth interviews and an extensive survey with 65 leading fresh fruit export companies from Chile. They show that exporters resort to a variety of incomplete contracts which basically differ by the price mechanism (ex-ante fixed price or ex-post consignment price) and complement with a mix of informal and formal mechanisms which are embedded in and/or external to the contracts.

Key words: institutions, contracts, enforcement, international trade, fresh produce, Chile



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1. Introduction

Contract enforcement is a fundamental issue in international trade. According to North (1991), two main problems have historically arisen in the long distance trade: agency and contract enforcement. The agency problem has routinely been solved by resorting to informal institutions such as trust and reputation. However, although they are essential, informal institutions do not suffice to enforce contracts with unknown traders operating in remote locations. The resulting uncertainty led to the development of formal institutions, such as merchant law courts, arbitration, insurance, and contract innovations. These formal institutions help reducing information costs and provide incentives to increase international transactions.

Indeed, the variety of solutions also commands variations in their effectiveness. Several institutional economists have analyzed the advantages and limits of more or less formal mechanisms such as courts (Williamson O. 1996, 2001; Schwartz & Scott, 2003, 2010); self-enforcing agreements (Telser, 1980; Klein & Leffler, 1981); informal mechanisms rooted in networks (Greif, 1993; Milgrom, North & Weingast, 1990; Richman, 2005; Menard 2002; Dixit, 2003). Special attention has also been paid to complementarities between formal and informal enforcement mechanisms (Poppo, & Zenger, 2002; Zhou & Popoo, 2010; Aulakh & Gençtürk 2008; Mazé & Ménard, 2010; Masten & Prüfer 2012).

In this paper, we come back to these issues through an analysis of the mechanisms that allow Chilean exporters of fresh fruit to face trade hazards. These hazards are particularly significant because they cumulate uncertainties specific to international trade with uncertainties coming out of the properties of transacted products which are highly perishable and submitted to measurement problems (Barzel, 1982). Indeed, trade of fresh products such as fruits face uncontrolled natural factors (e.g., climate variations) that result in variability of production; exposure to damage or deterioration of quality during the long-distance transportation; and price volatility on final markets due to variations in demand, currency fluctuations, and fierce competition, among other factors. Agreements between exporters and importers are usually negotiated weeks or months ahead of shipments or even before harvest, exposing trade to the uncertainties listed above. Moreover, there are often delays in transportation, particularly at departure and/or arrival ports, as well with final delivery to consumers. The resulting transaction costs are amplified by the asymmetric information among parties to the agreement. Indeed, exporters have access to the final markets mostly through intermediaries, independent commercial agents with very little incentives to disclose the identity of their buyers. Facing these different sources of uncertainty, parties to the fruit trade resort to incomplete contracts, either ‘contracts with fixed prices’ or ‘consignment contracts’ in which prices are determined after sales on the destination market. In both cases, risks are unevenly distributed among participants to the business so that enforcement is a central and complex issue.

Our findings are based on 38 in-depth interviews and an extensive survey with 65 leading fresh fruit export companies from Chile and show that exporters systematically resort to a mix of mechanisms of enforcement. On the one hand they rely on clauses and mechanisms embedded in contracts, mainly: detailed clauses, safeguards requirements, arbitration provisions, and clauses regarding monitoring and coordination among parties. On the other hand, important external mechanisms complement contracts, either informal ones such as

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reputation and trust; or more formal ones such as insurances, inspection services, and triangulation of risks when parties have to deal in environments with weak legal enforcement procedures.

Our paper is organized as follows. Section 2 develops our theoretical framework, based mainly on an institutional approach to enforcement. Section 3 presents our methodology and the data collected, with descriptive statistics throwing light on the characteristics of the booming fresh fruit export sector in Chile. Section 4 refers to these data to exhibit the prevailing practices of enforcement in the export-import sector of fresh fruits and connects these findings with North's (1991) analysis of challenging uncertainties in long distance trade. Section 5 concludes by emphasizing the important complementarities between informal and formal institutions, complementarities that provide support to the dynamics of international trade.

2. Theoretical Framework

As stated by North (1991), the main difficulties that historically arise in long-distance trade are the agency problem and contract enforcement. The agency problem, due to the difficulty of the principal (the merchandise owner) to monitor, verify and obtain a good performance of the agent (the party hired by the principal) to execute the task of selling the goods. The agency problem was traditionally solved by resorting to informal constraints as relational ties, norms of behavior and conventions. However, according to North, informal constraints are an essential, but not sufficient to support trade in an international scenario. Therefore, the contract enforcement problem was faced by the development of formal institutions: "Negotiation and enforcement in alien parts of the world entailed typically the development of standardized weights and measures, units of accounts, a medium of exchange, notaries, consuls, merchant law courts ... insurance" (North 1991: 100). The development of formal institutions reduced information costs and provided incentives for contract fulfillment in long-distance trade leading to the increase of international transactions (*ibid*). However, as recent research has shown, when formal legal institutions to enforce contracts are weak, managers may choose to rely on informal institutions to enforce fulfillment of commitments (Zhou & Poppo 2010). The research on contract enforcement has focused the analysis on the effectiveness and limits of courts (Williamson, 1996, 2001; Schwartz & Scott, 2003, 2010), self-enforcing agreements (Telser, 1980; Klein & Leffler, 1981, Dixit, 2003), the role of informal mechanisms (Greif et al., 1990; Richman, 2005; Menard, 2002; Maze & Ménard, 2010), the substantiality of formal contracts and informal relational governance (Sitkin & Roth, 1993; Malhotra & Murnighan, 2002 cited by Lumineau & Malhotra, 2011); as well as the complementarity of both formal and informal mechanisms (Poppo & Zenger, 2002; Zhou & Poppo, 2010; Aulakh & Gençtürk, 2008; Masten & Prüfer, 2012); and the interactions between relational governance, contract (detailed contracts and centralized control) within a weak legal framework (Zhou & Xu, 2012). The legal system enforces contracts and provides a set of rules and procedures for resolving disputes between parties. However the assumption that the "legal system enforces promises in a knowledgeable, sophisticated and low cost way" is unsupported (Williamson, 1983: 519). Contract enforcement goes beyond the legal sanction that ideally provides "compensation for injury suffered by B as a result of S's failure ... on complying with the B-S agreement" (Macaulay, 1963: 63). In fact, most disputes that "could be brought to a court, are resolved by avoidance, self-help and the like" (Galanter, 1981: 2, cited by Williamson 2005). Schwartz & Scott (2003, 2010) reviews the analysis of legal enforcement, contract law and contract interpretation, and goes a step further from the normative approach of what official

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institutions (the State in Schwartz' terms) must provide, to the positive view of what business firms need. "Firms want the state to enforce the contracts that they write, not the contracts that decision makers with a concern for fairness would prefer them to have written" (Schwartz & Scott, 2003: 82). Furthermore, they join Telser's (1980) assertions regarding self-enforcing agreements, since they recognize that contracts are often self-enforcing, "when parties contemplate making a series of contracts, neither party would breach an early contract if the gains from one breach are lower than the expected profit stream from future contracts that breach would cause to vanish" and that "neither party will breach if the gains are exceeded by the reputational sanction the market will exact" (Schwartz & Scott, 2003: 6). However, self-enforcing is not sufficient for agreements in volatile markets or when parties invest in relation-specific assets, for in these cases the performance of one party could threaten the survival of the other party (Schwartz & Scott, 2003).

Greif (1992) examines the institutions that governed the exchanges enabling trade during the Commercial Revolution of medieval times: the Maghribis' coalition, the political coalition, and the patron system. During the 11th century, Maghribis traders in the Mediterranean formed a social and commercial network that hedged opportunism behaviors of merchants that violated the group's commercial codes by reputation mechanisms; they provided information regarding cheating and imposed punishments against any agent who had cheated a coalition member. In the middle of the 12th century, a political coalition held a monopoly over Genoa's overseas trade, which controlled the agency relations between Genoese merchants and their agents. By the end of the 12th century, the monopoly was eliminated and a patron system based on a bilateral reputation was used, the merchant (patron) paid sufficient remuneration to the agent and conditioned future employment to good performance in the past.

Masten & Prüfer (2012) building on Dixit's (2003), show that informal multilateral enforcement institutions (in their terms, collective enforcement) are efficient when the contractors are close. In agreement with Dixit's findings, the greater the distance between the contracting parties the lesser the efficacy of the multilateral mechanisms. They also show that courts are more efficient in distant transactions and complement multilateral enforcement.

Mazé & Menard (2010), sustain the complementarities between informal and formal institutions and support the analysis of enforcement when the products transacted are "highly sensitive to the perishable nature" and there is a high possibility of fraud because of severe quality measurement problems as in agricultural products. In these circumstances, reputation and legal institutions are insufficient, while collective industry-specialized organizations and private rules appear to provide effective enforcement.

In the following we present the methodological approach for the analysis of this vast topic.

3. Methodology

In this article we perform a qualitative analysis of the information gathered through recorded exploratory interviews, and through a survey. We also analyze secondary information to have a better knowledge of the nature of the commercial disputes in the international fresh fruit and vegetables trade. We examine the exporter-importer business relationships of off-season fresh fruit international commerce, specifically those of the Chilean exporting firms as one of the southern hemisphere's leader. We performed an exploratory phase, consisting of 38 interviews with industry executives (exporting and importing firms) and key informants in Chile, Europe, US and other American countries. The exploratory survey in Chile was conducted in October 2010, we conducted 19 in-depth and semi-structured interviews with managers of exporting

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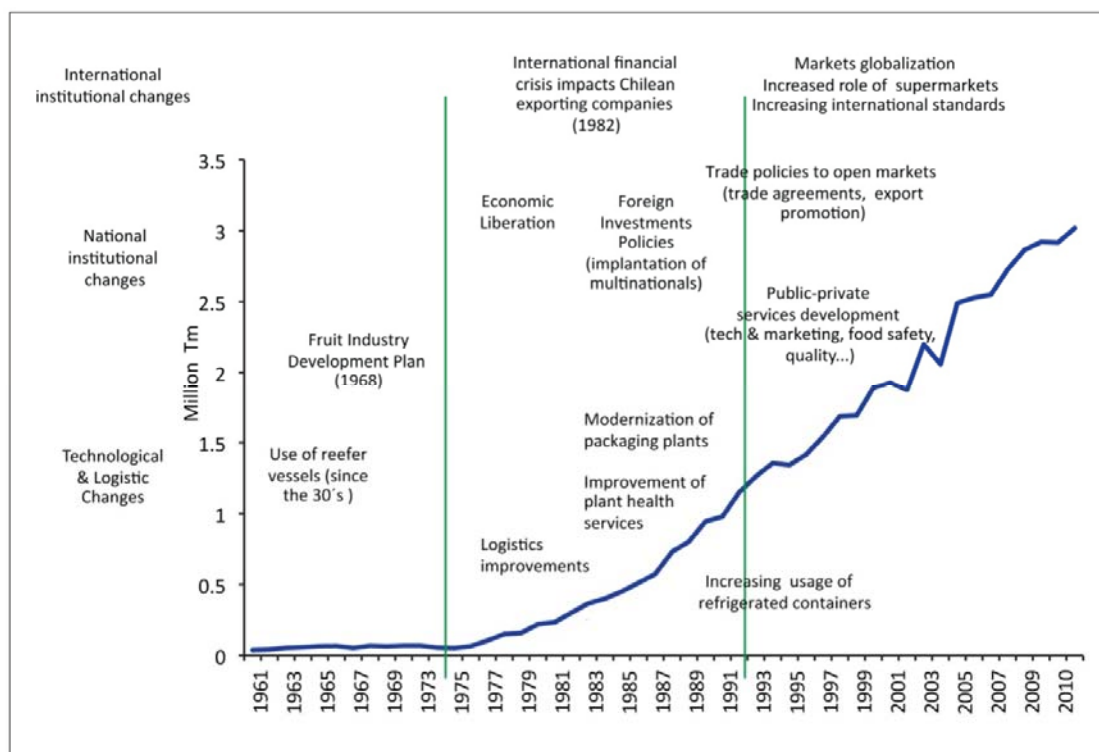


firms; three of the respondents were legal, inspection and insurance service providers. The exploratory survey in Europe was mainly carried on during the biggest international trade fair for fruit and vegetables, in Berlin in 2011. We interviewed 19 firm managers (importers and export-import) and 3 service providers (ports, marketing associations). Most of the managers interviewed have a wide knowledge of the industry, averaging 15 years of experience. Respondents showed a willingness to provide information; most of the respondents in Chile allowed themselves to be recorded (with two exceptions). The interviews were semi-structured. The key questions were: How do export-import companies do business in fresh fruit trade? What is the difference in terms of enforceability? What are the most important clauses/terms in export-import arrangements? What are the factors that influence these arrangements? What are the mechanisms of enforcement? How do firms reduce risks and secure transactions?. Findings from this exploratory phase were used to build a survey questionnaire that was validated by managers and a group of academics. The data collection was performed through face-to-face interviews during June and July 2011. Previously a random selection of exporting firms from a directory containing the last available data on the export 2009-2010 campaign by the *Asociación de Exportadores de Fruta de Chile* (ASOEX). All the appointments were taken personally with the export manager or the CEO. The interviewer was the same person in all the appointments who presented the questions orally and completed the questionnaire. This reduced a lack of understanding and therefore reduced the risks of non-responses. In addition, personal interviews facilitated the confidence of respondents regarding the purpose of the research, its confidentiality and therefore their willingness to provide information. Thus, 65 exporting companies were interviewed. The respondents were commercial executives (62% of the cases) and CEO (38%).

In this article we also resorted to the analysis of secondary information regarding one of the international arbitration systems used by some of the exporters we interviewed: the Fruit and Vegetable Dispute Resolution Corporation (DRC). We downloaded the 191 arbitrations cases within the period 2000 to 2011 which were available on the DRC Website. Only one dispute case in 2011 concerned Chile; however we consider that the analysis of the causes of conflict are an example of what happens in the fruit trade. Therefore, we thoroughly studied the last four years corresponding to 44 cases and classified the cause of disputes, made a classification for grouping the main causes into four categories: (i) disputes on contracts referring to cases where there is confusion or insufficient evidence regarding the type of contract and terms agreed by the parties; (ii) disputes on prices due to misinterpretation of the ex-ante agreed prices or renegotiations because of unforeseen changes when the transaction is concluded; (iii) failure to pay when the buyer does not fulfill his financial obligations with the seller namely: late payment, partial payment or non-payment; and (iv) quality issues due to grade and condition of product.

4. Empirical evidence

Chile is a relevant player in the international trade of perishable products. In past decades it has become a major supplier of fresh fruit in the international market. In 1961 it accounted for 3.9% of fruit exports from the southern hemisphere, 25.1% in 1980 (FAO, 2003), in 2007 it accounted for 59.3% (Chilean Fresh Fruit Association, 2010). The expansion of Chilean exports was characterized by the diversification of the export basket and markets. A combination of institutional, technological and organizational changes allowed Chile to seize the commercial opportunities arising from the increase of the demand for fresh and healthy products such as fruit (Codron, J.M., 1992). Among these changes we can highlight: the liberation of land, labor and transport markets, the trade promotion policies; the technological improvements in the cold chain management that allowed extending the shelf life of fruit; and the organizational changes as the increase of players in the exporting activity, the strengthening of public-private partnerships and the development of private services for information, especially market intelligence, quality control and certification services (Fig. 1).



Source: Own elaboration based on Faostat.

Fig.1 Chile: Key Changes and Evolution of Fruit Exports

The growth of the Chilean fruit trade worldwide led to the increase of trade hazards due to the nature of the transacted products. As access to distant and risky destination markets increased, producers and exporters resorted to different informal and formal mechanisms. As North (1991) states, in order to lower the transaction costs, a number of institutional innovations were developed to facilitate trade, such as: innovation on contracts, mobility of capital instruments, information mechanisms, and risk management instruments.

Contract innovations: origin of the prevailing practices in the fruit export-import sector

Even if the boom of the Chilean fruit industry is relatively recent, for the purpose of studying the origin of actual contractual practices, in the following we initially revisit the first Chilean fruit exports which can be traced in previous research back to the 1800s. Then we will refer in more detail to the contractual practices in the recent past and current practices.

Since 1832 the coastal trade was developed by Chilean peddlers (“*pacotilleros*”) who rented spaces on deck boats and traded from port to port. At the beginning of the journey, the Chilean peddlers obtained supplies in Valparaiso, such as dried fruit and vegetables, grains and wine and marginally fresh produce, and then departed on their route to sell the merchandise. When returning, they would bring back bananas from Equator to sell in Chile. In 1921 these Chilean peddlers associated and constituted a commercial company that succeeded in exporting Ecuadorian bananas to the U.S. and Germany, and afterward, opened the German market to Chilean apples, and also exported Chilean fruit to the U.S.. The first export experience to Germany in 1928 reflects the importance of how building relationships facilitate trade:

“...The manager of the Chilean Commercial Company started selling Ecuadorian bananas to Germany and established a close friendship with a leading German importer whom he invited to visit Chile to see the apple orchards. The importer (both with the manager of the commercial company) visited the producers and their orchards and finally made an initial order of 100 thousand cases which was impossible to obtain as exportable capacity was limited to 30,000 cases, a quantity for which an agreement was established. The commercial company reached a deal (on consignment with guaranteed minimum) with producers to perform the first export of apples to Hamburg” (Espinoza, 1999:79).

In this citation we can observe the reference to the consignment contract that remains the most currently used nowadays. Under this type of contract, the exporter sends the goods to the importer who acts as commissioner and is in charge of selling the products at the destination market at the best possible price (free consignment). A variation of free consignment is the guaranteed minimum price where the parties agree on a minimum and maintain potential for price improvement after sale at the destination market (except when quality problems or market downfall occur at the time of arrival, which are common risks in the long-distance trade of fresh produce). The first export to New York was in 1920, when a Chilean producer exported fresh table grapes on a consignment contract through a marketing company. Despite the poor packaging and transport conditions, the product was sold. Nevertheless, the following year halted exports until 1925 when the exports restarted through an agent in New York. In 1929, the same Chilean producer sent to London a person that he trusted and who knew the business to act as an agent in the U.K. market (Espinoza, 1999).

According to North, the use of kin in long-distance trade was used to solve the agency problem. That is, “a sedentary merchant would send a relative with the cargo to negotiate sale and obtain a return cargo. The costliness of measuring performance, the strength of kinship ties, and the price of defection all determined the outcome of such agreements ... A second problem consisted of contract negotiation and enforcement in alien parts of the world, where there is no easily available way to achieve agreement and enforce contracts. Enforcement means not only such enforcement of agreements but also protection of the goods” (North, 1991: 99–100). During the interviews we found direct evidence of North’s statement. The first experience of a Chilean fruit producer in exports to Europe in the late 60s reflects the exporting practices at that time.

“I started exporting the same way as I used to sell in La Vega (N/A:¹ the traditional fruit and vegetable market in Santiago, Chile). I went to visit the daughter of a friend married to a Swiss man and proposed that this young man find clients for my fruit in the market of Basel. He contacted a wholesaler who had imported apples from Argentina. Then I proposed to the wholesaler: I will dispatch my fruit for you to sell (N/A: consignment contract). If you cannot sell it, you do not have to pay me, and you would owe me nothing. I took all the risks at the beginning and we did good business for twenty years... I also expanded to other countries in Europe... As a marketer of my own fruit, I was focused on achieving the best results in quality and compliance. The brand carried my own full name as a sign of commitment and reputation... I learned that the fruit business is a business of a man’s word; it is a business of trust. You have to trust, however, on occasion, you also have to be tough enough to make some people pay... by insisting, even suing if necessary” (N/A: The interviewee indicated that in his 40 years of experience he had filed only one claim).

As shown, in early years Chilean trade was based mainly on the use of informal mechanisms, the exporter-importer transactions were supported by kinship, friendship or strong personal ties enforcing incomplete contracts such as consignment. As trade has grown and new actors have emerged, contractual practices have evolved although enforcement still largely relies on informal mechanisms.

Exporting practices at present. A commercial executive with 20 years of experience in an exporting company mentioned a change in the use of contracts to counterbalance the risk of long distance trade:

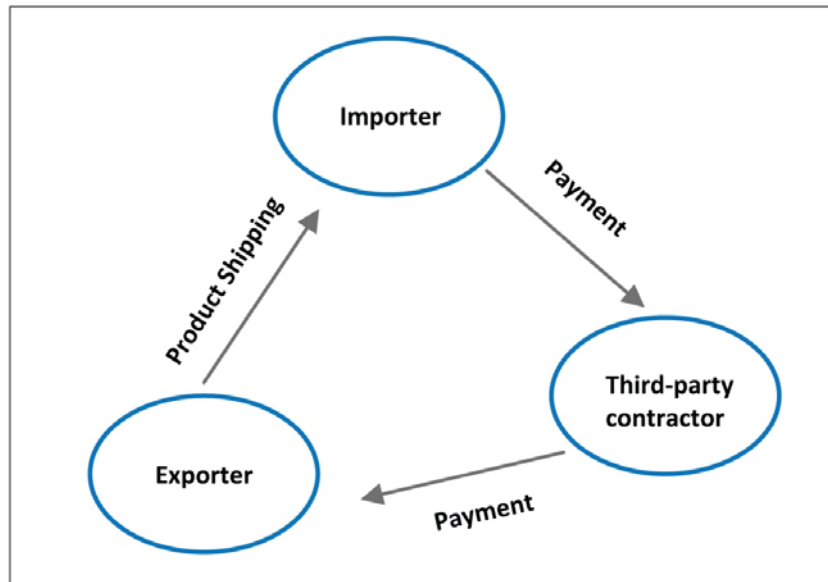
“When our company began to export, we started with a reduced number of clients, most of them were family firms or small firms. A direct and tight relationship between the exporter and the importer used to develop. The agreements were negotiated annually and improved over the years leading to long-term commercial relations. This has been the way of contracting for the last 20 years. At the present time, with the rise of supermarkets and the emergence of foreign firms from distant and unknown markets, this form of contracting has begun to change. Risky destinations, less familiar importers, new participants with recent presence in the industry, and risky importers that you cannot tell if they will fail. Two things happened: (1) a strong growth of credit insurance. Before the business relation was secured by trust, nowadays it is also secured by the insurance company; and (2) use of the firm sale contract...”

In a firm sale contract the parties agree an ex-ante price² for a given product. This is a contract mostly used in case of risky transactions where the exporters resort to more complete contracts instead of consignment. They also resort to advanced payments as safeguards to protect transactions, which are in average, 42% of the merchandise value (50% advance payment was the most frequent answer of the 65 interviews). When the exporter considers that the importer is a risky partner, the advance payment increases up to an average of 85% (the most frequent answer is a prepayment of 100%) which shows that, the lower the trust in the firm, the higher the recourse to this type of safeguard.

¹ N/A: Note of the authors.

² Price definition is based on: (i) past exporting campaigns; (ii) comparison among various importers’ sales accounts to measure their performance; (iii) price, supply and demand information provided by market intelligence systems. These systems are mostly private. Among governmental information systems, the more relevant is the Agriculture USDA Market News Prices.

Another contract innovation mentioned by North is the *commenda*³ contract. During medieval times “the traveling party could ... create a second *commenda* in which he placed all or part of the goods in the hands of a third person who traveled to more distant markets” (Harris, 2009 citing Raymond & Lopez, 2001: 610). Some exporters hedge high levels of risk through a triangulation that consists of using a third firm as intermediary, normally situated in a country different from the country of destination. This third firm agrees to a bilateral arrangement with the importer and on the other hand, reaches a distinct bilateral agreement with the exporter. The exporter ships the products directly to the importer and is paid by the third firm (Figure 2).



Source: Own elaboration.

Figure 2. Contract Triangulation

This contractual arrangement reduces transaction costs and allows risk sharing: a) the importer does not have to incur the costs of searching for, contracting with, supervising, and paying off different providers, because he deals directly with the third contractor who is responsible for fulfilling these tasks; b) the exporter does not have to incur the costs of searching for and dealing with an importer in an unknown, distant or risky country. By negotiating directly with a third party with which he usually has previous a good business experience, the risk of non-payment is reduced and, in case of product acceptance problems in the port of destination, the third party is responsible for inspection, renegotiation and dispute resolution; c) the third firm is able to sell multisource products without taking physical possession of the goods; also, since dealing with trustful exporters, the third party reduces the risk of the provider’s failure to meet quality, handling and transportation requirements for good delivery. In the field survey, 49% of exporters affirmed to have resorted to triangulation when dealing with risky countries or unknown importers, especially when located in faraway markets. A recurrent example of triangulation was the situation of opening new markets in Asian countries such as China and

³ “The basic *commenda* was a bilateral contract involving only two parties, an investing party (called in Italy *commendator* or *stans*) and a traveling party (*tractor*). It is a predecessor of the limited partnership, an asymmetric multilateral contract. The *commenda* was an equity investment contract, specifying investments and payoffs. The investing party provided capital in the form of goods and cash that was used for the purchase of the trade goods and for travel-related costs. He was entitled to a share of the profit. The traveling party typically did not invest capital” (Harris, 2009:609).



India, passing through a third-previously-known importer located in the U.S.A, the Netherlands, as the most frequent examples mentioned. The choice of using the U.S. and the Netherlands as intermediary countries can be explained by the fact that these countries are relevant worldwide traders that have a strong commercial network to facilitate trade. This coincides with the findings of Williamson D. (2010) on his exhaustive analysis of the contracts used in long-distance trade in Venice 1190–1220 and Venetian Crete 1278–1400. Williamson D.'s findings show that when trade involved repeated transactions in high-flow commercial routes, the use of *commenda* contracts was more frequent because it relied more heavily on informal enforcement mechanisms such as trust.

Previous extracts highlight the importance of informal mechanisms as trust to facilitate trade. Besides trust, reputation also plays an important role for securing transactions. According to the interviews, exporters and importers consider that, at present, the international fruit business, even if open and highly competitive, is a network where participants exchange information regarding other companies' behavior, not only between partners but also between competitors. In fact, an exporting company may inform a peer about an importer's behavior or performance; and, on the other hand, an importer may recommend, or not, an exporter to his peer. Furthermore, exporters and importers participate in international fairs where information flows, they also subscribe to specialized agencies that provide in-depth business and credit information on companies operating in the global produce industry. The role of information networks between traders is crucial to business success (Greif, 1993), and activates the role of reputation as part of the intangible assets of a firm (Klein and Leffler's, 1981).

Besides informal mechanisms and contract adaptations, exporters resort to formal mechanisms which are “complementary parts of a total system that work together to enforce honest behavior” (Milgrom, North & Weingast, 1990) to counterbalance risk inherent to long distance fresh fruit trade. These are: the insurances, inspections and arbitration.

The insurances: a) Contracting **transport insurance** is a common practice in international trade (North 1991). In this case, the insurance is normally contracted by the exporters, except for the case of long-term relationships when exporters trust importers and the latter have a better insurance coverage or when both parties agree to share this cost. The responsibility of which party would be in charge of contracting this insurance is agreed during the negotiation of the contract and settled using the Incoterms⁴; b) **Trade credit insurance** is an instrument to secure transactions against the risk of an importer's non-payment. The insurance is based on the fact that exporters ship their goods without receiving, in exchange, full payment for it, in other words, exporters confer a credit to their customers. It started to be used in Chilean fruit exports 10 years ago, which roughly corresponds to the acceleration of globalization. The insurance is especially useful to open new markets, to address those more distant, risky and unfamiliar, or to contract with new customers. After the exporting firm applies for an insurance policy, the insurance company evaluates each of the exporter's customers (the importers). The evaluation focuses on their payment capacity, financial statements and the commercial record of behavior with other exporters. If the importing company complies with requirements it is accepted for insurance coverage to a limit that varies for each importer (insurance coverage is 85 to 90%). On the contrary, if the importing firm does not meet the requirements, the

⁴ International Commercial Terms (INCOTERMS). International Chamber of Commerce.

insurance coverage is rejected (for that specific importing firm). 49% of respondents in our survey declared that they always take out a credit insurance policy, while 34% never use this insurance (Table 1).

Credit Insurance		
	Freq.	%
Never	22	33.85
Sometimes	11	16.92
Always	32	49.23

Source: Interviews to Chilean exporters

Table 1. The use of Credit Insurance

The inspections: Other institution innovations pointed out by North are the development of standards such as weights and measures that seek to lower the information costs. Transactors have to be sure of the weight, quality and specific attributes of the product to be traded. The use of a third party for verification purposes converts an asymmetry of information situation into a more symmetric one; it may double inspections from buyer and seller, and this implies a double measurement cost (Barzel, 2005). In this case, exporters and importers protect themselves against claims by implementing various means: quality, handling and transportation standards, certifications, post-harvest inspections, port inspections and transport insurance policies. Despite these standards, quality is not completely measurable and should be evaluated by external experts to assess the quality, especially if arbitration proceedings are required to solve conflicts. Inspections take place in critical points such as packing facilities, port of departure, entry ports and finally, point of delivery. Chilean fruit exports undergo two types of inspections: an obligatory official sanitary inspection at the departure port, which is performed by the *Servicio Agrícola y Ganadero* (SAG - Ministry of Agriculture), and the voluntary private inspections performed normally at packing houses to verify the good condition of the fruit. Thus, 98.5% of the exporters (64 cases) declared that they performed these private inspections, among which 86.2% use their own inspection capacities and 12.3% hire third-party private services. Only one CEO declared that he did not inspect the product at origin because “he trusted the produce providers” (Table 2). All of the respondents declared that they performed inspections at destination; 48% of them affirmed resorting to private inspectors, which normally act as an independent third party and give transparency and security for both exporters and importers. The communication between the inspection service provider and the recruiter (the exporter or the importer) is fluid and must be timely.⁵ In this way, 46% of the exporters declared that inspections are done directly by the importer, and that recourse to a third-party service provider applies in case of controversy; this third party might be official or private depending on destination legislation. In the case of large exporting companies, the inspection service is normally integrated within the firm.

⁵One of the key tasks of the inspection service at the arrival of the product is checking the thermograph to verify the variations of temperature in the containers during transport. The inspection service must send a report to the exporter or importer within 24 hours (actually they do it immediately by phone). Timing is crucial, since in case of problems there is only a span of 48 hours (after the arrival of cargo) to file a claim to the shipping company.

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	Inspections at Origin Port		Inspections at Destination Port	
	Freq.	%	Freq.	%
No				
Own's	56	86.15	4	6.15
Third's	8	12.31	31	47.69
Client's	-	-	30	46.15
Total	65	100	65	100

Source: Interviews to Chilean exporters

Table 2. The Use of Inspection Services

As seen, inspections of the transacted products are treated rigorously. This is understandable because of the fragile nature of fresh fruit and because of the risk of an operator's displaying opportunistic behavior. According to exporters, when they start getting a greater number of claims due to poor conditions at arrival that is a signal of poor conditions in the market:

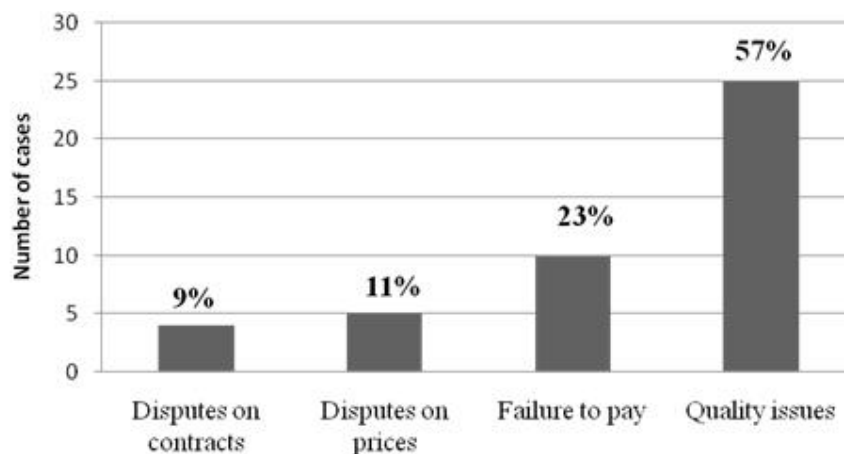
“If the market is saturated, the receivers (the importers) are more strict in checking the fruit and claims arise; if the market is undersupplied or moving faster, receivers make less claims because the market is functioning well” (Producing-Exporting company). And from the receiver's point of view, *“one may find exporters who say: this happened to me; I was robbed. But, if you go into detail, the importer pays four to six thousand dollars freight, pays the customs fees and transport (N/A:⁶ Depending on the conditions agreed in the contract); if there are quality or poor condition problems, the importer has to pay for the reclassification and repacking or even the destruction of the product (N/A: depending on the conditions and the responsibilities agreed in the contract), that is why importers prefer to do business on consignment (N/A: rather than firm sale), especially when the exporter is not serious or has no experience.”* (German importing company).

In summary, exporters and importers agree that quality is a major source of controversy between importers and exporters. In the following section we explore the means for dispute resolution and the main source of controversies.

Arbitration: As North stated, merchant law courts were among the formal institutions that traders developed to reduce the risks of commerce. In Chile there is a private Chamber of Commerce where most domestic, and marginally international, fruit trade disputes are settled. When referring to arbitration, the relevant reference is the Northern American arbitration system, especially the Agricultural Commodities Act (PACA) and the Fruit and Vegetable Dispute Resolution Corporation (DRC). According to exporters, these mechanisms have the highest levels of enforceability since they are embedded in official laws and State bodies. In the US, traders, importers and exporters to the U.S. are protected by the PACA, which is a federal law, enforced by the US Department of Agriculture that regulates interstate and foreign commerce in the U.S. This institutional framework served as a model to develop the DRC, which is a private, voluntary, non-profit organization of produce and transportation companies from U.S.A, Canada and Mexico and from other countries dealing in North America.

⁶ N/A Authors' Note

Out of the 191 arbitration decisions that are available online over the 2000–2011 period, only one case in 2011 pertains to a dispute involving Chile. We analyzed the 44 cases available from 2009 to 2011 and made a classification for grouping the main causes of disputes into four categories: disputes over contracts (4 cases), disputes regarding prices (5 cases), failure to pay (10 cases) and quality issues (25 cases) (Figure 3).



Source: Own elaboration based on DRC's arbitration records.. <http://www.fvdr.com>

Figure 3. Source of disputes in DRC

The **disputes on contracts** refer to cases where there is confusion or insufficient evidence regarding the type of contract agreed to by the parties (i.e. consignment and after-sale price or sale at a fixed price); or the terms agreed such as the rights of decisions on the product, for reselling the product to a third party, the decision to store, return or even dumping the product in case of total damage. Another source of conflict is the unilateral change of contract conditions that may happen when one party considers that the other has breached the contract. Under the rules of the DRC and PACA, in order to change a contract there must be a “meeting of the minds” between the parties and this change must be proven by written documentation (emails are acceptable), if not, the terms of the transaction would remain as the original agreement;

Disputes on prices appear due to different reasons, including misinterpretation of the ex-ante agreed prices, renegotiations because of unforeseen changes, unfavorable market conditions or proven quality issues. For example, a frequent case of disagreement on prices is when the product is rejected or received under protest by a receiver. In this case, the shipper normally requests the receiver, or a third party, to sell the product at the best available price (Gómez et al., 2012). Often, the shipper may not consider that the final price obtained is fair, in which case the DRC determines whether or not the load was sold at a fair market price value using normally as reference the USDA Market News Prices. Another source of conflict is when an exporter expects its agent to only sell its fruit for prices no lower than a specific guaranteed sales price which should be clearly stated in the contract;

Failure to pay, this situation may occur when the buyer does not fulfill his financial obligations with the seller, e.g. late payment, partial payment or non-payment. The most frequent charge for non-fulfillment is quality problems or changes in the initial agreements. Disputes also arise from balances owing from previous transactions. In the industry parties



may arrive at arrangements that allow compensation of losses in the following year. “*What kind of help can you give us?*” in the industry means, “*Will you agree to reduce the price?*” (DRC File 18745, February 28, 2011 cited by Pavez, 2013). This coincides with an exporter interviewed: “*The receiver tells me: help me, the market was bad, and we agreed on the price*” or “*I will help you this year and you will compensate us next year*” (Chilean exporter). Or from the importer’s perspective: “*When the results have been unfavorable to the importer (commission agent), we agree with the exporter that next year we will reduce the prices (paid to the exporter) to compensate the previous losses. Long-term relationships allow these adjustments from one campaign to another*” (French importer);

Quality issues normally arise from two situations: divergences between the product’s grade (standards) demanded and the product shipped (e.g. caliber divergences) which are less frequent; and, poor condition upon arrival (e.g. decay and bruising) due to deficiencies in transportation or shipment (damage due to temperature, inappropriate handling and delays). These issues might result in the rejection of the product or reception under protest, with the consequent loss of the merchandise’s value and controversies regarding responsibilities and loss sharing. Parties must present evidence of whether there was a breach of contract regarding the warranty of suitable shipping conditions; whether there was a timely notification of poor arrival and an accurate measure of damages. Therefore, quality measurement is a major source of litigations and distrust between farmers and agro-food firms, since “quality largely determines the existence and size of quasi-rents, measurement errors are a major source of potential hold-up problems among contracting parties” (Mazé & Menard, 2010:144). Quality uncertainty also influences the choice of contract arrangements between the parties. The level of incomplete information regarding the quality of the transacted product results in a variation of the level of charges on the purchase to offset the risk of the buyer (Fausti & Feuz, 1995).

A final comment regarding recourse to the DRC and in general to the arbitration: Although this institutional framework exists, the number of member companies is low; this may be partially explained by the persistence of a business culture relying on informal mechanisms to solve disputes (Gomez et al., 2012). 90% of the Chilean exporters interviewed during our survey claimed to never have recourse to a trial or arbitration. As North (2005) asserts “traditions and customs may impede managers’ willingness to embrace new practices and institutions”. However, even if there are a low number of arbitrations, as asserted by Mazé & Menard (2010), what matters is the activation of the reputation mechanisms preventing or lowering opportunistic behavior in the industry.

5. Conclusions

Following North we attempted to frame the evolution of contractual practices and the institutional mechanisms to enforce international contracts of perishable products. A number of institutional innovations were developed to facilitate trade, such as: innovation on contracts, information mechanisms, and risk management instruments. As shown, in early years Chilean fruit transactions were secured by informal mechanisms as kinship, friendship or strong personal ties enforcing incomplete contracts such as consignment contracts. As trade has grown and new actors have emerged, contractual practices have evolved. With the rise of supermarkets and the emergence of distant, risky, unknown markets and less familiar traders, the traditional form of contracting changed. Transactions were also governed by more complete contracts as the firm sale, and the use a *commenda*-like coordination. These alternative forms of contracting allow risk sharing when dealing with unknown traders or when expanding to new destination markets.

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The international fruit business, even if open and highly competitive, is a network where participants exchange information regarding companies' behavior which is crucial to business success. Although enforcement still largely relies on informal mechanisms, these have been recently complemented by formal mechanisms, including inspections, insurances, and arbitration. Public and private institutions and organizations at a national and international level have developed allowing specialized knowledge, reducing transactional costs, improving the international contract enforceability and counterbalancing the risks linked to the uncertainty surrounding this industry. The weakness, limits or absence (in certain countries) of these formal mechanisms are still overcome by informal mechanisms that act as complementary devices to secure transactions and to facilitate the development of trade.

References

- Aulakh, P.S., & Gençtürk, F. E. (2008). Contract formalization and governance of exporter–importer relationships. *Journal of Management Studies*, 45(3), 457-479.
- Barzel, Y. (1982). Measurement cost and the organization of markets. *Journal of law and economics*, 25(1), 27-48.
- Barzel, Y. (2005). Organizational forms and measurement costs. *Journal of Institutional and Theoretical Economics JITE*, 161(3), 357-373.
- Codron, J.M. (1992). The Southern Hemisphere and the Expansion of World Trade in Temperate Fruits. *Agribusiness, an International Journal*, 8, 6, 585-600.
- Dixit, A. (2003). Trade Expansion and Contract Enforcement. *Journal of Political Economy*, Vol.111 No.6 pp. 1293-1317.
- Espinoza, H. (1999). *Frutas de Chile: Pasado, Presente y Futuro (Ensayo Histórico)*. Editora HECO S.A. Espinoza Héctor N. Santiago, Chile.
- Fausti, S. W., & Feuz, D. M. (1995). Production uncertainty and factor price disparity in the slaughter cattle market: Theory and evidence. *American Journal of Agricultural Economics*, 77(3), 533-540.
- Galanter, M. (1981). Justice in many rooms: Courts, private ordering, and indigenous law. *J. Legal Pluralism*, 19, 1.
- Gómez, M. I., Rizwan, M., & Ricketts, K. (2012). *Origins, Creation, and Evolution of the Fruit & Vegetable Dispute Resolution Corporation*. Dyson School of Applied Economics and Management. Cornell University. Final Report prepared for the Agricultural Marketing Service, United States Department of Agriculture. January, 2012. Mimeo
- Greif, A. (1992). Institutions and International Trade: Lessons from the Commercial Revolution. *The American Economic Review*, Vol. 82, No. 2, pp. 128-133
- Greif, A. (1993). Contract Enforceability and Economic Institutions in Early Trade: The Maghribi Traders' Coalition. *American Economic Review*, Vol. 83, No. 3
- Harris, R. (2009). The institutional dynamics of early modern Eurasian trade: The commenda and the corporation. *Journal of Economic Behavior & Organization*, 71(3), 606-622.
- Klein, B., & Leffler, K. B. (1981). The role of market forces in assuring contractual performance. *The Journal of Political Economy*, 615-641.
- Klein, B. (1996). Why hold-ups occur: the self-enforcing range of contractual relationships. *Economic Inquiry* 34: 444-463.
- Lumineau, F., and Malhotra, D., (2011). Shadow of the Contract: How Contract Structure Shapes Interfirm Dispute Resolution. *Strategic Management Journal*. 32: 532–555



- Macaulay, S. (1963). Non-contractual relations in business: A preliminary study. *American Sociological Review*, 28(1), 55–67.
- Malhotra, D., & Murnighan, J. K. (2002). The effects of contracts on interpersonal trust. *Administrative Science Quarterly*, 534-559.
- Masten, S.E. & Prüfer, J. (2012). On the Evolution of Collective Enforcement Institutions: Communities and Courts. Presented at the International Industrial Organization Society Annual Conference, October 2012. Paris, France.
- Menard, C. (1996). “On Clusters, Hybrids and Other Strange Forms: The Case of the French Poultry Industry,” *Review of Institutional and Theoretical Economics*, 152, 154–83.
- Menard, C. (2002). Enforcement Procedures and Governance Structures: What Relationship? In: *Institutions, Contracts and Organizations. Perspectives from New Institutional Economics*, Cheltenham, Edward Idgar Pub.
- Mazé, A. & Menard C. (2010). Private ordering, collective action, and the self-enforcing range of contracts. *European Journal of Law and Economics*. 29:131-153
- Milgrom, P., North D. C. and Weingast, B. R. (1990). The Role Of Institutions In The Revival Of Trade: The Law Merchant, Private Judges, And The Champagne Fairs, *Economics and Politics*, Wiley Blackwell, vol. 2(1), pages 1-23, 03.
- North, D. C. (1991). Institutions. *The Journal of Economic Perspectives*, Vol. 5 Issue 1 , 97-112.
- North, D. C. (2005). *Understanding the process of economic change*. Princeton, NJ: Oxford University Press.
- Pavez, I. (2013). Inter-firm contracts in the international perishable products trade: The case of Chilean fruit exports through the lens of Transaction Cost Economics and Institutional Analysis. Doctoral Thesis. SUPAGRO-INRA-UMR MOISA 1110. Montpellier, France.
- Raymond, I.W., Lopez, R.S. (2001). *Medieval Trade in the MediterraneanWorld: Illustrative Documents*. (Eds.) Columbia University Press, New York.
- Reardon T., Barrett C. B., Berdegúé J. A., & Swinnen J. F. M. (2009). Agrifood Industry Transformation and Small Farmers in Developing Countries. *World Development*, 37(11): 1717-1727.
- Richman, B. (2005). Firms, courts and reputation mechanism: towards a positive theory of private ordering, Working Paper, Duke university college.
- Schwartz, A., & Scott, R. E. (2003). Contract theory and the limits of contract law. *Yale Law Journal*, 541-619.
- Schwartz, A., & Scott, R. E. (2010). Contract Interpretation Redux. *Yale LJ*, 119, 926-2143.
- Sitkin, S. B., & Roth, N. L. (1993). Explaining the limited effectiveness of legalistic “remedies” for trust/distrust. *Organization science*, 4(3), 367-392.
- Telser, L. G. (1980). A theory of self-enforcing agreements. *Journal of business*, 27-44.
- Williamson, O. E. (1983). Credible commitments: Using hostages to support exchange. *The American Economic Review*, 73(4), 519-540.
- Williamson, O. E. (1996). *The mechanisms of governance*. Oxford University Press on Demand.
- Williamson, O. E. (2005). The Economics of Governance. *American Economic Review*, American Economic Association, vol. 95(2), pages 1-18, May.
- Williamson, D. (2010). The Financial Structure of Commercial Revolution: Financing Long-Distance Trade in Venice 1190-1220 and Venetian Crete 1278-1400. working paper, August.
- Zhou, K. Z., & Poppo, L. (2010). Exchange hazards, relational reliability, and contracts in China: The contingent role of legal enforceability. *Journal of International Business Studies*, 41(5), 861-881.
- Zhou, K. Z., & Xu, D. (2012). How foreign firms curtail local supplier opportunism in China: Detailed contracts, centralized control, and relational governance. *Journal of International Business Studies*, 43(7), 677-692.