

Overcoming Contractual Incompleteness: The Role of Guiding Principles

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Abstract: Transactions of any complexity between buyers and sellers are supported by long-term contracts and these contracts are inevitably incomplete. We propose an approach for overcoming contractual incompleteness based on the idea that most people are inclined to follow widely accepted social norms, such as being fair-minded,

acting with integrity, etc. We suggest that this tendency can be reinforced if these social norms are incorporated into a formal contract in the form of *guiding principles*. We develop a model in which guiding principles reduce shading behavior and discuss cases where the approach has been successfully applied in practice.

Key words: incomplete contracts, guiding principles, communication, aggrievement, shading, loyalty, equity

JEL codes: D23, D86, K12

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1. Introduction

Companies increasingly choose to outsource key economic activities rather than carrying them out in-house (see Deloitte (2016)). However, outsourcing poses a challenge.

Transactions of any complexity between buyers and sellers are supported by long-term contracts and these contracts are inevitably incomplete. It is simply too hard for the parties to anticipate and incorporate all the contingencies that may occur. The Covid-19 pandemic is just the latest example of an uncontracted-for contingency (for many firms).

The literature has identified several economic costs of contractual incompleteness: ex post adaptation problems (Coase (1937), Williamson (1975)), ex ante investment distortions (Grossman and Hart (1986)), corner-cutting on quality (Hart et al. (1997)) and shading costs (Hart and Moore (2008)). The literature has also suggested some ways to reduce these inefficiencies: vertical integration (Williamson (1975), Klein et al. (1978)), changes in asset ownership (Grossman and Hart (1986), Hart and Moore (1990)), mechanisms to make observable information verifiable (Maskin and Tirole (1999)), or the use of relational contracts (Macaulay (1963), Macneil (1978), Baker et al. (1994), Levin (2003), and Malcomson (2013)).

While some of these approaches are undoubtedly useful, none solves the problem completely. Vertical integration or a change in asset ownership shifts the burden of contractual incompleteness but does not eliminate it since employment contracts are also incomplete. Mechanisms can in principle achieve the complete contracting outcome but are not observed in practice. Moreover, some lab experiments suggest that people are reluctant to use them (Fehr et al. (2021)).¹ While there is empirical support for the idea that relational contracting can be effective when unexpected events occur (Barron et al. (2021), Gil et al. (2022)), questions remain. What guarantees that the future value of a relationship and /or reputational concerns are large enough to offset the benefits of short-run opportunistic behavior, particularly in the presence of a major shock? What

¹ But, see Chen et al. (2022).

happens if the parties have different views about the appropriate response to a shock?

How do parties set up a relational contract? While several authors have tackled these questions, emphasizing the importance of clarity (Gibbons and Henderson (2012), Gibbons et al. (2021)), managerial practices (Bernstein and Peterson (2021)), or the role of a formal contract (Hadfield and Bozovic (2016)), in sustaining a relational contract, it is fair to say that a number of issues remain.

In this paper we propose a different approach for overcoming contractual incompleteness, albeit one that is close in spirit to relational contracting ideas. Our premise is that most people are moral, in the sense that they are inclined to follow widely accepted social norms or moral principles, such as not lying, being fair-minded, acting with integrity. This will lead them to put some weight on the welfare of others with whom they have a contractual (or other) relationship. This tendency is present in all relationships, particularly extended ones.

However, and this is the crucial point, we suggest that the tendency can be greatly reinforced if these social norms or moral principles are incorporated into a formal contract in the form of *guiding principles*.² The idea is that these guiding principles will be applied when an uncontracted for contingency occurs to determine an outcome that both parties find reasonable. This helps to ensure that, even if a major shock hits, frictions can be minimized and the relationship can be preserved. To use the language of Hadfield and Bozovic (2016), these guiding principles provide the “scaffolding” that can sustain a relationship. Furthermore, given that they rest on strong social norms, it is more accurate to say that the guiding principles are ‘activated’ rather than ‘chosen’.

We will develop a model based on Hart and Moore’s (2008) idea that disagreement about an appropriate outcome in an uncontracted for contingency can lead parties to become aggrieved and to shade on performance. Our supposition is that even without guiding principles each party in a contractual relationship will put some weight on the other party’s payoff to determine an appropriate outcome. However, guiding principles,

² The idea that other-regarding behavior can be induced is related to Casson (1991) and Akerlof and Kranton (2005). Casson (1991) argues that leaders can play an important role in establishing conditions that foster trust and morality. Akerlof and Kranton (2005) argue that organizations, including the military, can create trust by encouraging their personnel to identify with the goals of the organization. In both cases conflicts of interest can be reduced and social efficiency increased.

combined with well-defined, formalized communication processes, increase this weight, narrowing the range of disagreement. This can both reduce aggrievement and shading costs and lead to a more socially efficient outcome.³ Note that we assume that the guiding principles change *only* what each party feels is a reasonable outcome, not their willingness to punish another party for an outcome they think is unreasonable. We focus on two guiding principles, equity and loyalty, although we will mention others that can also be important.⁴ After presenting the model, we will discuss some cases where an approach based on guiding principles has been applied in practice. The first author (David) has been actively involved in developing this approach (see footnote 15 for more details).

There is a huge literature in economics and other social sciences that supports the idea that communication and promises about future behavior can lead to more socially

³ Chassang and Zehnder (2016) and Ashraf and Bandiera (2018) discuss how the adoption of social preferences can increase efficiency when parties cannot write fully contingent contracts or there is moral hazard.

⁴ By loyalty we mean the norm to view one's own and another party's interests as comparably important. By equity we mean the norm to seek equitable, proportionate outcomes in the allocation of resources, rights, risks, etc. See Ellickson (1991) for a description of how these norms were used among the Shasta county ranchers. Macneil (1983) used the term 'solidarity' for what we here refer to as loyalty. See also Fehr and Schmidt (1999) regarding inequity aversion.

efficient outcomes. Although this literature is not directly about incomplete contracts we believe that it provides a foundation for the approach taken here. We will discuss this literature in Section 7.

The paper is structured as follows. We present a model of contractual incompleteness in Sections 2 and 3, showing that under standard assumptions that parties are self-interested and rational there will be economic inefficiency. In Section 4 we argue that guiding principles can reduce the inefficiency. In Section 5 we describe some cases where guiding principles have been successfully applied in practice. Section 6 considers alternative explanations of the success of these cases and some open questions. Section 7 discusses related literature. Finally, Section 8 concludes.

2. Model

Assume that buyer B wants a service from seller S . B and S write a contract at date 0 specifying the nature and price p of the service, and trade takes place at date 1. There is no discounting, and the parties are risk neutral and wealth unconstrained. We suppose that the parties acknowledge in the contract that under some circumstances the price or nature of the service may be adjusted, but these circumstances are not spelled out.

We will use a running example, based on one of the cases discussed in Section 5, to illustrate the model. In this example, B is a health authority and S is a group of doctors (“hospitalists”), who agree to look after patients in a hospital (“looking after the patients” is the service and price p is the budget).

There are two states of the world, which we refer to as “normal” and “abnormal.” The normal state N occurs with probability $1 - \pi$, and the abnormal state A occurs with probability π . We will suppose that the abnormal state cannot be contracted on (perhaps because there are many different types of abnormal state).⁵

In our example, the abnormal state might be a situation where fewer family practitioners care for their patients in hospitals and so the workload of the hospitalists increases.

In the normal state B 's value from the service is v (unverifiable) and S 's cost of supplying it is c (unverifiable). Thus in the normal state B 's payoff is $v - p$ and S 's payoff is $p - c$. In our example, c might be the disutility of labor incurred by the hospitalists in treating the patients, something that is hard to verify. To simplify matters we will suppose that c and v are both observable (symmetric information).

We turn now to the abnormal state. We will suppose that the existing contract can be carried out as it stands, although possibly with considerable hardship to at least one of the parties. If the contract is carried out as it stands, B 's payoff becomes $v + \Delta v - p$, and S 's payoff becomes $p - (c + \Delta c)$, where Δv , Δc are the payoff changes for each party and $\Delta c > 0$ and $\Delta v \leq 0$. For instance, if fewer family practitioners are available to look after

⁵ For analyses of why it may be hard to contract on a state, see, e.g., Anderlini and Felli (1994), Bolton and Faure-Grimaud (2010), and Tirole (2009).

hospital patients, hospitalists can absorb the increased workload but will be more stressed; the quality of care may also fall. We will suppose that the abnormal state is collectively a bad state for the parties, that is, $\Delta v - \Delta c < 0$.

The above represent the payoffs if there is no adjustment to the way the contract is carried out. However, as noted, the initial contract recognizes that under some circumstances a change in the price or service may be called for, and we suppose that one party can make a concession to the other party in the spirit of this. This concession reduces the payoff of the party making it but increases the payoff of the other party by at least as much, that is, it is (weakly) efficiency-enhancing. For example, if fewer family practitioners are available, the health authority can hire additional personnel to assist the hospitalists or increase the budget so that the hospitalists can do this themselves.⁶

We will focus on the case where it is up to B to make a concession. Under the concession we write B 's payoff as $v + \Delta v' - p$ and S 's payoff as $p - (c + \Delta c')$, where $\Delta v' < \Delta v$ (the concession makes B worse off), $\Delta v' - \Delta c' \geq \Delta v - \Delta c$ (the concession is weakly efficiency – enhancing), and $\Delta v' - \Delta c' < 0$ (with the concession the parties are still worse off than in the normal state). If a

⁶ In principle, a concession might be efficiency-reducing (for example, the health authority could allow the hospitalists to turn away some patients). However, to the extent that B can make a side-payment to S , the inefficient outcome can be replaced by an efficient one with a transfer (more funds are made available to the doctors).

concession involves a price change this is incorporated in $\Delta v'$, $\Delta c'$. We assume that neither party contemplates a concession so great as to make S better off than in the normal state, that is, $\Delta c' \geq 0$.⁷ We also allow for partial concessions, which we represent by convex combinations of concession and no concession. That is, a concession of degree γ , where $0 \leq \gamma \leq 1$, yields payoff $v + \gamma \Delta v' + (1 - \gamma) \Delta v - p$ to B and payoff $p - (c + \gamma \Delta c' + (1 - \gamma) \Delta c)$ to S .

Later in the paper we will introduce some further (“shading”) actions that B and S can engage in, which will affect costs and benefits. These actions play no role under the assumptions of this section, and so we postpone discussion of them.

We suppose that it is still worth going ahead in the abnormal state if the contract is carried out as it stands, even if no concession is made: $v - c + \Delta v - \Delta c > 0$.

Figure 1 provides a time-line.



Figure 1
Frydlinger and Hart

⁷ This is consistent with the idea that the initial contract is a reference point for entitlements (Hart and Moore (2008)), something that we will discuss further shortly.

The first-best

A social planner chooses a full concession ($\gamma = 1$) in state A .⁸ Expected surplus is given by

$$(2.1) \quad v - c + \pi(\Delta v' - \Delta c').$$

A simple contract that achieves the first-best under classical assumptions

In spite of the fact that state A cannot be contracted on, there is a simple way to achieve the first-best under “classical” assumptions that the parties are self-interested and rational: write an incomplete contract and renegotiate if state A occurs (recall that information is symmetric and there are no wealth constraints).

Proposition 1. Under classical assumptions, a contract that specifies the price of the service, and that permits renegotiation ex post, achieves the first-best.

Proof: In state N everything proceeds smoothly. In state A , B must decide whether to make a concession. B 's incentive is to set $\gamma=0$ since $\Delta v' < \Delta v$. However, since $\gamma = 1$ is socially efficient, B will agree to choose $\gamma = 1$ in return for a sidepayment from S . (The sidepayment will depend on the parties' relative bargaining power, lying between $\Delta v - \Delta v'$ and $\Delta c - \Delta c'$.) Q.E.D.

3. Why we think that the classical contracting solution will not work in practice

We do not think that things will work out as simply as Proposition 1 suggests. Our reasoning is based on Hart and Moore (2008). First, as a result of self-serving biases, parties may have different views of what a reasonable or fair outcome is in the abnormal state, and when it does not occur, may engage in destructive retaliatory behavior (shading). Second, a party may be reluctant to pay another party for an

⁸ $\gamma = 1$ is only uniquely optimal if $\Delta v' - \Delta c' > \Delta v - \Delta c$. We will often have this case in mind in what follows.

outcome to which they already feel entitled, and as a result a mutually beneficial renegotiation may fail to take place.

To understand this further, consider the case where each party puts no weight on the other party's payoff and has an extreme self-serving bias. Then B feels entitled to no concession ($\gamma = 0$) and S feels entitled to a full concession ($\gamma = 1$). According to Hart and Moore (2008), a party who feels entitled to a payoff s but receives a payoff $s' < s$, will retaliate by shading (in a noncontractible way) so that the other party's payoff falls by $\theta(s - s')$, where $0 < \theta < 1$ is an exogenous parameter. The person doing the shading neither gains nor loses, the only effect is on the recipient.

Note that, since $0 < \theta < 1$, it never pays one party to hand over money to the other party to reduce shading: a transfer of t reduces shading by θt but costs $t > \theta t$.

We come now to renegotiation. Renegotiation involves S paying B to choose $\gamma = 1$. In other words, S is being asked to pay for a concession to which S already feels entitled. Kahneman et al. (1986) have documented that people respond negatively to offers that are deemed to be coercive or extortionate. For this reason, in what follows, we rule out renegotiation. Note, however, that even if renegotiation is allowed, there will still be disagreement about how the gains should be divided, leading to aggrivement and shading costs. Thus the main elements of our analysis will continue to hold.

In the context of the model, then, the outcome is $\gamma = 0$, i. e., no concession, with consequent ex post inefficiency equal to $\Delta v' - \Delta c' - (\Delta v - \Delta c)$. Further, since S feels

entitled to $\gamma = 1$, she is aggrieved by $\Delta c - \Delta c'$, and shades by $\theta (\Delta c - \Delta c')$. Thus total deadweight losses in state A equal

$$(3.1) \quad \Delta v' - \Delta c' - (\Delta v - \Delta c) + \theta(\Delta c - \Delta c').^9$$

Finally, expected deadweight losses are given by

$$(3.2) \quad \pi(\Delta v' - \Delta c' - (\Delta v - \Delta c) + \theta(\Delta c - \Delta c')).^{10}$$

In other words, contrary to the classical approach, the first-best is not achieved.

4. How the adoption of guiding principles can help

In this section we suggest that B and S can improve matters by agreeing at date 0 to apply guiding principles of equity and loyalty in an uncontracted for contingency.

We will suppose that each party takes the payoffs in the normal state as “fairly determined” and does not try to use adjustments in the abnormal state to offset these

⁹ There is one small lacuna that needs to be dealt with. The above discussion implicitly assumes that $\Delta v - \Delta v' > \theta (\Delta c - \Delta c')$, that is, B 's gain from not conceding exceeds the shading cost S imposes. We assume this in what follows.

¹⁰ As in Hart and Moore (2008), we suppose that the date 0 division of surplus is regarded as fair since it is determined in a competitive market, and so there is no aggrievement or shading at date 0.

payoffs. (This is consistent with the idea that the initial contract is a reference point, as in Hart and Moore (2008).) In other words, in state A the parties consider the feasible set

$$(4.1) \quad F = \{\gamma \Delta v' + (1 - \gamma) \Delta v, -(\gamma \Delta c' + (1 - \gamma) \Delta c) \mid 0 \leq \gamma \leq 1\},$$

where the first term is the buyer's incremental payoff and the second term is the seller's incremental payoff, to determine what degree of concession γ is appropriate.

Experimental evidence by Andreoni and Miller (2002) and Fisman et al. (2007) supports the idea that in determining a reasonable outcome party i maximizes $((1-\lambda)u_i^\rho + \lambda u_j^\rho)$, where u_i, u_j represent respectively i and j 's payoffs, $i, j=1, 2$, $0 \leq \lambda \leq 1$, $0 < \rho <$

1.¹¹ That is, the parties have CES preferences, which we take to be the same for the two parties, with each party putting weight λ on the other party's utility and weight $1-\lambda$ on their own. The parameter ρ represents the convexity or curvature of the indifference curves, with the elasticity of substitution being $1/(\rho - 1)$. (Sample indifference curves for B and S are illustrated in Figure 2.) The analysis in Section 3 corresponds to the case where $\lambda=0$, that is, each party cares only about its own well-being. As we noted in the introduction we believe that most people are naturally moral and decent and will put

¹¹ In a different context, Hart and Zingales (2017) and Broccardo et al. (2022) model social preferences for the case where $\rho=1$.

some weight on their counter-party's payoff even absent guiding principles to determine entitlements, i.e., $\lambda > 0$. However, we think that this tendency will be greatly amplified if the guiding principles of equity and loyalty are made part of a formal contract, i.e., λ will become significantly larger. To simplify the exposition we will suppose that $\lambda = 0$ without the guiding principles and $\lambda > 0$ with them.¹²

A clarification should be made. We will suppose that the (partial) internalization of the other party's welfare affects *only* entitlements, that is, what each party thinks is a reasonable outcome in the abnormal state. The internalization does not affect one party's desire or willingness to punish the other party if the other party does something inappropriate. Further in deciding what is a reasonable outcome each party ignores the fact that final payoffs will be different because of shading (see also footnote 13). These assumptions could, of course, be relaxed in future work.

We cannot assume that party i maximizes $((1-\lambda)u_i^p + \lambda u_j^p)$ directly over the set F since some or all of the payoffs in F are negative. Thus we measure the payoffs of the buyer and seller relative to the worst possible outcome for them ($\Delta v'$ for B and $-\Delta c$ for

¹² In a previous version of the paper (Frydlinger and Hart (2019)), we assumed that the parties had to expend effort (e.g., communication) to achieve a particular value of λ , and that more effort led to a higher λ .

S). This transforms the set F into

$$(4.2) \quad F' = \{(1 - \gamma) (\Delta v - \Delta v'), \gamma (\Delta c - \Delta c') | 0 \leq \gamma \leq 1\}.$$

F' is illustrated in Figure 2 (the frontier has slope $-(\Delta c - \Delta c')/(\Delta v - \Delta v')$). We suppose that party i maximizes $((1 - \lambda)u_i^\rho + \lambda u_j^\rho)$ over F' . This yields the following choices of γ for the two parties, illustrated in Figure 2:

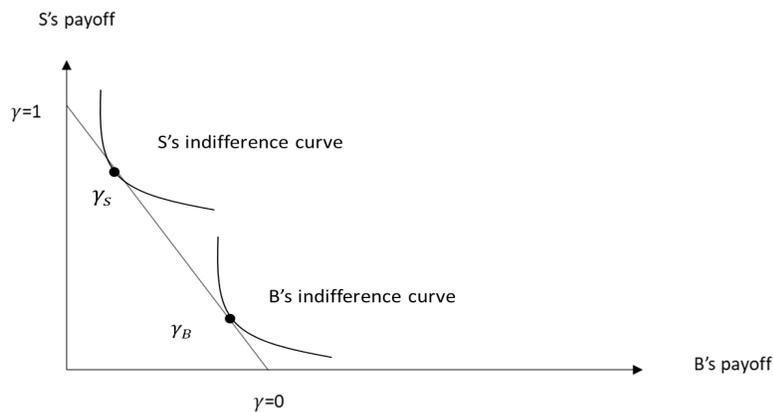


Figure 2

Frydinger and Hart

$$(4.3) \quad B's \text{ preferred choice of } \gamma \text{ is } \gamma_B = \frac{k}{1+k}$$

where

$$(4.4) \quad k = \left(\frac{\lambda}{1-\lambda} \right)^{1/1-\rho} \left(\frac{\Delta c - \Delta c'}{\Delta v - \Delta v'} \right)^\rho / 1-\rho,$$

while

$$(4.5) \quad S's \text{ preferred choice of } \gamma \text{ is } \gamma_S = \frac{\hat{k}}{1+\hat{k}}$$

where

$$(4.6) \quad \hat{k} = \left(\frac{1-\lambda}{\lambda} \right)^{1/1-\rho} \left(\frac{\Delta c - \Delta c'}{\Delta v - \Delta v'} \right)^{\rho/1-\rho}.$$

If $\lambda=0$, $\gamma_B=0$ and $\gamma_S = 1$. As long as $\lambda < 1/2$ (as we would expect), $\gamma_B < \gamma_S$. It is easy to see that γ_B is increasing in λ and γ_S is decreasing in λ . Note that each party takes efficiency into account: each party will want a higher value of γ if $\Delta c - \Delta c'$ is large relative to $\Delta v - \Delta v'$.

Since B is the party making the concession, B controls γ . As we have seen, absent guiding principles B chooses $\gamma = 0$ and S feels entitled to $\gamma = 1$. With guiding principles in place, B chooses γ_B . S feels entitled to γ_S and feels aggrieved that B does not choose γ_S . To put it another way, S thinks that B should maximize $((1-\lambda)u_S^\rho + \lambda u_B^\rho)$ instead of $(1-\lambda)u_B^\rho + \lambda u_S^\rho$. As in Section 3, S 's grievement is given by her loss in payoff from B 's choice relative to the choice S thinks B should have made, $(\gamma_S - \gamma_B)(\Delta c - \Delta c')$.

Again, as in Section 3, S punishes B in proportion to this. Thus, B 's final payoff is $v + \gamma_B \Delta v' + (1 - \gamma_B) \Delta v - \rho - \theta(\gamma_S - \gamma_B)(\Delta c - \Delta c')$.¹³ Total deadweight losses in state A , consisting of the inefficiency from the choice of γ_B (as opposed to the socially efficient outcome $\gamma = 1$) plus the costs from S 's shading, equal

¹³ Note that by the assumption of footnote 10 this is decreasing in γ_B . It follows that it does not pay B to offer a bigger concession to S than B thinks is reasonable to reduce shading costs.

$$(4.7) L = (1 - \gamma_B)(\Delta v' - \Delta c' - (\Delta v - \Delta c)) + \theta(\gamma_S - \gamma_B)(\Delta c - \Delta c').$$

This is obviously less than the expression in (3.1) (which is obtained by setting $\gamma_B = 0$, $\gamma_S = 1$).¹⁴ More generally, it is clear that an increase in λ reduces L since it increases γ_B and lowers γ_S . In a nutshell this is why we believe that adopting the guiding principles of equity and loyalty works.

It should be emphasized that in our formulation the guiding principles reduce deadweight losses for two reasons. First, when B puts more weight on S 's payoff this leads to a more socially efficient outcome (the first term in (4.7)); second, shading costs are reduced (the second term in (4.7)). Note that the first effect would disappear if we permitted renegotiation, whereas the second one would remain.

Of course, in carrying out the efficiency calculation, we have ignored the costs of incorporating guiding principles. As we describe in the next section, in practice these costs include the many discussions that must take place to ensure that each party understands and is willing to abide by these principles. Such costs are significant and presumably explain why for relatively simple transactions a conventional contract suffices. But in the cases described in the next section a conventional contract was not adequate and the parties incorporated guiding principles instead.

¹⁴ Our formulation is not the only possible one. One could suppose that S has a less extreme self-serving bias and thinks that B should maximize $((1/2)u_S^p + (1/2)u_B^p)$ rather than $((1-\lambda)u_S^p + \lambda u_B^p)$. One could go further and suppose that S is able to put herself in B 's position, and recognize that B is making the choice that S herself would make if she were B , and so there is nothing to be aggrieved about. With either of these adjustments aggrievement and shading costs will be lower, which will only reinforce our result about the effectiveness of guiding principles.

5. Cases

The purpose of this section is to illustrate how an approach based on guiding principles has been used in practice. The approach goes under the name of “formal relational contracting”. One of us (David) has been actively involved in this.¹⁵ The approach goes beyond the guiding principles and we begin by describing it. Before we do so we should acknowledge a qualification. Since the approach involves several elements we cannot be sure about the importance of the guiding principles relative to these other elements.

¹⁵ The idea of a “formal relational contract” grew out of the so called “Vested” model, a business model for creating customer-supplier partnerships originally developed by researchers at the University of Tennessee. See, for example, Vitasek et al. (2013). The Vested model was launched in 2010. David started applying the Vested model in 2012 and has since then been involved in further developing the model, including the formal incorporation of guiding principles into the contract (see Nyden et al. (2013), Frydlinger et al. (2019) and Frydlinger et al. (2021)). The current version of the Vested model combines a formal relational contract with an outcome based economic model. The formal relational contract is also applied using other economic models. David has advised on a number of customer-supplier relationships using formal relational contracts. He was, however, not involved in any of the cases presented below. Some of his colleagues were actively involved in the Telia-Veolia case.

However, we will provide interview evidence that suggests that the guiding principles play a critical role.

Organizations adopting the approach use a structured step-by-step process in which the parties sit in face-to-face meetings and jointly create their deal and contract one step at a time.¹⁶ The process starts by the parties adopting a shared vision for their relationship. Both parties must make a conscious effort to create an environment of trust—one in which they are transparent about their high-level aspirations, specific goals, and concerns. The parties also commit to six guiding principles: loyalty, equity, honesty, integrity, autonomy, and reciprocity.¹⁷ (We have focused on equity and loyalty in our analysis.)

The guiding principles serve many functions. They will steer the parties throughout the rest of the process, they provide a framework for resolving potential misalignments when uncontracted for circumstances occur, and they help the parties when changes to the contract are needed. Having set the foundation for the relationship, the parties

¹⁶ During the Covid-19 pandemic, these meetings have been held digitally, via tools such as Zoom or Microsoft Teams. This has proved to work very well also.

¹⁷ The importance of integrity has been emphasized by Erhard et al. (2009), although not in the contracting context.

hammer out the terms of the deal—for example, responsibilities, metrics and pricing. It is crucial that all terms and conditions of the formal relational contract are aligned with the guiding principles. As a final step, the parties agree on structures and processes to govern the relationship over time, involving well-defined communication processes to ensure continuous alignment of interests and expectations. All the components, from vision and guiding principles to the pricing model and governance processes, are documented in the written and enforceable contract, together with more traditional contractual clauses such as limitation of liability, indemnification, confidentiality, etc., all of which are, however, aligned to the adopted guiding principles.

We now describe some of the cases where the approach has been used. The formal relational contracting model and the contracts-as-reference-points theory were developed in parallel and the two case studies discussed below were not written with the concepts of aggrievement and shading in mind when problems in relationships were analyzed. For this reason, we conducted a follow-up interview with participants in one of the cases. For various reasons, we chose not to obtain interviews in the other case,¹⁸ but instead conducted interviews with customers and suppliers in two deals where formal relational contracting was adopted at some point, but that are not yet case studies. In the interviews we looked for examples of shading and other deadweight

¹⁸ That case concerns Telia and Veolia. Veolia was one of twenty suppliers prior to the deal, while it was the sole supplier after the deal. Thus the deal does not permit an “apples to apples” comparison.

losses prior to the adoption of the collaborative approach and the guiding principles, and evidence as to how these deadweight losses were reduced after the guiding principles were adopted.¹⁹ In summary the interviews involve (1) Canada's Vancouver Island Health Authority and South Island Hospitalists, regarding a contract on professional labor services (this deal has been written up as a case; our running example is based on it); (2) Accenture and ISS regarding facilities management services in Holland (this is not yet a case study); (3) PwC and ISS also regarding facilities management in Holland (this is not yet a case study). The case study where we did not carry out interviews involves Telia and Veolia.

It should also be noted that in some of these cases the event that led to shading was not the failure to make a concession but rather a choice of action that although permitted by the contract was regarded as opportunistic by the other party. The model can easily be adjusted to allow for this (see Frydlinger and Hart (2019)), but for the sake of brevity we will apply the model as it stands.

We should also point out that variants of shading may be important in reality. A party who feels badly treated by his counter-party may cut back on noncontractible

¹⁹ Several interviews were conducted in June 2019 together with Kate Vitasek, a faculty member of the University of Tennessee. The authors of this paper also carried out further interviews with representatives of Vancouver Health Authority and South Island Hospitalists in 2021.

cooperation not just to punish the other party, but to recover some of his lost profit (“shirking”). In other situations, one party may spend time and resources to placate the other party in order to forestall shading, or a party who is aggrieved and cannot shade may have to “eat” the aggrievement. In applying the model, we will therefore interpret deadweight losses broadly.

Vancouver Island Health Authority and South Island Hospitalists²⁰

In 2008, Vancouver Island Health Authority contracted with South Island Hospitalists, a group of doctors in British Columbia, to provide inpatient care for patients in two hospitals on Vancouver Island. Prior to 2016, Island Health Authority and the Hospitalists had a conventional contract, but it was not working well, and the relationship was severely strained. One issue was how to manage variation in the

²⁰ We are grateful to Vancouver Island Health Authority and the South Island Hospitalists for giving us access to three contracts they signed, dated April 1, 2008-March 31, 2010, April 1, 2011-March 31, 2013, and July 1, 2018-. (The contract from 2010-2011 is missing. The 2011 contract apparently continued to operate until 2018.) The first two listed contracts are similar and we refer to them as the “conventional contract”. The July 1, 2018 contract was the culmination of efforts to explore a new approach and we refer to it as the “formal relational contract”. We conducted interviews with Jean Maskey, a doctor with South Island Hospitalists, and Kim Kerrone, Island Health Authority’s Vice President Support Services and Chief Financial Officer; we are deeply indebted to them. Our discussion also draws on Frydlinger et al. (2019). See also Vitasek and DiBenedetto (2018a).

demand for health services (numbers of patients cared for by hospitalist physicians on any given day). The contract recognized that under some circumstances volume changes would affect the “hours”, and thereby funds, allocated to the Hospitalists, but these circumstances were not clearly spelled out (i.e., the contract was incomplete). The funds allocated in turn determined hospitalists’ compensation and how many physicians the Hospitalists could hire (hiring decisions were in their hands).

From 2001 onwards, the service delivery model had been changing whereby more and more care in Vancouver Island hospitals was done by hospitalists and less and less by family physicians. There was a shortage of family physicians in many communities, and an increasing number of patients who were admitted to hospital did not have a family physician. As fewer family physicians were involved in hospital care, the Hospitalists were put under a great deal of pressure to increase the number of patients they looked after, without financial support from the Health Authority. Matters came to a head in 2009-2010. The Health Authority did not engage with the Hospitalists on how their increased workload could be managed. Although the Hospitalists put in repeated requests for more hours, no solution was forthcoming. Since the Hospitalists were not able to respond by hiring additional staff, at times workloads soared and many felt that they could not devote adequate time to patients to provide safe, high quality care.

Hospitalists became fatigued. Some hospitalists eventually responded by refusing to accept the responsibility for admitting patients from the emergency room, which was a requirement to facilitate flow into the hospital. This led to a heavy strain on the

relationship, and the administration eventually temporarily suspended the privileges of some hospitalists in 2015.

Our interpretation of this incident, using the framework of our model, is the following.

The Hospitalists were unhappy with the behavior of the Health Authority and responded with a shading action: by not agreeing to take patients from the emergency room they relieved their stress, and also avoided ethical issues arising from not being able to devote adequate time to patients (a doctor can ethically decline to accept new patients if he or she cannot provide an expected and consistent standard of care both to these new patients and to existing patients). On the other hand, the Health Authority expected the Hospitalists to take care of the patients and at the same time deal with volume changes, even significant ones, as they felt that there was enough flexibility in the contract. The result was that the Authority was frustrated by the Hospitalists' actions. Both sides, having self-serving biases, reacted in ways that they would not have if everything was going well, and there were large consequent deadweight losses.

Our model suggests that the use of guiding principles, as in a formal relational contract, can help overcome deadweight losses such as those incurred in the Island Health/Hospitalists relationship. In 2016, over two years after their conventional contract had expired and countless hours of contentious negotiations had failed to replace it, the parties decided to explore a formal relational contract, eventually signing one on July 1, 2018. The parties report a great improvement in their relationship since then.

As we have noted there are several elements of a formal relational contract. However, interviews suggest that the guiding principles are a crucial reason why the relationship has improved. Jean Maskey of the Hospitalists said: “I think the guiding principles are at the root of why our relationship is no longer contentious. We are now talking about tough issues in a tight fiscal environment in a healthy and more productive way. We work together toward mutual benefits in an open and honest manner so that solutions are beneficial for the Health Authority, hospitalists, and most importantly for the patients we care for. The guiding principles provide a ‘Home Base’. Because of trust in the relationship, the administration are comfortable giving the Hospitalists autonomy and we're both being honest and respectful about our limitations and best practice for excellent patient centered care.” The parties report that they bring out their statements of the guiding principles, discussing them and re-activating them before every meeting begins.

Marko Peljhan, Executive Director, Victoria Acute Hospitals said: “The guiding principles were set as ‘rules of engagement’. This helped us get into the foundation of a relational contract, which is grounded in developing a trusting relationship. By committing time, through regular meetings, both parties had the opportunity to practice the relationship guiding principles we co-developed. We practiced loyalty to one another, holding our shared vision at the forefront. Over time, honesty became a prevalent guiding principle. Our ability to bring forward honest perspectives helped us work as a more cohesive team.”

We cannot carry out a counterfactual to determine how a formal relational contract would have mitigated the workload problems in 2009-2010. However, we can be more confident about how difficulties have been avoided since such a contract was signed in 2018. One example occurred when a Canadian law legalizing medical assistance in dying went into effect, another abnormal state in terms of our model. At the time the contract was developed in 2016 and 2017, the legislation had just been passed and there were too many unknowns about how it would be implemented to incorporate it in the contract (even though the contract was not signed until 2018, many parts were agreed on earlier). In the past there would have been battles about whether or not the new services were within the scope of the existing contract, in the sense that this new responsibility could have been assumed to be part of the overall workload. Now, the parties report that there was a spirit of how they could fairly solve for this given their shared vision and guiding principles. And how could they do this in a respectful manner for the benefit of the patients and the system in which they work.

In the spring of 2020, the Covid-19 pandemic hit. The contract did not contain language on how to deal with a pandemic. An important first step was to send the less seriously ill patients home, in order to open hospital beds and resources to treat patients with Covid. As a result, the patient count dropped by 60%, but the remaining patients were sicker and more complex. Island Health administrators and the Hospitalists turned to their formal relational contract to work out what to do in a fair and flexible manner. Using the guiding principles as the backdrop for decisions, the Hospitalists found an

effective way to rethink schedule allocations to reduce Hospitalist hours, that is, pay, while keeping all physicians employed.

Accenture and ISS²¹

Accenture is a multinational professional services company that provides services in strategy, consulting, digital, technology and operations. ISS is a workplace experience and facility management service provider. Accenture contracted with ISS to look after management of its Dutch facilities. Among other things ISS provided catering services for Accenture.

Prior to entering their formal relational contract, the parties had a performance-based contract whereby ISS was compensated according to whether it met certain key performance indicators (KPIs). The contract was incomplete in the sense that it gave ISS some discretion in performance – only minimum requirements were set out in the contract – and Accenture some discretion in deciding whether the KPIs were met. This led to tension in the relationship. Based on the interviews conducted, it seems as if, in ISS's view, Accenture used its discretion opportunistically. Accenture tended to give negative scores on the KPIs if ISS met, but did not perform above, the requirements set out in the contract. Accenture also made life difficult for ISS by requiring ISS to get quotes from several suppliers for incremental work, even for small things. According to

²¹ We conducted interviews with Boudewijn Hamersma from Accenture and Vivian van Eijdsden from ISS.

our interviewees, ISS responded to Accenture's actions by "gaming the system," that is, by ensuring high performance during the periods when the KPIs were assessed.

From Accenture's perspective, it was ISS that was being opportunistic by performing only at minimum levels set out in the contract. The interviewees felt that the tit-for-tat behavior by Accenture and ISS was frustrating and quite inefficient.

A further incident caused problems. The number of customers eating meals increased. According to the contract ISS was entitled to a larger payment (the number of "tickets" had risen). Accenture felt that it was unreasonable for ISS to receive more, since they believed that ISS's costs had not increased. ISS disagreed. This led to a further round of tit-for-tat behavior.

Our interpretation of these events, using the framework of our model, is as follows. The contract between Accenture and ISS created reference points and hence feelings of entitlement for both of them. As described, however, the contract was incomplete. In the first example, the problem was not, as in our model, an abnormal state, but the room for discretion regarding performance (for ISS) and KPI evaluation (for Accenture). Having self-serving biases, the parties adopted different views on this matter, which led to the predicted shading behavior. In the second example, the increased number of eating customers can be viewed as the 'abnormal state'. ISS was entitled to receive a larger payment, but Accenture felt that ISS should make a concession and not insist on this. Under classical assumptions, Accenture would not have expected a concession and

there would have been no aggrievement or shading when a concession was not forthcoming, but in reality aggrievement and shading occurred.

In 2017 both parties agreed to adopt the formal relational contracting approach. Our model predicts that this should help matters. Both parties report that the guiding principles have given them “a language” to talk about and deal with upcoming challenges. The guiding principles have facilitated communication. And they have helped the parties to build trust, which has decreased the tension levels. Boudewijn Hamersma from Accenture reports that “having the guiding principles we jointly agree on what we think is really important for a healthy relationship and how you should do your business or have each other's business in mind”. Vivian van Eijsden from ISS reports: “For me the biggest change in moving to a formal relational contracting model is the way we interact with each other; now they trust ... that I can be responsible for the money of Accenture. I no longer have to defend myself on every little thing. For example, they just trust when we get quotes from subcontractors we're spending their money wisely. That is a big thing.” Both quotes indicate, importantly for this paper, how the parties are taking each other's interests into account and how this facilitates the communication and solving of problems. The gaming of KPIs and insistence on multiple quotes for even the smallest items seem to be things of the past.

PwC and ISS²²

PwC is a global network of firms delivering assurance, tax and consulting services. PwC contracted with ISS to manage its facilities in Holland. Among other things ISS provided catering and hospitality services for PwC meetings. The meeting services yielded a high margin for ISS and were consequently expected to be a large source of profit for them. At some point during the course of the contract, PwC needed to cut costs and decided to reduce the number of meetings. ISS was given very short notice about this. Obviously, this was very bad news for ISS: an important generator of profit was going to be eliminated. Things were made worse for two reasons. First, Dutch law made it impossible for ISS to lay off workers quickly. Second, ISS had recently negotiated with PwC to expand the services provided through the addition of extra hosts. The parties had agreed to split the cost of this 50:50, with much of the return coming from an anticipated high volume of meetings, which now would not materialize.

As with the Health Authority and the Hospitalists, PwC was within its contractual rights to make the changes. But it is clear from conversations with participants that there was a great deal of unhappiness/aggravation on the ISS side. PwC eventually agreed to pay ISS's share of the cost of the extra hosts, but they did not make up for ISS's lost profit. We could not find any sign that ISS reciprocated negatively, although they probably had

²² We conducted interviews with Kyrsa de Bruine from ISS and Marjolein Kurstjens from PwC.

the ability to do so. So the source of the deadweight loss in this example was ISS's aggrievement, which ISS had to "eat." One factor that may have stopped ISS from retaliating is that the parties agreed to a formal relational contract shortly after this event (partly because of the event).

Again using the framework of our model, we interpret what happened before the formal relational contract as a situation where the contract was incomplete and where the parties' different interpretations of what they were entitled to created aggrievement and deadweight losses. Under classical assumptions, ISS should not have been aggrieved.

One interviewee highlighted the following as an example of how formal relational contracting improved matters. ISS subcontracted some security services to a security firm (SF). The contract allowed the price charged by SF to rise by up to 2% a year if SF's costs increased. However, as a result of a country-wide collective bargaining agreement SF's costs increased by more than 2%. SF asked for a greater than 2% price increase and ISS agreed (even though its contract with SF was not a formal relational contract), but only if it could pass on the increase in turn to PwC. PwC accepted the pass-through and our interviewee attributed this to the fact that the PwC-ISS contract was a formal relational one. If it had not been, she thought that the price increase would not have been possible. The consequence might well have been that ISS or SF would have found ways to recover some of their lost profit by "shirking." Now, as predicted by our model,

PWC put weight on the welfare of ISS, in accordance with the agreed guiding principles, and the friction was avoided.

We turn now to a case study where we did not get interviews.

Telia and Veolia

In the deals described so far, an existing contract was replaced by a new one. The deal between the Swedish telecommunications operator Telia Company and Veolia, a facilities management company (among other things), was different. Telia was looking for someone to manage its facilities, and Veolia was chosen as a result of a competitive bidding process, which in the context of the formal relational contracting model is called a Request for Partner process.²³ The process was preceded by a pre-study, in which Telia realized that their existing facility management suppliers were not at all satisfied

²³ In the Request for Partner process, suppliers are assessed not only on offered solutions and price but also on “softer” factors such as cultural compatibility and willingness to act in accordance with the guiding principles. In the typical process, the customer initially selects a few suppliers, with which a number of workshops are held where the parties, among other things, adopt a shared vision and the guiding principles, in addition to discussing scope and how the customer’s needs can be met. Also, the suppliers are asked to provide indicative cost levels, which are made part of the customer’s overall assessment. Thereafter, the customer chooses one or sometimes two suppliers with which the rest of the formal relational contracting methodology is implemented, after which contracts are signed. For a more detailed description of this approach, see Vitasek et al. (2019).

with their relationships, that Telia was heavily micromanaging them, and that there was no focus on innovation, which was an important matter for Telia.

Telia decided to adopt the collaborative approach described above, incorporating the guiding principles, and used the approach to enter into a contract with Veolia as the so-called prime contractor. Again, both Telia and Veolia report significantly better results, with cost savings above budget, improved quality and increased innovation, and higher margin levels for Veolia.²⁴ The parties came to a point where they started to view their deal as a joint, virtual, enterprise, to which they even gave a name – OneTech – suggesting that the loyalty principle has enabled the parties to adopt one another's view and look out for one another's interests.²⁵

One example of this is the way they view the economics of their deal. Outsourcing deals typically have two structural components: a standard set of services provided on a continuous basis and separate projects, which are agreed on a case-by-case basis in what is called a change management process. These change management processes proceed through negotiations which are often not smooth Coasian bargains, but instead

²⁴ Vitasek and DiBenedetto (2018b), p. 25.

²⁵ Vitasek and DiBenedetto (2018b), p. 25.

are rife with friction and frustration.²⁶ Telia and Veolia have been able to move beyond this common challenge in outsourcing deals. One representative of Veolia said: “Shifting to formal relational contracting means both Telia and Veolia now look at the financials across the whole portfolio of business together and not just the price of individual projects or services. We are now making much smarter and collaborative business decisions that ultimately motivate Veolia to make investments that will have a high ROI (return on investment) for *both* (our italics) parties.”²⁷ This again seems to be the equity and loyalty principles in action, where the parties adopt one another’s view and look out for one another’s interests when managing their virtual entity.

One other example

During the Covid-19 pandemic we also interviewed a representative from a global pharmaceutical company, which had implemented the formal relational contracting model. When the pandemic forced the pharmaceutical company to send employees home, the need for facilities services such as cleaning and dining services virtually disappeared. The decrease in volume was a windfall for the pharmaceutical company

²⁶ See, for example, Deloitte (2016), where this change management process was reported as by far the most common challenge in the outsourcing deals covered by the report. See also Chakravarty and MacLeod (2009).

²⁷ Vitasek and DiBenedetto (2018b), p. 21.

because it reduced expenditures. However, the service provider was set to lose big because the lost work converted to lost revenue and furloughed employees.

Rather than behaving opportunistically, the parties worked in a highly collaborative manner using the guiding principles to find solutions that would balance the needs of both the pharmaceutical company and the service provider. Creativity – not conflict – emerged. The parties came up with dozens of ideas which could help them flexibly modify the workload. For example, one idea to prevent furloughing dining service employees was to redirect their efforts to provide tailored meal services for the scientists working around the clock on a Covid-19 vaccine. Other solutions were to pull forward required maintenance initiatives that had been budgeted but not scheduled yet. The result was that the parties achieved an efficient and equitable outcome for changed circumstances.

In summary, we have presented some evidence from several interviews (one of which was also a case study) and a case study. Obviously, one should be careful about drawing strong conclusions based on such a small sample. But we believe that the reported results provide support for our claim that shading and other deadweight losses occur under standard contracting and that adopting guiding principles such as loyalty and equity can mitigate these losses.

6. Other explanations, extensions, and open questions

In this section we consider whether other theories can explain why in the above cases a conventional contract failed while a formal relational contract based on guiding principles succeeded. For the sake of brevity we focus on the Island Health-Hospitalists experience.

The main problem the contracting parties faced when they wrote their first contract in 2008 was how to respond to fluctuations in the number of patients. Island Health did not want to spend more money on hospitalist services than required but recognized that in some situations it would be necessary to hire more hospitalists or employ them for longer hours. An ideal contract would have been state contingent: it would have specified the circumstances in which hours would increase or decrease. The change in the service delivery model and the pandemic were events that both parties observed once they had happened. The difficulty seemed to be anticipating such events and describing them clearly in advance.

The parties chose a simple approach: they wrote an incomplete contract, specifying the number of hours (and the corresponding payment), and left open the possibility of adjustments. But this did not work out for them. The simplest incomplete contracting model based on symmetric information has a hard time explaining why (see Proposition 1).

What about asymmetric information? It is certainly plausible that the Hospitalists knew more than Island Health about the extra burden they faced when the service delivery

model changed. Arguably, this is why Island Health repeatedly turned down the Hospitalists' requests for a larger budget in 2009-2010—they did not believe it was necessary. But asymmetries of information alone cannot easily explain the bad feeling and retaliatory behavior that resulted, or the fact that the relationship was soured for years after.

At the same time, a reduction in asymmetric information may be one of the beneficial consequences of a formal relational contract. One of the purposes of a formal relational contract is to build trust, and trust can overcome asymmetric information. As noted, Island Health may have turned down the Hospitalists' requests for an increased budget in 2009-2010 because they did not believe it was necessary. Under a formal relational contract the parties have agreed to an honesty norm and so it is more likely that the Hospitalists will report their needs honestly and that Island Health will believe them.

Some might argue that repeated games models can explain the Island Health-Hospitalists experience (see, e.g., Baker et al. (1994), Levin (2003)), and Malcomson (2013)). In such models cooperative behavior is sustained by the threat that opportunism by one party will lead to the end of cooperation. However, these models cannot easily explain why cooperation occurred after 2016 but not before. Why did the

parties not choose the socially optimal cooperative equilibrium from the outset?²⁸ Also, if Island Health's decision not to increase the budget in 2009-2010 was viewed as opportunistic by the Hospitalists, why would the parties maintain a soured relationship for the next six-seven years rather than renegotiating to the cooperative equilibrium? Our answer is that the Hospitalists were genuinely angry, but this is not a feature of most repeated games models.

Another important question is, would it not be enough to make the guiding principles part of an informal agreement rather than an enforceable contract? Some companies have experienced success by laying out rules of behavior that they will follow, and that

²⁸ Gibbons and Henderson (2012) and Gibbons et al. (2021) argue that sustaining a desirable repeated game equilibrium requires the parties to have a shared understanding of the promises they have made to each other, what the authors refer to as "clarity." One can understand the discussions surrounding the adoption of a formal relational contract as attempting to achieve clarity, among other things. Repeated game models have also been used to explain how a corporate culture can be sustained inside an organization (see Kreps (1990) and, for a survey, Hermalin (2013)). The analysis presented here suggests that incorporating guiding principles may be one way for a company that does not have a good culture to create one.

they expect their trading partners to follow, but without making these part of a formal discussion or a formal contract.²⁹

In other situations, parties have adopted a “relational charter” as a way to establish a consistent framework for interactions and norms across a network of independent and interdependent parties.³⁰

We do not regard these approaches as fundamentally different from ours—they all involve establishing guiding principles and norms for how parties will behave-- and we believe that similar theoretical arguments can explain their success. However, we do

²⁹ For a discussion, see Bernstein and Peterson (2021). They note that large buyers provide prospective suppliers with manuals extolling the firms’ values. Ingersoll Rand, for example, encourages both its suppliers and its employees to maintain the firm’s core values: integrity, respect, teamwork, innovation and courage. See Bernstein and Peterson (2021, p.23). As another example, Symetra Life Insurance Company states that its guiding principles in all its relationships include value, transparency, and sustainability, and that it is committed to integrity, honesty, and responsibility (“We do what’s right—every time”).

<https://www.symetra.com/AboutSymetra/Careers/ApplicantResources/SymetrasCoreValues/>

³⁰ For a discussion, see Cummins and Guyer (2021). The Australian Navy has, for example, experienced significantly improved results by, among other things, using a “relational charter” (a written document laying out rules of cooperation) as a basis for their cooperation with certain suppliers. The relational charter is informal in the sense that it is separate from the formal contract (Vitasek et al. (2018)).

think that there can be a significant added benefit from parties discussing and agreeing on the guiding principles governing their relationship compared with one party imposing its principles on the other party (or on several parties with which it deals).³¹

Incorporating the guiding principles into a formal contract has further benefits. First, a formal contract has significant symbolic meaning. Second, formalization is useful in the eventuality that the people who negotiated the original deal are no longer the ones overseeing it (“the new sheriff in town”); the new parties might question whether the informal elements apply to them.³² Third, even though it may be challenging to litigate over the breach of a guiding principle, the parties are more likely to abide by a guiding principle if it is formalized since few would want to risk an expensive court case.³³

³¹ Evidence consistent with this can be found in Dal Bo et al. (2010), who show experimentally that parties are more likely to cooperate in a modified prisoner’s dilemma game when the modification has been democratically agreed rather than imposed.

³² As an example, Shleifer and Summers (1988) argue that one of the costs of a hostile takeover bid is that new management may breach implicit agreements made by previous managers with workers.

³³ Although guiding principles are somewhat nebulous, courts may be willing to adjudicate their meaning should there be a dispute. The contract laws of most jurisdictions include some version of a “good faith” doctrine, which courts can and do apply when interpreting contracts, sometimes by including implied terms, even though there is no universally-agreed meaning of “good faith”. The guiding principles can be thought of as setting out the parties’ understanding of what good faith means in their relationship. In

Finally, we would like to refer to the distinction made by Hadfield and Bozovic (2016) between formal contracting and formal contract enforcement. Even though a contract is not used for enforcement purposes, it can still provide an important *scaffold* for enabling and maintaining the vital informal relationships and feelings of trust between the parties.

A natural question that our analysis raises is, what is special about the six guiding principles that form the basis of a formal relational contract? Why could the parties not use other principles, which might lead to a better outcome? For example, why couldn't the parties adopt the principle that in an abnormal state they will sort things out using the bargaining protocol underlying the first-best contract described in Proposition 1 (50:50 division of the surplus, say, using side-payments)? This bargaining outcome would become the new reference point and neither party would be aggrieved or would shade. The first-best would be achieved. Other possibilities would be that the parties agree that if something unexpected happens B will make a take-it-or leave-it offer to S

Canada and the UK, the courts have recently applied the concept of a "relational contract" in interpreting the good faith doctrine (see for example the Canadian Supreme Court in *Basin v. Hrynew* and the UK High Court in *Bates & Ors v Post Office Ltd*). Of course, it cannot be denied that there can be a downside of formality: an opportunistic party could use the threat of litigation over an ambiguous guiding principle to extract a concession from the other party.

about how to proceed, or the parties will use a Maskin-Tirole (1999) mechanism to make observable information verifiable.

Our tentative answer is that the guiding principles are not just ad-hoc principles chosen by the parties. They rest on strong social norms and so it is more accurate to say that they are 'activated' rather than 'chosen'. This makes them different from mechanisms such as take-it-or-leave-it offers or Maskin-Tirole revelation games, which have no motivating power in themselves. Making a promise to fulfill a social norm has more force than making a promise to apply a principle not based on a social norm, for example to receive a take-it-or-leave-it offer. We should stress that this is a preliminary answer and understanding the difference at a deeper level is an important topic for future research.

7. Other Work on Norms and Communication

Our model rests on the idea that communication about, and an agreement to follow, social norms can make people more socially responsible. Many studies in economics and other social sciences provide evidence consistent with this view. We discuss this work and then other related literature.

There is a large amount of experimental evidence showing that communication can mitigate conflicts of interest in social dilemmas. This starts with studies by Deutsch

(1958, 1960) and Loomis (1959) and continues with work by Kerr et al. (1994), Ellingsen and Johannesson (2004), Charness and Dufwenberg (2006), Sutter (2009), and Vanberg (2008). In a 1995 meta-study, Sally (1995) analyzed over 100 studies and concluded, having tested a number of independent variables, that communication increases cooperation by 40 percent and was the variable having the strongest effect on cooperation. These results were confirmed in a later meta-study by Balliet (2010), who concluded also that face-to-face communication has a stronger effect than written communication.

Not only does communication as such have an effect; the *content* of the messages communicated matters. In particular, a statement of intent or promise can have a particularly strong effect on cooperation (Ellingsen and Johannesson (2004), Charness and Dufwenberg (2006), Sutter (2009), Vanberg (2008), Ederer and Stremitzer (2017), Mischkowski et al. (2019), and Stone and Stremitzer (2020)). We find this important, since our model builds on a scenario with ex ante communication where the parties exchange promises to follow certain guiding principles.

Also relevant are studies by Ostrom (1990) and Ellickson (1991). These authors show how groups of people can overcome social dilemmas in situations where people must engage in face-to-face discussions and negotiations on how to solve problems, for example on how to allocate costs and risks. Put in situations where they have to make decisions and argue their case, people are affected by social norms, and are led by those norms to efficient outcomes.

Communication has also been studied within the framework of contracts-as-reference-points. In a study related to Hart and Moore (2008), Brandts et al. (2016) (BCE) tested whether communication affects parties' reference points and thereby shading behavior. As noted by Hart and Moore (2008), an important consequence of the fact that contracts serve as reference points is that there is a tension between contractual rigidity and flexibility. Whereas a flexible contract is generally preferable, it can also lead to increased shading behavior since the flexibility gives more room for conflicting feelings of entitlement. In their experiment, BCE showed that free-form communication significantly reduced shading levels in flexible contracts, making them more profitable for both parties than rigid contracts. In particular, clarification of transfer plans, friendliness and promises helped the subjects align their expectations and resolve ambiguity, thereby reducing shading behavior.

To be sure, we are not claiming that communication is a solution in all situations. Fehr et al. (2015) obtain less optimistic results about communication although they do not allow for free-form communication. Also, Fehr et al. (2017) show that, under certain competitive conditions, communication, rather than being used by buyers for aligning expectations and improving cooperation, was instead abused for the purpose of influencing the activities of the seller. The distinction made by German social philosopher and sociologist Jürgen Habermas between communication in strategic actions, aimed at influencing others, and communicative action, aimed at reaching a common understanding, seems relevant in this context (see Habermas (1984)). It seems

plausible that the interaction between the distribution of preferences in a given population and the strategic environment, emphasized by Fehr and Schmidt (1999) in the context of social preferences, is highly relevant for communication as well.

Communication can be a weapon in the pursuit of strictly self-regarding behavior, even though strong evidence also shows that communication can promote and be part of other-regarding behavior.

Our emphasis on norms is related to the work of Macaulay (1963).³⁴ Macaulay (1963) showed that businesses often do not rely on their written contracts but instead on social norms and industry standards to overcome challenges posed by incomplete contracts. While Macaulay pointed to the importance of *informal* social norms for contracts, we suggest that the parties can gain from incorporating such social norms, in the form of guiding principles, in the written contract.

³⁴ It is also related to the work of Ian Macneil (1977, 1983). Macneil (1983) put forward the view of contracts as “instruments of social co-operation”, by which he meant instruments to mitigate a tension between self-regarding and other-regarding preferences in commercial relationships. He specifically pointed to two important social norms – reciprocity and solidarity (with a similar meaning to what we here call loyalty) – serving this mitigation. The importance of such norms grows, according to Macneil, as a commercial relationship shifts on a continuum from discrete exchanges to relationships of longer duration and higher complexity.

This shift from the informal to the formal resembles the trend shown by Hadfield and Bozovic (2016). Hadfield and Bozovic (2016) show that, while many organizations still rely on informal norms and mechanisms, there is also a growing reliance on the formal contract in what they call innovation-oriented commercial relationships, where the parties lack background support from social ties or reputational mechanisms. Using an expanded view of contracts-as-reference-points as compared to Hart and Moore (2008), they show, based on empirical studies, how the formal contract can help the parties to get on the same page not only regarding what the parties are explicitly entitled to under the contract but also, through ex post communication, concerning how unexpected events should be dealt with. Our approach is similar to theirs, but with the added element that the contracting parties can benefit by explicitly including social norms in the contract.

Our suggested approach for overcoming contractual incompleteness is also related to the work of Bernstein. In Bernstein (2015), evidence is put forward that, in outsourcing and supply chain relationships, organizations rely on the enforceability of contracts only to a limited extent to mitigate contractual risks, for example regarding hold-ups. Instead, other mechanisms are used, such as control over production in supplier plants and over supplier labor. In particular, Bernstein (2015) points to the use of governance and institutional mechanisms to generate conditions for cooperation, one of them being the creation of social capital based on trust and social norms. Our understanding is that

the organizations studied have not explicitly included social norms such as loyalty or equity in their formal contracts, as we suggest here.

8. Conclusions

Our paper explores a new approach for dealing with contractual incompleteness. The idea behind the approach is that most parties are naturally willing to follow widely accepted social norms or moral principles, and furthermore that this tendency can be greatly reinforced if, in combination with communication processes, these social norms or moral principles are incorporated into a formal contract in the form of guiding principles. These principles are better described as being ‘activated’ than ‘chosen’. We have provided a theoretical foundation for this approach and evidence that organizations are already using and benefiting from it.

Let us close with two observations. First, we have not analyzed the trade-off between standard provisions of the contract—concerning, for example, price and the nature of the service in different states of the world—and relational elements as embodied in, for example, the guiding principles. To the extent that the former crowds out the latter, as the intrinsic motivation literature suggests (see, e.g., Frey (1997)), it may make sense for the parties to cut back on the standard provisions. This is an interesting topic for future research. Second, while we have focused on how formal relational contracts can reduce aggrivement and shading, they may also mitigate other problems associated with contractual incompleteness, such as hold-up behavior (see, e.g., Klein et al. (1978),

Williamson (1975), and Grossman and Hart (1986)) or quality-shading /corner-cutting (see, e.g., Hart et al. (1997)). Such problems do not seem to have been of paramount importance for the cases discussed in Section 5 but may be significant in other contexts.

Obviously, much more work needs to be done to explore the generality of our ideas. We believe that theory, empirical work, and experiments are all promising directions to pursue to clarify the role of guiding principles in overcoming contractual incompleteness.³⁵

³⁵ One topic in need of further research is the extent to which our suggested approach for overcoming contractual incompleteness works across cultures. It should be noted that the effect of “national cultures” on trading relationships is a complex topic, not least because the concept of culture is inherently vague. There may exist organizational cultures that are stronger than national cultures: for example, the former may emphasize maximizing leverage in commercial relationships whereas the latter may be more aligned to guiding principles such as loyalty and equity. Or vice versa. While we do not ignore the influence of national cultures, we suggest that our approach has general applicability since social norms such as loyalty, equity and reciprocity seem to exist in most cultures and hence can be “activated” between two or more organizations, as we suggest here.

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