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**TRUST AND FORMAL CONTROL IN INTERORGANIZATIONAL
RELATIONSHIPS**

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AND BART NOOTEBOOM**

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TRUST AND FORMAL CONTROL IN INTERORGANIZATIONAL RELATIONSHIPS

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Abstract

There is a tendency to see trust and control by formal agreements as substitutes. According to transaction cost economics trust is unreliable, and some form of control is needed to reduce hazards of opportunism. According to others, high trust allows for a limited extent of formal control. Formal control signals distrust and thereby evokes reciprocal distrust and formal control. This paper studies all combinations of high/low trust and high/low formal control in four longitudinal case studies. We find that trust and formal control are at least as much complements as they are substitutes. We find that like trust contracts can be both the basis and the outcome of relations.

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Abstract

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Key words: inter-organizational relations, trust, contract, governance

1. Introduction

According to classical transaction cost economics (TCE, see Williamson 1975, 1985), relations that entail specific investments create dependence and vulnerability to opportunistic ‘hold-up’. According to TCE, it is impossible to reliably judge possible limits to other people’s opportunism, and trust does not yield a reliable safeguard. If trust goes beyond calculative self-interest, it yields blind, unconditional trust, which is not wise and will not survive in markets (Williamson 1993). Since one has no reliable *ex ante* knowledge of whether, and when, opportunism will occur, one should employ safeguards against the hazard of opportunism. The safeguards are primarily based on exercising coercive power or ‘deterrence’ (Shapiro et. al. 1992, Maguire et. al. 2001): hierarchical supervision, contract enforcement and monitoring, threat of ‘exit’ (Hirschman 1970), damage of reputation, and impairment of hostages. These safeguards constitute what we call ‘formal control’. They function as power mechanisms (Blau 1964). One definition of the power of actor A over B is ‘the amount of resistance on the part of B [that] can potentially [be] overcome by A’ (Emerson 1972). It is exactly this use of ‘hard’ control mechanisms that inspired many of the more sociologically oriented researchers to criticize TCE.

From a social science perspective, many people take the view that trust is viable without necessarily becoming blind or unconditional, and can be an important element of informal ‘control’ in the sense of the mitigation of relational risk (Macaulay 1963, Granovetter 1973, Ouchi 1980, Gambetta 1988, Bradach and Eccles 1989, Helper 1990, Hill 1990, Bromiley and Cummings 1992, Murakami and Rohlen 1992, Dyer and Ouchi 1993, Ring and Van de Ven 1994, Gulati 1995, McAllister 1995, Chiles and MacMackin 1996, Noorderhaven 1996, Nooteboom 1996, Nooteboom, Berger and Noorderhaven 1997, Mønsted 1998). Man is not only self-interested and opportunistic: in business also common honesty and decency are found. Trust can be based on social norms of reciprocity or obligation, personal bonding, or routinized behavior. This can yield voluntary compliance to an agreement that goes beyond self-interest. Because partners voluntarily refrain from opportunism, trust enables a leap beyond the expectations that reason and experience alone would warrant (Bradach and Eccles 1989), and thus beyond formal control mechanisms.

As Knights et al. (2001, p. 314) note ‘a long tradition of management thought conceptualizes trust and control as opposing alternatives’. In other words: to some extent trust and formal control are substitutes. Low trust requires formal control. High trust allows for a limited extent of formal control. Formal control signals distrust and thereby evokes reciprocal distrust and formal control. However, despite various attempts (e.g. Anderson and Narus 1990, Zaheer and Venkatraman 1995), there is no consistent empirical evidence that trust and formal control indeed substitute for each other. Trust and formal control are found to be interrelated in various dynamic patterns (Zaheer and Venkatraman 1995, Ring and Van de Ven 1994, Larson 1992). This seems to strengthen the arguments of those who believe that formal control and trust are not so much substitutes as complements. For example, legal regulation of interorganizational relationships is an important precondition for trust as it makes them more predictable (Luhmann 1979, Zucker 1986). Thus, we see a ‘fundamental disagreement in the literature’ (Lane 2000, p. 25) on the issue of trust and formal control: are they substitutes or complements?

In order to go beyond conceptual discussions on the interplay between formal control and trust, empirical research is needed. And in order to be able to not only say *whether or not* formal control and trust are substitutes or complements, but also *why* (or why not), *when* and in *what temporal order*, such research should be longitudinal, uncovering the dynamics of these two control mechanisms. Such empirical research has been lacking until now, and it is the aim of the present article. The article argues that both the economic and the sociological perspectives take a too limited view of the roles that formal control and trust play in reality. While the economic view tends to be over-rationalized, the sociological view is perhaps over-romanticized. A balance between the two perspectives is needed. It also argues that insight in the interplay between formal control and trust requires a closer look at the content of trust as well as contracts, and at their meaning in relationship development. This will lead to a more complex but also more realistic view on the governance of inter-firm relations.

The paper proceeds as follows. First we give a theoretical analysis, comparing the perspectives from TCE and sociology in more detail. Second we present the design and results of our

empirical study. Third, we summarize and discuss the results. We demonstrate that trust and contracts are both substitutes and complements, and we show different ways in which the relation between the two may develop in time.

2. Theory

2.1 TCE, contracts, and their critics from the social perspective

In TCE, governance is based on private and legal ordering mechanisms (safeguards) to protect against opportunistic behavior (Williamson 1985), in what we called 'formal control'. TCE aims to find the most efficient form of governance, in a trade-off between different instruments of formal control, depending on the degree of asset specificity, uncertainty and transaction frequency (Williamson 1985).

Classical contract theory is closely related, by aiming at the optimal contract, which is the contract with lowest transaction (contract) costs relative to outcome efficiency. In this theory, a complete contract is defined as an agreement between two or more parties in writing that is perceived, or intended, to be legally binding (Lyons and Mehta 1997: 241). Whereas an agreement may take a variety of forms, written or verbal, implicit or explicit, a formal contract refers to such an agreement in tightly written legal forms (Lyons and Mehta 1997). A complete contract is assumed to produce efficient outcomes, but at a cost of drafting, negotiating, and safeguarding an agreement. Confidence in the contract is assumed, as long as the contract is based on verifiable information, on the implicit assumption that the law provides a reliable and costless enforcement mechanism (Lyons and Mehta 1997: 242).

In reality, it may not always be possible or desirable to specify and enforce a complete contract. It may be very costly to do so because of the costs of set-up and monitoring and the costs and risks of litigation. The plaintiff may have to deal with his opponent again in future, and taking him to court would seriously jeopardize that. Litigation may affect reputation, and thereby jeopardize potential future relations with others. Among social scientists the actual use of legal sanctions is generally seen as incompatible with a trust relationship (Lane 2000: 13). **As Luhman (1979) already noted, legal norms do not fulfil their social function by actually being mobilized, rather they direct the expectations of social actors to certain routes of behavior, long before sanctions are seriously considered.** There is also a more technical obstacle to full enforcement of contracts. In 'relational contracting', contracts contain non-legally enforceable or even poorly specified intentions, promises, conditions and the like, which are supported by non-legal sanctions (threat of exit, hold-up, reputational damage, impairment of hostages). Deakin and Wilkinson (2000: 150) note that 'Such arrangements may easily be misinterpreted by the courts, which do not have access to the specialized knowledge or assumptions shared by the parties'. In sum, the degree of contract enforcement depends on the future perspectives of relationships, which depends on the expected or intended durability of relations, the importance of reputation mechanisms, and the degree to which contracts include legally non-enforceable elements.

As a result, the role and enforcement of contracts depend on the institutional context that enables and constrains instruments of governance. Institutional environments differ in the intended duration and stability of IOR's, the role of reputation, the inclusion of non-legal elements in 'relational contracting', and the gaps that are left in incomplete contracts. In terms of a general characterization, they depend on whether IOR's are perceived primarily from a perspective of 'voice' or of 'exit' (Hirschman 1970, Helper 1990, Nooteboom 1999b). Bachman (2001) describes the differences between the British and German socio-economic system. The continental European system is characterized by co-operative mechanisms to solve the problem of co-ordinating social actors' expectations and interactions. The German business environment is characterized by tight regulation and a strong institutional order. The British system, by contrast, is characterized by a patchy and incoherent institutional environment with a relatively weak form of embeddedness of social interactions into these structures (Bachman 2001: 353). This has implications for the use of trust as well as formal control. In Anglo-saxon countries, agreements tend to be laid down in detailed formal contracts in which each side tries to force its conditions upon the other (Sako 1992). In the German context, system trust exists by reference to the institutional framework of norms of behavior, expected duration and intensity of relations, allegiance to professional and industry associations, and

at the personal level businessmen trust each other as representatives of their organizations which are embedded in highly regulated socio-economic systems.

An incomplete contract is defined as an agreement that goes beyond what is verifiable, for example with agreements on a quality level that cannot be verified (Chen 2000: 211). In an incomplete contract the gaps in the agreement are filled as contingencies arise, offering less certainty but more flexibility in the execution of the agreement. In case of trouble, fewer legal safeguards exist to fall back upon. However, elements of a formal agreement that are not legally enforceable, as part of relational contracting, can still yield elements of formal control, by indicating limits of acceptability, with an underlying threat of non-legal retribution such as retaliatory opportunism ('tit for tat'), suspending collaboration, breaking the relation, damaging reputation, or sacrificing hostages. Such formal elements can be of different types, and can be more or less extensive, depending on the role, the extent and the basis of trust.

From the social science perspective, scholars argue that while using power may be effective in some cases, it also yields disadvantages in unwanted side effects, such as evoking conflict (Gaski 1984, Hunt and Nevin 1974, Lush 1976) and defensive behavior (Zand 1972, Hirschman 1984). As noted by Deutsch (1973: 88): 'Without the other's trust as an asset, power is essentially limited to the coercive and ecological (i.e. conditional) types, the types that require and consume most in the way of physical and economic resources'. Thus, Sociological theory proposes trust as an alternative governance mechanism. Trust is argued to have positive side-effects on IOR development. People who trust each other will expose themselves more easily, are more receptive to other's ideas, accept more interdependence, and have less need to impose control on others (Zand 1972). As a result, problems are more likely to be identified, openly examined, and solutions are more likely to be appropriate and creative. In short: trust would yield efficient outcomes at lower costs. Some authors even claim that use of formal control creates a self-fulfilling prophesy because it signals distrust. This will evoke opportunism and lack of loyalty, which in turn requires more control (Goshal and Moran 1996). Besides these negative influences on IOR development, traditional TCE safeguards may also be very costly to use, and can impose a straightjacket constraining the scope for unpredictable actions in the relation that one needs to maintain especially when the aim of the relationship is innovation (Nooteboom 1999a).

Perspectives of non-opportunistic behavior are also found in the contract literature. Chen (2000) states that the basic assumption that human beings have a tendency to keep promises is closer to reality than that of opportunism in the study of optimal contracts. Macneil (1980) explicitly calls attention to the social aspects that accompany business transactions and contracts. He claims that contracts, as presumed in classical and neo-classical economics, actually do not exist, because they are cut loose from their social context and meaning. The economy is embedded in society as a whole and discrete transactions are inconceivable in this world-view since '... contract between totally isolated, utility maximizing individuals is not contract, but war' (Macneil 1980:1).

Although Williamson relies upon the contractual distinctions made by Macneil, his transaction costs framework does not include social virtues. As already indicated, Williamson (1993) argues that if trust goes beyond calculative self-interest it inevitably yields blind trust, which is unwise and will not survive in competition. This yields a challenge. Most people would agree that blind, unconditional trust is unwise. Then, how can trust be real and relevant without inevitably leading to blind, unconditional trust? Pettit (1995) offers an answer by stating that trust can be real and yet take into account limits of trustworthiness. Such limits represent a partner's resistance to opportunistic temptations or pressures. Among firms, such pressures depend, among other things, on the intensity of competition. While people and organizational culture may be oriented towards trustworthiness, firms may be forced to be opportunistic for sheer survival. However, within those limits one trusts, and opportunities and hazards of opportunism are relegated to 'subsidiary awareness' (Polanyi 1962), i.e. in a trusting relation one is not permanently alert on opportunities and risks of opportunism. However, when conditions arise that exceed perceived limits of a partners resistance to temptations or pressures of opportunism, or when unexpected behavior is observed, attention to hazards of opportunism is triggered and shifted from subsidiary to focal awareness (Nooteboom 2002).

According to a similar line of argument, trust is not blind because although discrete transactions may be displaced by relationships ‘with a vast array of norms beyond those centered on the exchange and its immediate processes’, people still reason according to the ‘laws’ of discrete exchange (Macneil 1978). In other words, actors think both discretely and relationally; they are at the same time selfish individuals and integral parts of a social unity (Macneil 1980). Therefore one may expect that formal contract reflect the same interconnectedness between (intentionally) rational economic thinking and relational reasoning and inclinations between people. This entails that (intentionally) rational economic thinking and relational reasoning and inclinations might go hand in hand.

2.2 Objects and sources of trust

In the literature on the relationship between trust and formal control it often remains unclear what trust actually is. As a result, empirical findings are difficult to interpret. Hence, before we elaborate on the relationship between formal control and trust, it should be clear what we mean by trust. The notion of trust is a complex one, and we cannot give an exhaustive treatment here (for such a treatment, see Nooteboom 2002). Here we limit the analysis to what is essential for the present discussion.

The trust literature distinguishes between different kinds of trust according to the ‘object’ of trust: things that one may have trust in. One is trust in competence: the partner’s ability to perform according to expectations. Another is trust in his intention or ‘goodwill’ to perform according to the best of his ability, and not engage in opportunistic behavior. A third is trust in external conditions that might affect outcomes. If expectations are not met, this may be due to lack of competence, lack of intention (opportunism), or outside conditions that affect the results of efforts. This distinction is important, because when trust is broken the proper response depends on the cause. With breach in competence trust one may respond by trying to improve the partner’s competence, or to provide for assistance. With breach in intentional trust one may improve incentives or give warnings or threats. With breach in environmental trust one may seek to make agreements less sensitive to unforeseen conditions, or take measures to solve them. The problem of course is that it may not be clear which is the case. An opportunistic partner is not likely to concede his opportunism, and will claim accidents or mishaps as the cause of unfulfilled expectations.

Trust can have various sources on which it is based. First, prior to a relation, trust has an initial value that reflects a person’s or company’s general inclination or willingness to trust (Mayer et al. 1995). This inclination is to some extent a trait of people and company cultures and is reflected in their collaborative attitude. It depends on generally accepted norms of conduct that are part of the institutional environment. However, the inclination to trust is not a fixed trait. It depends on innate tendencies as well as survival conditions, experience and socialization. Second, trust may be based on experience that has developed into routinized behavior. When things have been going well in a relationship, this may be taken for granted, and attention to possible weakness of competence, or ‘inclinations or opportunities for opportunism’ may fade away (Nooteboom 1999a). Third, trust may be based on knowledge and inference (attribution) of the partner’s abilities, traits, goals, norms, values, and circumstances. This knowledge may be based on one’s own experience (Burt 1992), the partner’s reputation (Mønsted 1998), or institutional indicators like certificates, membership of family, clan or associations (Zucker 1986). This is referred to as cognition-based trust or economic trust (Larson 1992; Gulati 1995, McAllister 1995, Shapiro 1987). It is ‘economic’ in the sense that it is rational, and can be invested in. A fourth source of trust is loyalty, care, warmth, friendship or empathy for the other party (Organ and Konovsky 1988, Luhman 1979, Nooteboom 1996). This is called affect-based trust (McAllister 1995). It is frequently based on kinship (Ouchi 1980), and similarity or mutual identification on the basis of shared cognitive frameworks (Hellriegel et al. 1992, Gulati 1995, Burt 1992). According to Lewicki and Bunker 1996), the development of trust has several stages. If there is no prior trust, on the basis of previous experience and institutionalized norms, relations typically start with ‘economic’ trust, and then may develop ‘identification based trust’. Whereas trust propensity, routinization and cognition-based trust can all apply to competence trust as well as intentional (or ‘goodwill’) trust, affect based trust solely applies to intentional trust. We will now focus on intentional trust, i.e. trust that a partner will refrain from opportunism.

Rational, cognition-based trust is based on an assessment of a partner's trustworthiness, which here, in intentional trust, is lack of opportunism. Bradach and Eccles (1989: 104) defined it as 'a type of expectation that alleviates the fear that one's exchange partner will act opportunistically'. This definition embraces all possible bases of trustworthiness, including control (hierarchical control, contractual enforcement, self-interest based on dependence, reputation or protection of hostages), social sources (norms of reciprocity), personal sources (affect, identification), a preference or taste for trust-based dealings, and routinized behavior. Others give a much sharper definition, which does not include coercion or self-interest as sources of trustworthiness. E.g. Mayer et al. (1995: 712) defined trust as 'the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party'. Bradach and Eccles (1984), Chiles and McMackin (1996) and Nooteboom (1999a) have offered similar definitions. The strong notion of trust entails the expectation that, within bounds, a partner will not be opportunistic even if he has both the opportunity and material incentive for it. We propose that this stronger notion of trust is the one intended in ordinary language. It is also the one employed in this study: trust is a belief in trustworthiness that goes beyond control and enforcement.

Trust does not necessarily entail the absence of conflict. Indeed, trust can reduce the threat of conflict and thereby facilitate it. The joint solution of conflict can deepen trust in several ways. First, it may yield learning, which confirms the value of the relation and thereby increases mutual commitment. Second, the fact that problems are solved in itself reduces perceived risk in the relation. The conflict yields a test of the strength of mutual benevolence and the dedication to 'work things out', in a mutual 'give and take' and 'voice'. The fact that the relation survived the test increases trust in the strength and resilience of benevolence and dedication. It contributes to mutual identification and empathy.

3. Design of the empirical study

The present article attempts to answer the question to what extent trust and formal agreements are in fact substitutes, and to what extent they support or complement each other. We are not the first to investigate the relationship between formal control and trust. Earlier empirical studies, much to their surprise, found that trust appeared to increase rather than decrease the level of formalization (i.e. hierarchical structuring of transactions) (Anderson and Narus 1990, Zaheer and Venkatraman 1995). However, these studies suffered from a lack of clear definitions of what kind of trust and what kind of contracts we are actually talking about, as well as from a lack of dynamics (Klein Woolthuis 1999). We need to take into account the specific purpose and context of a relationship, and their change, to assess the role of trust, control and the relation between the two. Longitudinal case studies are needed to prevent difficulties of interpreting dynamic data with static models, as encountered by e.g. Anderson and Narus (1990) and Zaheer and Venkatraman (1995). As shown by earlier research, trust can be both the basis for relations and their outcome. Only in a longitudinal study can we see whether trust or its breakdown precedes or follows contracts. That is needed to investigate possible complementarities or substitutes between contract and trust.

We conduct an exploration in the form of longitudinal case studies in a two-by-two factorial design: high/low trust and high/low formal control. The four selected cases concern complex transactions for which close collaboration between partners is necessary over a considerable period of time. The cases involve two or more legally independent partners. In all transactions, partners share costs and benefits. The collaboration entails specific investments, and hence dependence and risk of 'hold-up', which may be one-sided.

The low-trust/high control case is the classical one of TCE. Since there can be no reliable trust when there is risk of hold-up, one should safeguard against the hazard of opportunism on the basis of control by legal and/or relational contracts, specifying what is acceptable and what not, with threats of legal enforcement or non-legal retribution. We will investigate the extent to which this arrangement was successful, in the sense of yielding efficient, fruitful collaboration. The high-trust/low control case reflects the view from social science. Does it work? Both the low-trust/low control case and the high-trust/high control case seems anomalous from the view that trust and control are substitutes. The low-trust/low control case seems hazardous. Did it indeed fail, or was there no hazard involved, in spite of obvious mutual dependence? The high-trust/high control seems

particularly anomalous from the substitution view, and if it arises, it suggests support for the complements view. Does it occur, what is its purpose, and how does it work?

To enable comparison between cases and to ensure the quality of the case analysis, a case protocol was written (Yin 1994), to describe the relationship's history, development and termination and/or continuation. Focal points were the development of trust and the exact content of the agreements/contracts. The relationships were studied from the start of the project until the project ended.

The data were collected from a series of projects that were developed in the context of a subsidized program of innovation, which involved outside consultants. One source consisted of documents from the project administration held by the subsidizing agency. These documents included the contracts and agreements, project-plans, annual reports of the companies, half-yearly project reports on the project's progress (technological as well as financial data), annual visiting reports of the consultants, correspondence between the companies and consultants, and notes of telephonic contact between the companies and consultants. From these data, a good reconstruction could be made of how cooperation progressed from a technical, financial and personal perspective. A second source was three face-to-face interviews with each consultant involved in the project. The first interview was held before the document-analysis to get a general impression of the project. The second interview was done after finishing the document analysis to confirm the findings and to go into deeper detail on aspects that were harder to discover from the documents, such as the social aspects of the relationship, company culture and the relationship's history. The third and last interview was to confirm the accurateness of the final description and conclusions derived from it. On the basis of these data, it was possible to establish a rich case-description and analysis, and to conduct checks between the different sources (triangulation). A restriction was imposed by the highly proprietary character of the project-data. As a result it was not possible to speak to the companies directly and it is not possible to refer to the names of the companies. In the case-descriptions below, fictitious names are used.

The case which combines high trust with high control is the most interesting because it is anomalous: why have contracts if there is trust? Don't contracts signal and breed distrust? Therefore we will spend most space on a discussion of that case. The other cases are less surprising, in that they are not unexpected from the perspective of established theory. However, they yield enlightening illustrations and supplementary insights. They will be summarized briefly.

We use the term 'formal control' rather than 'contracts' to express the fact that we find that often formal agreements have legally non-enforceable elements, as already indicated.

4. Results

4.1 The Pet-food case: distrust and extensive control

In December 1989, FoodCom, a large producer and seller of specialty foods, and Processor, an international firm specialized in developing a wide range of food ingredients, decided on the joint development of a new ingredient for specialty food. The partners had complementary skills: whereas Processor had specialist knowledge on the development of the ingredients, FoodCom had knowledge on how to integrate the ingredients into the production process. However, in this project Processor held a stronger position. The development of the ingredients was for them more or less based on standard knowledge and routines. FoodCom, by contrast, faced great difficulty in processing the ingredient in the new food. Furthermore, considering Processor's R&D budget the project was relatively small for Processor, whereas it was of strategic importance to FoodCom. In earlier collaboration, FoodCom had noticed that Processor was sometimes sloppy in their way of dealing with a collaborative project. Now FoodCom was in a situation of technological dependence, they feared that Processor would not be collaborative enough to make the project a success. Hence, the project plan and contract specified clear arrangements that Processor should commit itself to both the development of the ingredient and the implementation of it in FoodCom's production process. The relationship was characterized by fear of opportunism, and hence lack of trust. In December 1989 the partners signed a very detailed agreement, with contractual, i.e. legally enforceable, and noncontractual elements. It included arrangements for two-monthly project meetings, project management, property- and publication-rights, secrecy of information, limitations of cooperation with

other parties, and patent rights. The rights and duties as laid down in the contract clearly showed the powerful position of Processor: Processor had most rights although the partners shared costs equally.

During the project, the imbalance between the partners became more and more apparent. Project meetings did not take place according to schedule and agreements were not always fulfilled. Also, the costs of the project were getting out of hand and Processor increasingly started to lose interest in the project. In the summer of 1993 it was clear that there was a conflict. FoodCom complained that since Processor started a new project in the end of 1990, they had been 'a very difficult partner to cooperate with'. Further, the consultant was informed that Processor did not stick to the agreement with regard to the implementation of the ingredient and did not treat the processing problems as a joint responsibility. Meanwhile, FoodCom was facing serious technical problems processing the ingredient. They tried to enforce execution of the written agreement of 1989 by involving the consultant and by referring to Processor's legal obligations. Processor ignored the threats. Towards the end of 1993, Processor's planned budget for the Special Food project was finished and they just stopped the collaboration half a year before the planned ending of the project.

Collaboration was built on one-sided dependence, and trusting or friendly relationships were lacking. FoodCom's doubts regarding the *ex ante* goodwill and loyalty of Processor can be read from the project-plan and the consultant's notes. Cultural differences were mentioned as a source for ongoing irritation and lack of loyalty. Processor seemed well aware of their asymmetric dependence and did not respond collaboratively when FoodCom tried to change the relationship to the positive by calling upon moral obligations. In spite of written agreements in the form of a project plan as well as a contract, FoodCom was unsuccessful in enforcing execution. In the process, the contract proved to have no value for FoodCom.

To a large extent, this case illustrates what one would expect on the basis of TCE. In the presence of high one-sided dependence and expectations of opportunism, the hazard involved should be safeguarded by control on the basis of legal and other formal control. Usually, the problem recognized in TCE with regard to such a contract is that it cannot be complete in view of uncertainty concerning future contingencies. Another problem was that asymmetric information blocked proper monitoring of contract execution. However, what is salient in this case is not so much a problem of contract incompleteness or asymmetric information but a problem of inability to *enforce* the contract, or unwillingness to incur the costs and trouble involved. Especially in case of a small, dependent partner, threat of litigation may not be credible, but here we find it also for a large firm. The case suggests that contracts may not work when they are needed most, i.e. in the case of asymmetric dependence. It suggests that in view of their problems contracts will seldom work when not complemented by either some balance of mutual dependence or trust.

4.2 The Bio-Wrap case: trust and limited contracting

In 1992 an industrial designer sought partners to develop her invention (a biological wrapping material) into a mass-produced product, because she had limited processing knowledge and financial resources. In 1994 she started collaboration with two entrepreneurs whom she knew from earlier projects: a process engineer brought in production knowledge, an experienced industrial designer agreed to bear the investment and risk together with the inventor.

The consultant characterized the relationships as friendly and trusting. During the project the companies remained independent one-man businesses. In order to make the required investments possible, they even had to pawn their personal belongings which is illustrative of the great commitment partners had in making the product a success. Along the way substantial problems were encountered: there were problems with the selected basic materials, as well as with the processing of the materials. However, these technological problems could all be solved in a friendly and collaborative atmosphere. As a result the project could be finished successfully in 1997 (within the set time frame) even at lower costs than expected. Furthermore, the end of the project did not entail the end of their collaboration: after this project they continued cooperating in various other projects.

In view of the high complexity and specific nature of the investments, TCE would suggest that parties either integrate in a single firm, or secure other safeguards against hazards of opportunism. In view of the small volume and frequency of transactions it would suggest the use of trilateral governance, using third parties to offer arbitration. In fact, the partners did none of these.

They only signed a letter of intent and wrote a project plan on what they wanted to achieve together. No clause was made for third party assistance or other formal control mechanisms to guide future actions. Also, no arrangements were made on project-ownership, sharing of benefits or proprietary knowledge. Instead, the partners seemed to rely on the existing trust and loyalty between them. What happened can still be aligned with TCE, however, in two ways. One is to say that TCE only indicates what one should do, and allows for the possibility that in fact firms neglect to undertake appropriate safeguards. Then, they may still get lucky, with a prosperous and conflict-free relationship. We propose, however, that the case clearly shows that the good outcomes cannot be ascribed to unspecified luck (they encountered several substantial problems) but to demonstrable trust that was deliberately taken as a basis for limited contracting. A second argument from TCE could be that there was mutual dependence and that this in fact provided a safeguard (the entrepreneurs had invested their money in the project and depended on it for their income). However, purely business interests do not explain the positive atmosphere in which the project took place, while this positive atmosphere was the dominant factor in explaining the success of the relationship.

In this case we recognize the prevailing idea that trust can substitute for a contract aimed to safeguard against opportunism. Here, trust in intentions was combined with trust in competence, so that no contract was needed to safeguard either. On the basis of previous collaboration, yielding experience and personal bonding as a basis for trust in both goodwill and competence, there was a basis from which future plans could be realized without trying to specify everything *ex ante*. These strong personal relationships made them trust each other to interpret the uncertain future in a manner that would be acceptable to them and to act accordingly (cf. Ouchi 1980). There was a basis for commitment, openness and joint problem solving. This open and friendly atmosphere enabled them to solve problems effectively and finish the project within the projected time and budget.

4.3 The Wrapline case: distrust and limited contracting

A small entrepreneurial company (Entrepreneur) and a large production company (Producer) wanted to develop a packaging machine (the Wrapline) for electronic components for the IC-industry. Entrepreneur was a highly specialized company in process development and possessed a number of worldwide patents in this field. It was an aggressive, fast growing company. Producer was specialized in the production of machinery and tools. It was a subsidiary of a very old, traditional, large company. Its age could be recognized in its bureaucratic and hierarchical manner of doing business. Entrepreneur and Producer had previously cooperated on a co-makership basis. Because of the powerful position Producer traditionally held, it did not fear opportunism when it negotiated the contract with Entrepreneur. Without much thought, a standard buyer-supplier agreement was provided by Producer that did not include arrangements for shared investments and shared benefits from cooperation. Entrepreneur did not put much emphasis on the contract either. It did not want to be tied down by long-term contractual arrangements because Entrepreneur wanted to be able to quickly respond to changing circumstances and new opportunities for further growth.

Entrepreneur had large economic interest in the project since large, international producers had shown interest in the Wrapline. This entailed a large market potential for Entrepreneur. For Producer, the project was more of an operational nature. The cooperative nature lay in the fact that risks and benefits were shared. Initially project costs were paid for by Producer. If the project were to become successful those costs would be re-paid by Entrepreneur and future production assignments would be given to Producer. However, during the project it turned out that cooperation did not develop as desired. Entrepreneur continuously changed the specifications for the machine as insights grew on technical and commercial requirements. Producer could not timely adapt its production capacity because of its bureaucratic culture and because the project did not have the same priority as it had for Entrepreneur. The large cultural differences made it hard for them to understand and sympathize with each other. Instead of working it out together, Entrepreneur started a search for another partner. After two years cooperation between Entrepreneur and Producer terminated. The loss for Producer was moderate relative to the firm's size and Producer showed understanding for the problems Entrepreneur had with its bureaucracy: it was aware of its inability to move as fast as the small entrepreneurial firm and did not apply sanctions on Entrepreneur when it looked for another partner.

This case in no way contradicts TCE reasoning. There was no high risk of dependence on either side. There were specific investments on one side of the relationship, but both sides had alternatives to fall back on. Hence no extensive safeguards were needed. Potentially, Entrepreneur was the weaker party, with fewer alternative activities to fall back on. However, he did not want to be tied down by a detailed contract and opportunistically kept his options open for alternative partners. His business opportunities had higher priority to him than loyalty or a long lasting relationship, and switching costs were low. Producer, on the other hand, did engage in some specific investments, which could be recovered only if the project were successful. However, the investment was not large relative to the size of the firm.

Summing up: this case bears no surprises. Two minor interesting features are the following. The case yields an illustration of competence trust, where competence is not technical but organizational. The relation broke down because of lack of Entrepreneur's trust in the competence of Producer to practise the improvisation and flexibility needed for innovation. In this case we also recognize the contingency, discussed in the theoretical section, that when one has a dominant position in a market, as Producer did, one can more easily afford to be relaxed about the risk of opportunism. Risks can be incurred concerning specific investments that are minor in relation to firm size.

4.4 Pharm-Venture: Trust and extensive, detailed contracts

We spend more attention to the case of extensive detailed contracts in combination with high trust. Its mere existence seems to present an anomaly.

In January 1993 two large international players in the pharmaceutical industry, Syntecs and Curex, started official negotiations on the joint development of a new drug. The companies were complementary in this project: one had specialist knowledge and good access to raw materials, the other had complementary knowledge and a very strong market position. To confirm their intentions to cooperate, they signed a letter of intent in March 1993. On an informal basis, the partners had already been talking and negotiating on a possible partnership for ten years. They now wanted to formalize their relationship and create a strategic partnership for the development of a new drug. They themselves referred to the partnership as an 'engagement'. They also stated that there was a good 'chemistry' on the personal level as well as on the company level and that on the basis of this chemistry, they made their partner choice. Moreover it formed the basis for their trust in the potential of the relationship. For these reasons this case is classified as yielding a 'trusting atmosphere'.

For both parties it was a large and important project. The project-plan mentions that the development of the new drug took place under great pressure of international competition. The technological rat race was directed at setting a new standard and achieving technological leadership in the world market. Hence, the partners both invested considerably: the total investment of around 6.5 million Dutch guilders was shared equally.

November 1993, after 10 months of formal negotiations and a positive outcome of the feasibility study, the partners signed a contract. The contract was extensive and entailed clear contractual and noncontractual arrangements on: cost sharing (50/50), division of labor, meeting frequency, project management, secrecy of information, joint ownership, duration of the cooperation (equal to the project duration), and a procedure for relationship termination. In January 1994 their relationship was further formalized in the 50/50 joint venture BiCom, because they firmly believed in their joint potential. Through BiCom they executed collaborative projects with four Dutch universities in related fields, making it a joint venture that fitted in their expansion strategy and making it easier to administrate the collaborative projects with the universities.

The new-drug development was not without problems. During the first half of 1994 there were start-up problems and later the complexity of the project forced the partners to invest more time and money than planned. However, they overcame the technical problems, and in general made good progress. By September 1995, already four patents were applied for, and in August 1996 the partners developed a concrete plan for production and economic exploitation.

The very existence of this case contradicts the idea that trust and contract are substitutes. It took Syntecs and Curex a long period (ten years) of breeding familiarity and trust before they engaged in formal and detailed contracting. During that period there were also talks with alternative partners, but Syntecs and Curex chose for each other because the 'chemistry was right'. The partners explicitly

mentioned trust as an important factor in their decision to cooperate. However, the high level of trust did not withhold them from drawing up an extensive contract and using unified governance (the joint venture) to govern the relationship.

This case suggests that trust and contract are not necessarily substitutes. Clearly, the contract, although formal and quite detailed, is not intended as a safeguard against opportunism, but is instituted for other reasons. In this case the following alternative reasons were found:

1. At least part of the goal of the contract was to safeguard against outside contingencies, and not because they might yield 'opportunities for opportunism' within the relation. In other words, the contract was simply intended to make clear what is to be done when unforeseen conditions arise. This is in line with the notion, discussed in the theoretical section, that trust can have several objects, outside contingencies being one of them. It may also protect against spillover of sensitive, proprietary knowledge. Here again, the issue is not opportunism but accidental, unintended leakage of knowledge, and how to prevent that.
2. The contract served as a record, like minutes of a meeting, to coordinate the relationship in view of its technical complexity and its intended long duration. In other words, it simply recorded what was agreed, for the sake of managing the joint project rather than for preventing opportunism. As described, the contract contained very specific arrangements on the project (as detailed as meeting frequency, for example). Because of the trusting atmosphere in which negotiations took place, parties were able to reach such detailed agreements.
3. The contract also had a symbolic function. Before engaging in the set-up of such a detailed contract, parties needed to build up trust as a prior condition, because a detailed contract itself is a substantial relation-specific investment. Before engaging in it, both parties needed sufficient certainty that the investment would pay off. This requires prior trust in both competence and intentions. Furthermore, the contract included agreements on the relationship itself, including agreements concerning potential relationship termination, and other quite confrontational agreements. These are hard to make if there is no prior trust, because such contract negotiations requires parties to be open and vulnerable about their motivation and interests. In this light, the contract can be seen as a sign of commitment like in a marriage. Although this may seem over-romanticized, it does conform to the parties' perceptions in the sense that they literally speak about an engagement. As discussed in the theoretical section, the trust literature indicates that detailed contracts concerning behavior and actions carry the danger of being interpreted as a sign of distrust, which may trigger reciprocal distrust. To prevent that, and yet include such agreements, prior trust is needed. The empirical observation that trust precedes quasi-integration has been made earlier by Anderson and Narus (1990), but could not be explained by them because they analyzed their findings solely along the TCE line of reasoning that extensive contracts and/or integration goes hand in hand with fear of opportunism and a lack of trust. If trust is considered as a precondition for formal agreements and commitment, as we find in this case, their findings are no longer in conflict with theoretical expectations.

Our conclusions from this case are as follows. Trust, contract and even integration can go hand in hand. Here we encounter trust as a precondition for a contract. A contract can have other reasons than preventing opportunism (intentions as the object of trust), such as safeguarding against external contingencies (external conditions as the object of trust), and as a technical aide for memory and clarity of instruments for coordination (competence as the object of trust). A high level of prior trust can be needed for partners to be willing to engage in the expensive and specific investment of a detailed contract, and to prevent technical arrangements to be interpreted as a lack of intentional trust. In this way the contract can serve as a basis for extending rather than replacing trust. In earlier research it was found that trust can be both a basis for relationship and its outcome. Here, we find the same for formal agreements. Earlier, we noted that formal agreements can have non-legally enforceable elements, interpreted as the specification of conditions for non-legal retribution. Here we find more reasons for such elements. They will be summarized in the conclusions.

5. Discussion

From our cases we conclude that the presence or absence of formal agreements can have different meanings and implications in different atmospheres. The idea that trust and contract are substitutes is not false. This is confirmed in the cases of Bio-wrap and Pet-food. In addition, the latter case showed that the threat of litigation is not credible when it comes from a partner who is more dependent than the other, which is exactly when they are most needed. This suggests that contracts may be problematic if they do not go together with symmetric dependence. In the third case (Wrapline) we found little trust and yet little contracting, which could be explained (in line with established theory) on the grounds that both partners had alternatives and hence limited relational risk. Additionally, this case gives an example where lack of trust concerns organizational competence rather than intentions or technical competence.

Although the first three cases did render additional insights into the relationship between trust and formal control, they did not fundamentally contradict the prevailing idea that trust and formal control mechanisms are merely substitutes. The fourth case (Pharm venture), however, clearly showed that the idea of trust and formal contracts as substitutes turns out to be too simplistic. The Pharm venture case showed that trust can be a prerequisite for contract, and contract in turn can be a sedimentation of trust.

In sum, our research shows that relationship between trust and formal contracts is a complex and dynamic one. Formal as well as non-contractual agreements can have different meanings in trusting atmospheres and in those where fear of opportunistic behavior prevails. From this analysis we conclude that trust and contracts (whether they are legally enforceable or not) can be complements just as well as substitutes, depending on the purpose and content of the formal agreement. From the fourth case (Pharm venture) we find the following additional functions, besides safeguarding for opportunism, for such agreements:

- As a safeguard against contingencies, not in the form of opportunities for opportunism within the relation, but in the form of outside conditions, so that they are ready to cope with them if they occur. Such contingencies may include accidental spillover of sensitive knowledge, a hostile take-over of one of the partners, bankruptcy of a partner, accidents, et cetera.
- As a technical aide to manage the relationship e.g. to specify what is to be done when problems arise, and simply as an aide-memoir, like minutes of a meeting, not to forget what arrangements for coordination of activities were made.
- As a sign of commitment to the relationship; to formalize one's commitment to the relationship in and make one's intentions to be a loyal partner explicit and tangible. This function of contract can be compared to the function of a contract in a marriage. In such a case, contract is a sign of trust and will lead to trust extension rather than its break-down.

These functions of a contract can go together very well with intentional trust, and here contract and intentional trust are complements rather than substitutes. We also find that trust may be a precondition for a contract, for two reasons:

1. Trust may be needed prior to setting up a contract to ensure that the time and effort invested in the contract, which can be seen as a relation-specific investment, is not likely to be wasted.
2. Prior trust may be needed to ensure that regulations contracted for the purpose of safeguarding against contingencies and as a technical tool for coordination, discussed above, are not interpreted as signaling distrust in goodwill. In other words: for providing a basis for openness, needed for effective contracting, without triggering a spiral of mutual distrust and defensive behavior.

Thus, prior trust may serve as a substitute for contracting (Bio-wrap), or it may be needed as a basis for contracting for other reasons than safeguarding against opportunism (Pharm-venture). These two cases show how as partners get to know each other and negotiate goals and objectives, trust may develop between them on the personal as well as on the company level. This will increase their willingness to commit to the relationship since they have trust in the intentions and competencies of their partner. Their mutual trust will lead to an atmosphere characterized by openness and a general willingness to listen to each other (e.g. Zand 1972). This will in turn enable them to reach and formalize an agreement. Trust helps them to have an open discussion on goals and mutual commitments, but also on sensitive issues such as relationship termination or sharing costs in case things go wrong. Trust also makes it easier for parties to commit to their agreement by signing the

contract. In a trusting atmosphere, the presence of (extensive) contracts might be interpreted as the embodiment of commitment and trust. As a result, the contractual arrangements will likely focus on what parties want to achieve together and how they want to do so (goals, objectives, and coordination). The Pharm-venture case contradicts the thesis proposed by Lewicki and Bunker (1996) that relations (always) start with formal control and later relax it as identification-based trust develops. Here, it was the other way around: partners developed identification-based trust and used that as a basis for formal contracting.

On the other hand, if partners fear each others' intentions, the opposite process is likely to occur. Then, contracts are more likely to be intended and interpreted as safeguards against opportunism. In such a situation, partners show defensive behavior and might not be willing to commit to a relationship before safeguards are installed to protect their interests. As a result, the contractual arrangements will likely focus on secrecy of information, protection of ownership, conflict resolution and relationship termination. Because of a lack of openness, it will be hard to arrive at detailed agreements on a practical level (e.g. a project-plan or management of the project). Incomplete or very general, poorly specified or un-enforceable contracts may be the result. Deutsch (1973) suggested that there is circular causation between characteristics or attitudes of participants and the results of interaction. He offered his 'crude law of social relations': 'The characteristic processes and effects elicited by a given type of social relationship (co-operative or competitive) tend also to elicit that type of social relationship'. If this is true, then one must be very careful how to start a relationship, because it may be difficult to get out of the initial mode of interaction. Here we see how formal control as a first step in a relation may prevent the development of identification-based trust. An important condition here was asymmetry of dependence. Intentions are feared especially by the more dependent party. This suggests that for the development of trust to work as proposed by Lewicki and Bunker, symmetry of dependence in the early stage of formal control is needed. Lack of symmetry causes suspicion on the part of the more dependent party, which can block the development of trust. This yields a paradox: trust does not arise when it is most needed, i.e. when there is one-sided dependence.

In view of our study, the process of collaboration, and the development of the relation in time play a central role. The mere presence or absence of contracts nor the extensiveness of the contract should be the central focus of research. Instead, the focus should be on the aim and content of the contract, and the atmosphere in which it is set up (Klein Woolthuis 1999). Contracts mostly have a mixture of purposes and meanings at the same time. Moreover, the meaning of the contract changes over time. In that sense, contracts may be envisaged as a reflection of the process of the negotiation and commitment stages that partners go through. The writing and signing of a contract should be envisaged as a step in this development. Contracts can, like trust, be seen as both the basis and the outcome of cooperation. In a trusting atmosphere, negotiating the contract can be seen as a process of getting to know and understand each other. Signing the contract can be seen as a sign of commitment. In an opportunistic atmosphere, instead, contract negotiations can resemble the battlefield as sketched by MacNeil (1980) where the most powerful partner dominates contract content and execution. By interpreting contracts in this dynamic social as well as legal fashion, the relationship between trust and contract becomes less simple but closer to reality. In this interpretation contracts can be viewed as safeguards as well as the sedimentation of the formal and informal agreements between socially embedded actors. The different and changing meanings of contracts in different atmospheres and different stages of the relationship's development as described in the cases are illustrative of this complex reality.

6. Conclusions

Our conclusions can be summarized as follows:

1. Trust and formal control can be both substitutes and complements.
2. Understanding of the relation between trust and formal control requires longitudinal analysis, to see which came first, and how and under what conditions the one led to the other (complements) or replaced the other (substitutes).
3. Detailed contracts may serve not only to control risks of opportunism, but also risks of competence and risks of external contingencies, serving as a record of agreements and a specification of actions to be taken when things go wrong. It is especially in the latter aims that contracts go well together with

intentional trust. Such trust may be needed to specify agreements without suspicion concerning intentions, so that the openness involved does not entail intentional risk.

4. Detailed contracts are themselves specific and risky investments, and may therefore require prior trust to ensure that they will be viable and worth while.
5. Contracts may serve as a sign of commitment rather than as a safeguard against opportunism.
6. In the absence of prior trust, the development of trust does not necessarily start with a stage of formal control, to be followed by the development of identification-based trust, as suggested by Lewicki and Bunker. It may be the other way around, for reasons specified in points 3 and 4.
7. When relations do start with formal control, this may not lead to the development of identification-based trust when there is asymmetric dependence, due to the atmosphere of suspicion in which the relation then starts, which can be difficult to turn around.
8. To conclude, we note that our study was exploratory. The conclusions yield hypotheses that should be tested in further empirical studies. Preferably, such tests would be more encompassing and quantitative, but they would need to be longitudinal, in some form of event history analysis.

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