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The impact of social factors, negotiator role and compensation schemes on negotiated transfer prices: An experimental study

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DECLARATION

"I certify that this thesis does not incorporate, without acknowledgement, any material previously submitted for a degree or diploma in any institution of higher education and that, to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where due reference is made in the text".

Chanel Yi Xuan Loy

ABSTRACT

This thesis examines the impact of social factors (such as the social network environment and trust reciprocity) and an economic factor (the type of compensation scheme) on managers' negotiated transfer pricing decisions. Drawing on theories from self-serving bias, social exchange, and reciprocity, two laboratory experiments were developed to test the hypotheses formulated for this thesis. In both experiments, participants assume the role of negotiating divisional managers (i.e. buying or selling managers).

Study One aims to investigate: (1) the existence of a self-serving bias originally proposed by Luft & Libby (1997), (2) the impact of the social network environment (i.e. supportive or non-supportive) on managers' negotiated transfer pricing decisions, and (3) the joint effect of the social network environment and compensation scheme (i.e. competitive or cooperative) on managers' negotiated transfer pricing decisions in a single-period setting. Results show the existence of a self-serving bias and suggest that the social network environment significantly influences managers' perceptions of negotiated transfer pricing outcomes, both independently, and interactively with the type of compensation scheme.

Study Two extends Study One by: (1) extending the research setting into a multi-period setting and (2) examining the effect of trust reciprocity (i.e. absent or present) on managers' negotiated transfer pricing decisions. Results find the self-serving bias effect to persist over multiple periods, and it can be inferred from the results that trust

reciprocity builds over time and through repeated interactions with negotiating partners. This finding suggests that trust reciprocity provides a condition that allows managers to build trust-reciprocal relationships in negotiation.

Taken together, the findings of this thesis advance the negotiated transfer pricing literature (e.g. Chang et al. 2008; Ghosh 2000a, 2000b; Kachelmeier & Towry 2002; Luft & Libby 1997) with significant theoretical contributions and practical implications. First, results supports the theory that a self-serving bias exists in a single-period setting originally proposed and found in prior studies (e.g. Luft & Libby 1997; Chang et al. 2008; Kachelmeier & Towry 2002). Building on that, this thesis provides incremental contribution by extending the research setting into a multiple-period setting and finds such self-serving bias effects to persist over multiple-periods. Second, this thesis examines two internal social factors which have not been considered in the negotiated transfer pricing literature – the social network environment and trust reciprocity. Results suggest that when an environment supports social networking activities, selling managers are more likely to compromise with buying managers to the extent of accepting a price lower than the market price. Furthermore, it can be inferred from the findings of this thesis that trust reciprocity builds over time. Third, findings of this thesis advance both negotiated transfer pricing and compensation scheme literatures by providing insights into how managers' negotiated transfer pricing decisions are influenced by the social network environment and types of compensation schemes. It adds to the literature by demonstrating how types of compensation schemes can affect managers' decisions in a transfer pricing setting. From a practical perspective, the findings of this thesis suggest that top management should consider the use of policies that would cultivate an organisational culture which is supportive of social networking activities. In addition, the findings have implications for the design of compensation

schemes that aim to achieve organisational goal congruence and overall organisational effectiveness.

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"Our greatest glory is not in never falling, but in rising every time we fall."

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CHAPTER 1

INTRODUCTION

1.0 Introduction

Transfer pricing occurs within organisations where one division sells a product or provides a service to another division. The price for the good or service sold between these related entities is known as the transfer price. The majority of early transfer pricing research focused on issues from an economic perspective, such as examining what optimal transfer prices should be based on factors such as information availability, the existence of a market and the presence of competition (Hirshleifer 1956). However, the establishment of autonomous profit centres also gives rise to behavioural issues. As such, later studies (e.g. Chang, Cheng &Trotman 2008; Ghosh 2000b; Ghosh & Boldt 2006; Kachelmeier & Towry 2002) have begun to recognise the importance of the impact of social and behavioural aspects on negotiated transfer pricing outcomes.

An advantage of negotiated transfer pricing is that it can emulate a free market as divisional managers buy and sell from each other. While they mimic arms-length transactions, the outcome of transfer pricing negotiations may not necessarily serve the best interests of the organisation. This is because the final transfer price may depend on managers' self-serving biases and their ability to outsmart one another, as opposed to one that maximizes profits for the organisation as a whole. In fact, each division's role as a profit centre can exacerbate and encourage self-interested and competitive

behaviours rather than organisational interests and cooperation. Prior research shows this to be true as negotiators are reluctant to engage in collaborative processes because they believe the other negotiator will misuse shared information (Thompson 1991). In addition, the failure to reach agreement between divisions may lead to additional transaction costs which are not in the best interest of the organisation. As such, organisations need to identify mutually beneficial opportunities and conditions that can encourage divisional managers to not only act in the best interest of the firm, but to also engage in collaborative negotiation processes (Lewicki, Saunders & Barry 2006a; Neale & Fragale 2006) which can lead to efficiency gains for both the divisions and organisation (Li & Zhang 2008).

Prior studies have shown that transfer prices are affected by factors such as incentive schemes[1] (Ghosh 2000a, 2000b; Ghosh & Boldt 2006; Greenberg, Greenberg & Mahenthiran 1994; Ravenscroft et al. 1993), fairness (Luft & Libby 1997; Kachelmeier & Towry 2002), mode of negotiation (Kachelmeier & Towry 2002), as well as framing and social concerns (Chang et al. 2008). This thesis extends the existing literature by addressing the effects of two social factors, namely the social network environment and trust reciprocity, as well as an economic factor, the type of compensation scheme, on negotiated transfer pricing decisions. The aim is achieved by conducting two experimental studies to address the following three research questions (RQs) posed in this thesis.

- RQ1: *What is the impact of the social network environment on negotiated transfer pricing decisions?*

[1] The terms incentive schemes and compensation schemes are used interchangeably in this thesis.

- RQ2: *What is the joint effect of the social network environment and compensation schemes on negotiated transfer pricing decisions?*

- RQ3: *How does trust-reciprocity influence negotiated transfer pricing decisions in a multi-period setting?*

The remainder of this chapter is organised as follows. Section 1.1 discusses the motivations and research questions, while Section 1.2 sets out the objectives of this thesis. Section 1.3 discusses the significant theoretical and practical contributions of this thesis. Finally, Section 1.4 outlines the structure of this thesis.

1.1 Motivations

Prior accounting studies have shown that managers' negotiated transfer pricing decisions are affected by economic factors such as incentive schemes (Ghosh 2000a, 2000b; Ghosh & Boldt 2006; Greenberg et al. 1994; Ravenscroft et al. 1993), market prices (Luft & Libby 1997), and behaviour factors such as fairness (Luft & Libby 1997; Kachelmeier & Towry 2002). For example, Luft & Libby (1997) find that sellers set their transfer price expectations closer to the market price when compared to buyers, whereas buyers set their transfer price expectations closer to the equal-profit price. Luft & Libby find that such existence of a *self-serving bias* results in negotiating partners (i.e. seller and buyers) having different expectations regarding what a 'fair' transfer price is. In general, they predict and find that sellers will consider the external market price to be a fairer price, while buyers view the transfer price that will allow the two divisions to have equal profit to be the fairer price. Chang et al. (2008) extend this line of research by examining the role of framing and social concerns (i.e. concern-for-others) on negotiators' transfer price decisions. Chang et al. (p. 704) find that "… a loss

frame (compared to a gain frame) exacerbates managers' self-serving biases and increases the 'transfer price expectation gap' between buyer and seller." They further find that a negotiating partner's final transfer price is lower when they are dealing with a partner with *high* concern-for-others than a partner with *low* concern-for-others, when the market price is above the equal-profit price. Nevertheless, the issue merits further investigation as Chang et al. (2008) examined only negotiators' concern-for-others, which is a social factor at the individual level (an *internal* social factor), on managers' negotiated transfer price judgments. They did not consider the potential influence of another *internal* social factor such as a firm's social network environment (i.e. social factor at the organisational-level). This is despite prior negotiation literature showing that the social environment can affect negotiation processes and outcomes (Lewicki et al. 2006a; Rubin & Brown 1975). Social psychology and economics literatures (see e.g. Chartrand & Bargh 1999; Mas & Moretti 2009) suggest that an individual's behaviour will passively and unintentionally change to match the social environment. Collectively, these literatures suggest that workplace environment can affect and influence social interactions and behaviours of individuals. To date, the impact of the social network environment on managers' negotiated transfer price decisions remains unexplored. This gap in the negotiated transfer pricing literature provides the first motivation for this thesis. The first research question (RQ) for this thesis is as follows:

RQ1: *What is the impact of the social network environment on negotiated transfer pricing decisions?*

The negotiated transfer pricing literature suggests that a firm's compensation schemes can influence negotiated transfer price decisions (e.g. Anctil & Dutta 1999; Ghosh 2000a, 2000b; Ghosh & Boldt 2006). This is because economic motivations such as

promotions and bonuses can give rise to self-interested behaviour (Ghosh 2000a). Ghosh (2000a p. 664), for example, suggests that "…managers must cooperate in pursuit of common organisational goals, yet they have to compete for limited resources, status and career advancement." This highlights incentives that may be borne by managers to act in their own self-interest at the expense of the organisation when making allocation and pricing decisions. Indeed, prior studies (Ackelsberg & Yukl 1979; Ravenscroft & Haka 1996) have demonstrated the significance of extrinsic motivators of compensation schemes on employees' behaviours and decisions. Collectively, these studies found that when cooperative compensation schemes were emphasized, individuals exhibited cooperative behaviour (Ackelsberg & Yukl 1979) and increased productivity (Ravenscroft & Haka 1996). It is suggested that cooperative compensation schemes tend to work in favour of organisational goals and thus promote (quantitative and qualitative) goal congruence, while competitive compensation schemes work in favour of divisional outcomes (i.e. for personal/divisional gain). To date, empirical evidence seems to suggest that the type of compensation scheme can affect managers' transfer pricing negotiation judgments. However, it is not known what the *joint effect* of the social network environment and type of compensation scheme is on negotiated transfer pricing decisions. This gap in the literature provides the second motivation for this thesis. Specifically, the second research question of this thesis is as follows:

RQ2: *What is the joint effect of the social network environment and compensation schemes on negotiated transfer pricing decisions?*

Trust and reciprocal behaviour have been recognised as an important element within relationships as it signifies the willingness to cooperate. Song (2008, p. 675) argues that

"…the need to decide whether to trust another party or to reciprocate the goodwill of another is ubiquitous in human affairs; without trust and reciprocity, most social exchanges would not take place, much to the detriment of the involved parties and society in general." Furthermore, prior research across disciplines (e.g. Berg, Dickhaut & McCabe 1995; Buchan, Johnson & Croson 2006; Dufwenberg & Gneezy 2000; Fehr & Schmidt 1999; Hannan 2005; Tsai & Ghoshal 1998) has recognised the significance of trust reciprocity as a social factor critical to society and that a preference for it exists. For example, psychological and anthropology studies (e.g. Blau 1964; Fiske 1992) suggest that such relationships may prove useful in understanding the building blocks of reciprocity.[2] In a negotiated transfer pricing setting, trust reciprocity can be particularly beneficial as it allows organisations to achieve cooperative outcomes which are in line with their overall goals, as opposed to giving managers the opportunity to engage in self-interested behaviours. While a number of studies in accounting have examined the importance of trust reciprocity in various settings such as performance evaluation (Du, Tang & Young 2012; Mass, Van Rinsum & Towry 2012) and incentive contracts (Christ, Sedatole & Towry 2012), the effect of trust reciprocity on negotiated transfer pricing decisions remain unexplored and unclear. This is despite the negotiation literature showing that interpersonal trust (i.e. trust reciprocity) can affect negotiation behaviour (Butler 1991, 1999; Lewicki, Saunders & Minton 1999; Lewicki et al. 2006a; Lindskold, Betz & Walters 1986). It has been noted that trust building processes are not one-sided and must be mutually developed at a pace acceptable to both parties over multiple-period and interactions (Lewicki et al. 2006a, p. 289-291). Thus, the third motivation of this thesis is to investigate how trust reciprocity can affect managers' negotiated transfer pricing decisions in a multi-period setting. The third research question of this thesis is as follows:

[2] Fiske (1992, p. 705) suggests that people think about how much they have to reciprocate or compensate others to come out even with them. It involves a form of additive tally of who owes what and who is entitled to what.

RQ3: *How does trust-reciprocity influence negotiated transfer pricing decisions in a multi-period setting?*

Two experimental studies are conducted. The aim of Study One (experiment one) is to address the first and second research questions. Study One investigates how the type of social network environment established by organisations can influence the willingness of negotiators to engage in collaborative negotiation behaviours and identify mutually beneficial outcomes in a single-period transfer pricing negotiation setting. In addition, this study explores the joint effect of the types of compensation schemes and the social network environment on managers' transfer pricing decisions.

Study Two (experiment two) addresses the third research question. Study Two investigates how trust reciprocity affects managers' negotiation processes over multiple interactions and the transfer pricing decisions they make over a multi-period setting. It investigates managers' willingness to engage in behaviours that support cooperation and cohesion over multiple periods, and whether the number of interactions will change managers' negotiated transfer pricing decisions.

1.2 Objectives

Based on the motivations highlighted above, the objectives of this thesis are:

1. To investigate the impact of the social network environment (i.e. supportive or not supportive) on managers' negotiated transfer pricing decisions in a single-period setting.

2. To examine the joint effect of the types of compensation schemes (i.e. cooperative or competitive) and the social network environment on managers' negotiated transfer pricing decisions in a single period setting.

3. To explore the effect of trust reciprocity (i.e. presence or absence) on managers' negotiated transfer pricing decisions in a multi-period setting.

1.3 Significant Contributions

This thesis has significant theoretical and practical implications. Section 1.3.1 discusses the theoretical contributions while Section 1.3.2 discusses the practical implications of this thesis.

1.3.1 Theoretical Contributions

This thesis makes a number of theoretical contributions to the accounting literature. First, Luft & Libby (1997) offer an important step towards developing a unified theory for negotiated transfer pricing decisions. This thesis builds on Luft & Libby (1997) by extending the research setting into a multiple-period setting. The finding of this thesis supports the existence of a self-serving bias in a single-period setting as originally proposed by Luft & Libby (1997) and found in subsequent studies (e.g. Chang et al. 2008; Kachelmeier & Towry 2002). In addition, the result of this thesis finds that self-serving bias effects persist over multiple-periods.

Second, this thesis contributes to the accounting literature by responding to calls for more research into the growing evidence of the usefulness of socially mediated behaviours in motivating and controlling employees (Sprinkle 2003). More specifically, this thesis extends prior studies (Chang et al. 2008; Kachelmeier & Towry 2002; Luft &

Libby 1997) by examining two internal organisational social factors (i.e. the social network environment and trust reciprocity) which have not been considered in the negotiated transfer pricing literature. Findings of this thesis suggest that when an environment supports social networking activities, selling managers are more likely to compromise with buying managers to the extent of accepting a price lower than the market price. In addition, it can be inferred from the findings of this thesis that trust reciprocity builds over time. This finding is consistent with the argument of *trust building* highlighted by Lewicki et al. (2006a). Specifically, Lewicki et al. suggest that:

> "…*trust building* process cannot be rushed, nor can it be one-sided. While one party can initiate action that may move the trust-development process forward, the strongest trust must be mutually developed at a pace acceptable to both parties…" (pp. 289-291, emphasis added in italic).

Third, findings of this thesis contribute to both negotiated transfer pricing and compensation schemes literatures. Results of this thesis find the relationship between compensation schemes and the final negotiated transfer price to be moderated by the social network environment.[3] The results from this thesis provide some insights into how managers negotiated transfer pricing decisions are influenced by the social networking environment and type of compensation scheme. More specifically, results show that in an unsupportive social network environment, managers' negotiated transfer prices are higher under a competitive compensation scheme than under a cooperative compensation scheme. The results demonstrate that the type of compensation scheme can affect individuals' decisions in a transfer pricing setting. In other words, findings of this thesis suggest that in the presence of a competitive compensation scheme, selling divisions will quote a price equivalent or close to the market price in order to profit as

[3] The terms negotiated transfer price, final negotiated transfer price, perceived final negotiated transfer price and predicted final negotiated transfer price are used interchangeably.

much as they can from buying divisions in an unsupportive social networking environment.

1.3.2 Practical Implications

In addition to the aforementioned theoretical contributions, the results of this thesis have important practical implications as follows. First, this thesis illustrates that top management needs to consider the importance of a firm's workplace environment. Results of this thesis show the relationship between compensation schemes and the final negotiated transfer price to be moderated by the social network environment. Top management should consider the use of policies that would cultivate an organisational culture which is supportive of social networking activities. Second, findings of this thesis show that trust builds over time. As such, top management should cultivate an organisational culture which promotes cooperativeness, trustworthiness and fairness. These are important organisational attributes because they may lead to increased levels of loyalty in employees (see Butler 1991; Graen & Scandura 1987; Kouzes & Posner 2011; Marcus & House 1973). Importantly, this will not only reduce high employee turnover, it can also promote a shared outlook between employees, both of which save costs and increase loyalty and morale in the workplace. Inculcating an organisational culture which promotes the building of cooperative and cohesive work relationships can allow for greater efficiency and organisation effectiveness.

1.4 Chapter Outline and Organisation

This thesis is organised as follows:

Chapter 2 reviews the relevant theories and empirical evidence that relates to the determinants of negotiated transfer pricing outcomes. In particular, the literatures on social network, compensation schemes and trust reciprocity are reviewed.

Chapter 3 presents the theoretical arguments that lead to the development of a number of testable hypotheses. A theoretical model is proposed and discussed, followed by the development of the hypotheses.

Chapter 4 describes the research method employed, including the operational definitions of the variables used in the experiment in Study One. The sample selection and experimental procedures are explained.

Chapter 5 discusses the data analysis and reports the results of the first experiment. The descriptive statistics are reported, followed by the data analyses of the three hypotheses in Study One.

Chapter 6 describes the research method employed, including the operational definitions of the variables used in Study Two. The sample selection and experimental procedures are explained.

Chapter 7 reports the results of the two hypotheses tested in Study Two. The descriptive statistics are reported, followed by the results of the data analyses.

Chapter 8 summarizes the major findings of the two experiments and discusses the contributions of this thesis, along with its limitations and opportunities for future research.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This chapter reviews prior literatures relevant to this thesis. It is organized as follows. Section 2.1 provides an overview of literature on negotiation in transfer pricing. Sections 2.2 and 2.3 contain a discussion of prior transfer pricing studies on the roles of incentive schemes and negotiators, respectively. Section 2.4 introduces the concept of social capital.

Section 2.5 contains a review of prior literatures relevant to Study One of this thesis. The sub-sections within Section 2.5 are organized as follows. Section 2.5.1 discusses prior studies related to social network and social exchange theory. Section 2.5.2 contains a discussion of environmental cues on social behavioural outcomes and Section 2.5.3 discusses the notion of fairness concerns in prior studies. Section 2.5.4 summarizes the literature reviewed in Section 2.5.

Section 2.6 provides a review of prior literatures relevant to Study Two of this thesis. The sub-sections within Section 2.6 are organized as follows. Section 2.6.1 discusses prior works related to trust in negotiation. This is followed by reviews of prior literatures on the concept and types of trust in Section 2.6.2, trust and social exchange theory in Section 2.6.3, relational trust and reciprocity in Section 2.6.4 and reciprocity

theory in Section 2.6.5. Section 2.6.6 discusses prior studies in trust reciprocity. Finally, Section 2.6.7 provides a summary of the review.

2.1 Negotiation in Transfer pricing

Early studies in transfer pricing (e.g. Hirshleifer 1956) looked at ways in which transfer prices could be affected by information availability, market existence and competition. Hirshleifer (1956) analysed the transfer pricing mechanism and suggested that the market price should be the correct transfer price when a commodity is produced in a competitive market; while in an imperfectly competitive market or where no market existed, the right procedure would be to transfer at marginal cost or between the marginal cost and market price. As in circumstances that require negotiation and bargaining (dis)agreements between parties, the debate as to what constitutes a *right* price continues to find its way in the transfer pricing literature.

Negotiated transfer pricing research fundamentally questions the optimal transfer pricing of goods between divisions, such that profits for the firm are maximized (Hirshleifer 1956). While transfer pricing situations are zero-sum outcomes from an economic perspective, it holds important implications for management and accounting practices that firms undertake to maximize profits within the firm and for external and internal reporting purposes. Analysis of prior negotiated transfer pricing literature appears to draw broadly from the realms of economics and psychology. These literatures can be further classified into categories relating to external and internal factors.

Some external factors which have been investigated include the economic impact of market (environment), information, policies, technology, demand, competition, cost and

price on transfer pricing decisions (e.g. Chalos & Haka 1990; Eccles 1985; Ghosh 1994; Hirshleifer 1956; Roth & Murnighan 1982; Thompson & Loewenstein 1992; Watson & Baumler 1975). Internal factors which have been examined include perceptions of fairness (Eccles 1985; Ghosh 2000a; Kachelmeier & Towry 2002; Thompson & Loewenstein 1992), level of conflict (Ghosh 1994; Grabski 1985), individuals' manipulative dispositions (Ghosh 2000b) and framing (Chang et al. 2008; Ghosh & Boldt 2006). Collectively, these internal and external factors have been found to influence transfer pricing agreements and outcomes. Other factors that have been found to affect negotiated transfer prices include time horizon (Chalos & Haka 1990; Eccles 1985; Ravenscroft, Haka & Chalos 1993), incentive schemes (Chalos & Haka 1990; Ghosh 2000a, 2000b; Ghosh & Boldt 2006; Greenberg et al. 1994; Ravenscroft et al. 1993), and mode of negotiation (Kachelmeier & Towry 2002), with incentive compensation schemes forming a large part of early negotiated transfer pricing research in accounting. The next section discusses the literature on incentive schemes.

2.2 Role of Incentive Schemes

Transfer pricing negotiations involve two divisions with each acting as a profit centre. This means that divisions involved have to deal with decisions that affect both the profits of their division and those of the firm. As such, negotiated transfer pricing studies started by exploring uncertainties and 'profit' factors that could affect negotiation outcomes. This included the effects of information and incentive schemes (Chalos & Haka 1990; Ravenscroft et al. 1993; Thompson & Lowenstein 1992) which set forth the notion that bilateral bargaining involved some level of win-lose outcome. Prior studies viewed divisional incentives as leading to dysfunctional outcomes. Eccles (1985) proposed that competitive and individualistic emphasis on profits led to higher levels of conflict, while Lambert (1979) found that perceived divisional conflict

increased when managers' transfer prices were based on divisional profits. Illustrating the rise of divisional conflict when a third party is involved in the negotiated transfer pricing process, Ghosh (1994) found that an indirect transfer pricing approach which required some level of arbitration led to lower firm profits and increased inter-divisional conflict over time. The effect of a divisional incentive scheme is also shown in Ghosh & Boldt (2006) who found that under negative goal framing, sellers claimed a large share of available profits when their compensation structure was based on divisional profits that awarded them a larger bonus. These results are consistent with economic theory.

Similarly, prior studies have also examined the effects of economic theories on cooperative compensation schemes. While Williamson's (1979) work in economics established that the design of incentive schemes affects transaction costs, Ackelsberg & Yukl (1979) went a step further and depicted how profits and conflict affected negotiated transfer pricing outcomes. Aligned with economic theory, they found that when firm profits were emphasized, transfer pricing negotiations utilised a more integrative problem solving approach. This was evidenced by managers having favourable perceptions (such as cooperative, open, trustworthy and friendly perceptions) of the other division, thus leading to more cooperative behaviour and a collective increase in firm profit. Consistent with Ackelsberg & Yukl's (1979) findings, later extensions in negotiated transfer pricing such as Greenberg et al. (1994) found and supported the notion that firm incentives increased firm profits over divisional incentives. Spicer (1988) suggested that this was because cooperative incentive schemes rewarded divisions based on overall firm outcomes by tying managers to firm profits and thus giving them the incentive to act cooperatively. These studies suggested that more cooperative behaviour was achieved when incentives were cooperatively based. Other studies that looked at the types of incentive schemes also found that cooperative

rather than competitive schemes led to higher firm profits and more cooperative and efficient outcomes. For example, Ravenscroft & Haka (1996) found that cooperative incentives schemes were more effective in increasing productivity than competitive schemes. Their study is in line with majority of the literature which conclude that cooperative schemes lead to more cohesive and cooperative behaviours than competitive schemes.

Despite this, some studies have found conflicting views. Chalos & Haka (1990) found that competitive schemes led to higher firm profits. Comparing the impact of different incentive schemes, they argued that while divisional incentive schemes increased profit differences between divisions, it was more effective in maximizing firm profits as highly self-interested individuals were more likely to find optimal bargaining solutions in order to achieve higher expected payoffs. The rationale behind Chalos and Haka's argument was that by maximising both divisions' profits, overall firm profit will be higher if the optimal pareto option is chosen. As such, managers' interest in the mixed incentive scheme (i.e. earning a percentage on division and firm profit) would be to maximize not just their own profits, but choose the option that would maximize the firm's profit and thus their overall profits. In addition, Ravenscroft et al. (1993) found that participants paid under divisional profits schemes cooperated more frequently than those paid under joint incentive schemes. They suggested that divisional rewards motivated bargainers to set higher aspirations and thus arrive at more integrative outcomes. Both studies found that divisional or mixed profit based rewards can motivate negotiators to achieve higher company profits and concluded that such incentive schemes led to higher profits. Importantly, their result contradicts previous transfer pricing studies and theory that found firm rather than divisional incentive schemes to minimize transaction cost, maximize firm profits and promote fairness

among divisions (Ackelsberg & Yukl 1979; Eccles 1985; Ghosh 1994; Ghosh 2000a, 2000b; Ghosh & Boldt 2006; Greenberg et al. 1994; Lambert 1979; Spicer 1988;). However, the argument behind Chalos & Haka (1990) and Ravenscroft et al. (1993) still suggest the ultimate preference for managers is to increase their own profitable outcome, pointing to the underlying economic theory and notion of self-interest.

Despite the differences in outcomes, prior studies discussed above collectively highlight the importance of compensation structure on transfer pricing (Grabski 1985; Ghosh 2000a, 2000b) and imply that the profit from negotiated transfer pricing transactions is an important goal especially when it is material (Ghosh & Boldt 2006). Relying on negotiation and economic theory, the above studies outlined how incentive schemes can vary the competitiveness of the inverse relationship between buyer and seller profits. While prior studies did not look specifically at the role of the buyer or seller, they acknowledged the existence of different positions in bilateral bargaining by mostly including both parties in their analysis. However, they overlooked the effect of each party's position on the negotiation process and transfer pricing outcome.

2.3 Effect of Negotiator Role

Prior studies have demonstrated that the role of the negotiator is an important factor which appears to consistently influence pricing attitudes, in particular, the initial transfer price (Chalos & Haka 1990; Chang et al. 2008; Kachelmeier & Towry 2002; Luft & Libby 1997; Roth & Murnighan 1982; Thompson & Loewenstein 1992). Results of early studies in bargaining and transfer pricing revealed that different strategies in the negotiation process resulted in different bargaining outcomes (Chalos & Haka 1990; Roth & Murnighan 1982; Thompson & Loewenstein 1992). These experiments also included both parties (i.e. the buyer and seller) and the overall result of their strategies.

For example, Roth & Murnighan (1982) examined the effect of information on bargaining outcomes and found that parties tended to focus on positions that were more advantageous to them and thus focused on circumstances that supported their own positions. Chalos & Haka (1990) acknowledged such self-oriented outcomes and posited that information asymmetry would lead to less trust and more competitive interactions between negotiators. Results of their experiment showed that when one party had a profitable opportunity to buy or sell in the outside market and the other did not, the negotiated transfer price resulted in more unequal payoffs, benefitting the party with the market alternative. This highlights how information difference leads to difference in bargaining positions and strategies. Despite the acknowledgment of such differing positions on negotiation outcomes, these studies did not examine or explain how different positions can be the cause of various outcomes in transfer pricing.

In a later study, Thompson & Loewenstein (1992) conducted two experiments to examine ideas that egocentric interpretations of fairness were causes of unnecessary and costly delays in bargaining. Participants engaged in an interactive and dynamic bargaining task where the objective was to reach agreement with an opponent. Results of Experiment One indicated that negotiators' judgments of fair outcomes were biased in an egocentric direction (selfish), and the magnitude of negotiators' biases strongly predicted the length of strikes. In their second experiment, they found that egocentric interpretations of fairness were greatest *before* negotiation and mitigated *following* bargaining. Negotiators also showed biased recall of information by remembering more information that favoured their own position. The magnitude of negotiators' biases was also positively related to egocentric interpretations of fairness. Thompson & Loewenstein concluded that egocentric interpretations of fairness hindered conflict resolution because of the reluctance of negotiators to agree to what they perceived as

fair settlement. Thus, although people prefer fair outcomes, different perceptions of fairness can often result in biases and hinder conflict resolution.

Luft & Libby (1997) discussed the impact of the external market on divisional managers' willingness to engage in certain price points in transfer pricing negotiations. Contrary to conventional economic theory which predicts that market price determines negotiated transfer prices, they argued that it would be unprofitable for the seller to accept less or the buyer to pay more than what they could each get in the market (without looking at transaction cost). Luft & Libby's (p. 218) rationale for this was that if the market price was $500,

> "…the seller's production costs are irrelevant in determining the negotiated transfer price: it will be $500 regardless of whether the seller's production costs are $250 or $480. If transaction costs differ significantly in intrafirm and market exchange – for example, if the seller saves $30 in marketing costs by selling internally – the negotiated transfer price may deviate from market price, falling as low as $470, which is now the seller's reservation price; but the seller's production costs remain irrelevant to the determination of the negotiated transfer price."

They found that rather than the influence of market price, the transfer price of experienced managers was determined by concerns as to how their profits compared with each other. This illustrated that fairness in divisional profits rather than the prevailing market price mattered to managers. Specifically, they found that while market price affected managers' reservations and transfer price estimates, this influence was significantly less when the market price resulted in a more unequal distribution of profits between divisions such that the outside price strongly favoured one party. As the market price diverged from a price that resulted in equal profits to both divisions, they found managers' biases in price estimates increased, making it harder for them to reach agreement. Luft & Libby (1997, p. 218) stated, "…cost and the resulting accounting profits matter, even in the presence of market prices, because managers of buying and

selling divisions compare profits, and relative profits influence their estimates of transfer prices. Prices that result in highly unequal profits for divisions of comparable size and general profitability tend to be seen as "unfair," even if they are compatible with market prices. Some managers expect that transfer prices will include a modest sacrifice of profits by one division in the interests of reducing interdivisional profit inequality."

Luft & Libby's study illustrated that market price is not the only estimation of each party's negotiation stance and suggested that the presence of external market prices do not automatically simplify the transfer pricing problem. They showed that while external market prices offered some level of benchmarking for negotiators, perception of fairness was what prompted buyers and sellers to agree on a specific transfer price. The aversion to unequal profits caused by different expectations as to what constituted a 'fair' transfer price in Luft & Libby's study, demonstrated the existence of a *self-serving bias* which caused managers to overweigh the negotiation outcome most beneficial to them.[4] This meant that in bilateral negotiation, more than one definition of what constitutes a 'fair' price exists – with buyers choosing a lower price position and sellers picking the higher price position, thus leading to a less efficient negotiation process. As such, they proposed the importance of understanding transfer pricing expectations between negotiators (buyers and sellers).[5]

Luft & Libby pointed out that the expectation of negotiating managers to pick positions that favoured their own circumstance as being the fair outcome gives rise to the

[4] Self-serving bias is a cognitive bias where individuals tend to view outcomes more favourable to them as being the fairer outcome when resolving conflicts (Thompson & Loewenstein 1992).
[5] For example, if the market price is $20 and the equal profit price for both buyer and seller is $15, a seller would consider the market price of $20 to be the fairer transaction price while the buyer would consider the equal profit price of $15 to be the fairer transfer price. This difference in perception gives rise to a self-serving bias.

existence of a self-serving bias. This cognitive bias has also been evidenced in the psychology literature, citing that egocentric behaviour in negotiations resulted in biased expectations and judgements as parties overweighed outcomes that were most beneficial to them (Bazerman, Curhan, Moore & Valley 2000; Kunda 1990). The implications of Luft and Libby and their theory on self-serving bias have stimulated numerous studies and formed the basis for subsequent studies in negotiated transfer pricing literature. Following Luft & Libby (1997), studies in accounting have found the existence of self-serving biases to be the underlying cause of different bargaining positions in transfer pricing negotiations (Chang et al. 2008; Kachelmeier & Towry 2002). Kachelmeier & Towry (2002) and Chang et al. (2008) collectively found buying and selling managers' self-serving biases to be affected by perceptions of fairness when negotiating transfer prices. The nature of these negotiations is further amplified as parties focus on profit information and positions that are most beneficial to them. Through the above studies, it is clear that the role of the negotiator forms the basis of a large body of transfer pricing research, both implicitly and explicitly.

Accounting studies in negotiated transfer pricing have highlighted the impact and importance of social aspects in transfer pricing outcomes (see e.g. Chang et al. 2008; Kachelmeier & Towry 2002; Luft & Libby 1997). Luft & Libby (1997) used a case-based questionnaire to examine preferences for fairness, a form of social concern, in negotiated transfer pricing. Using executive MBAs as participants, they found an expectation for transfer prices to be significantly lower than the external market price when the market price favoured sellers, but not when the market price resulted in equal profits for the buying and selling divisions. In a later study, Kachelmeier & Towry (2002) extended fairness expectations to investigate real cash negotiations between buyers and sellers. Adopting the idea of social presence from Bazerman et al. (2000)

which varies the degree to which the experimental setting exerts social pressure on negotiators, they used a computerised negotiation mechanism in which one version used only communication that captured bids, asks and acceptances, while the other version involved unrestricted, face-to-face communications. Kachelmeier & Towry found the outcome of fairness-based price concessions to be dependent upon how parties negotiate transfer prices. Specifically, they found that in actual negotiations, expectations of fairness-based price concessions do not exist when participants negotiated over a computer network with no communication other than bids, asks, and acceptances. On the other hand, when participants negotiate in a face-to-face setting with unrestricted communication, both expectations of fairness and negotiation outcome reflects fairness-based price concessions when the outside market price favours one party. They suggested that this was due to the *humanized* effect of face-to-face negotiations which allowed for more persuasive communication, thereby making it more difficult for the advantaged party to exercise the full economic bargaining power of an outside market. Kachelmeier & Towry (2002, p. 571) concluded that the extent to which expectations of fairness judgments are generalizable to actual behaviour depended upon "whether the competitive environment suppresses or reinforces the social presence necessary to sustain phenomena such as preferences for fairness." While Kachelmeier & Towry found social presence (face-to-face communication) to contribute to transfer pricing outcomes, they did not examine the direct effects of social concerns (such as fairness) on transfer price judgments.

Extending the line of social concern research in Luft & Libby (1997) and Kachelmeier & Towry (2002), Chang et al. (2008) examined the negotiation partner's objective – whether the negotiating partner's objective involved high or low concern-for-others. Proposing that such social concerns affect managers' perceptions of the negotiation

environment in the way they interpret economic, social and accounting information and consequently in their transfer pricing judgments, they predicted and found that when the market price was higher than the equal-profit price, managers' transfer price expectations were lower and deviated more from the market price when they negotiated with a partner with high concern-for-others than a partner with low concern-for-others. This meant that negotiators were less willing to give concessions to partners and accordingly, increased the transfer pricing gap between buyers and seller if they gauged their partners as having greater concern for achieving their own outcomes than for the greater benefit of everyone. Chang et al. (2008) argued that the result was consistent with the 'norm of reciprocity' when market prices were higher than the equal profit price as managers reciprocated their partner's concerns and expected lower transfer prices when their negotiation partner exhibited high concern-for-others; and similarly expected higher transfer prices when their negotiation partner exhibited low concern-for-others. Further analysis with goal framing (as a gain or loss) showed that managers' concern-for-others influenced price premiums that sellers expected on top of the reservation price. In support of prior studies, Chang et al. also found fairness to be an important factor in making transfer pricing judgments such that regardless of the role participants assumed or the treatment undertook, the transfer price judgment was different from the external market price.

The literature in accounting has recognised negotiation as a potentially useful control mechanism commonly used by firms to set transfer prices (Ghosh 2000a, 2000b). This is because negotiation allows for the skilful balance between economic considerations and social concerns by interdependent divisions (Chang et al. 2008; Kachelmeier & Towry 2002). Recognising the prevalence and importance of negotiation, researchers have been dedicated to identifying social and psychological factors that influence

judgment and decision making in negotiation (see for example, Neale & Bazerman 1991; Thompson 1990). The above accounting studies in negotiated transfer pricing collectively prove the importance of social considerations and social factors, in the (intra) organisational context, on transfer pricing judgments. Despite calls for investigation into social considerations on negotiation outcomes (Chang et al. 2008; Kachelmeier & Towry 2002), social factors remain widely undeveloped and unexplored in the accounting literature. As such, the next section discusses the importance of social capital in organisations as it provides the basis for understanding why and how social factors affect negotiated transfer pricing outcomes.

2.4 Importance of Social Capital

Social capital is the collective value or economic benefits an individual derives from his social networks (i.e. who he knows) and the inclinations of these networks to do things for each other (i.e. the norms of reciprocity). The concept of social capital was first identified in sociology studies as an important tool for survival where factors such as trust, cooperation and collective action developed over time from networks of strong personal relationships (Jacobs 1965). First identified by Jacobs (1965) and Bourdieu (1986), the central proposition of social capital was that networks of relationships created valuable resources for conducting social affairs and are embedded within networks of mutual acquaintance and recognition. Bourdieu (1986) proposed such resources to be obligations that arise from feelings of gratitude, respect, friendship and group membership.[6] To clarify the dimensions of social capital, Nahapiet & Ghoshal (1998) presented social capital as an integrative framework and suggested that social

[6] As the concept developed, Coleman (1988, 1990) established a social capital framework and described it as a structure of relations between and among people which encourages productive activities. Later contributors such as Putnam (1993, 1995a, 1995b) put forth that social capital are features of the social organisation that facilitates coordination and cooperation for mutual benefit. This is consistent with early studies which suggested social capital is comprised of features that can be made available through contacts and connections from networks such as 'weak ties' (Granovetter 1973) and 'friends of friends' (Boissevain 1974), both of which can enhance productivity.

capital gives rise to the exchange of knowledge and is facilitated when (1) individuals are motivated to engage in its exchange, (2) there are structural links or connections between them (*structural level capital*), (3) individuals have the cognitive capability to understand and apply the knowledge (*cognitive capital*), and (4) relationships have strong, positive characteristics (*relational capital*).[7]

Recent social researchers depict social capital as a form of goodwill created by social relations that can assist action (Adler & Kwon 2002). Depicting the nature of these social bonds and norms, Pretty & Ward (2001) noted that social capital encompasses relations of trust, reciprocity, rules, norms and connectedness. They proposed that relational capital is advantageous as it leads to a lower cost of working together. As individuals want to maintain social capital, it results in cooperative behaviour and a lower likelihood of engaging in actions that would result in them possibly losing their social capital. Pretty & Ward (2001) also identified four central aspects of social capital which included (1) relations of trust, (2) reciprocity and exchanges, (3) common rules, norms and sanctions, and (4) connectedness, networks and groups.[8] Although Pretty & Ward (2001) looked at social and human capital formation in rural communities and sustainable community development, the aspects of social capital set forth in their paper is relevant to the usage of social capital put forth in this thesis.

A common theme in the studies is that social capital represents the ability to secure benefits by virtue of membership in social networks or social structures (Portes 1998). Coleman (1990) proposed that relational capital is an important asset that benefits members and facilitate action within the network. At the organisational level, Inkpen &

[7] The three dimensional concepts – structural, cognitive and relational, consequently formed the basic framework in social capital research.
[8] The relevant aspects of social capital as pointed out in Pretty & Ward (2001) will be discussed in the relevant sections of this chapter (i.e. social network environment and trust reciprocity).

Tsang (2005) suggested that such benefits include privileged access to knowledge and information, preferential opportunities for business, superior understanding of network norms and in reputation building. Social network theorists (e.g. Belliveau, O'Reilly & Wade 1996; Burt 1997; Useem & Karabel 1986) and social capital researchers have also emphasized that networks of relationships are valuable capital for individuals and organisations, as individuals gain personal benefits from their social capital (Coleman 1990; Inkpen & Tsang 2005). Inkpen & Tsang (2005) further argued that trust may develop within such network ties over time, constituting another form of social capital which can enhance an individual or firm's social resource and capital (to be further discussed in Study Two). This aspect of social capital was suggested by Nahapiet & Ghoshal (1998) to be a form of relational capital facilitated by the affective nature of relationships within a network. Such relational capital is thus said to exist when network members have strong identification within the network (Lewicki & Bunker 1996), trust others within the network (Putnam 1995b), perceive an obligation to participate (Coleman 1990), and acknowledge and abide by the cooperative norms within the network (Putnam 1995a). Pretty & Ward (2001) suggested that the nature of these connectedness, networks and groups to be an important aspect in social capital. Although they may be one-way, two-way (reciprocal), established over a long period, or subject to consistent updates, frequent linkages between individuals are generally more helpful to maintaining social capital (Pretty & Ward 2001).

Consequently, studies have found social capital to encourage cooperative behaviour (Jacobs 1965; Pretty & Ward 2001; Putnam 1993), help workers find jobs (Granovetter 1973, 1995; Lin & Dumin 1996), strengthen supplier relations (Baker 1990; Uzzi 1997), influence career success (Burt 2009; Gabbay & Zuckerman 1998 Podolny & Baron 1997), reduce turnover rates (Krackhardt & Hanson 1993), build cross-functional team

effectiveness (Rosenthal 1996), influence executive compensation (Belliveau et al. 1996; Burt 1997), facilitate interdepartmental resource exchange (Gabbay & Zuckerman 1998; Tsai and Ghoshal 1998), generate intellectual capital and share knowledge (Nahapiet & Ghoshal 1998; Wasko & Faraj 2005), and improve cost effectiveness within organisations (Hansen 1999). Other studies have documented the success of social capital to allow for benefits such as social status or reputation (Bourdieu 1986; Burt 2009) and for effectively minimizing costly negotiation (Bromley 1993) as members gain privileged access to information and opportunities.

The above discussion collectively points to the benefits of social capital in encouraging cooperative behaviour and reducing transaction costs. Social capital is the value derived from social networks, relationships or connections, and is the collective value of all social networks and inclinations that arise from these networks to do things for each other (reciprocity). As such, it acts as the fundamental concept for social factors examined in this thesis. The next section discusses the two social factors to be explored in this thesis – the social network environment (Study One) and trust reciprocity (Study Two). Both social factors rely on social capital building and are examined in the context of transfer pricing negotiation.

2.5 STUDY ONE

2.5.1 Social Network and Social Exchange Theory

Early psychology research suggested that individuals have social needs (see Maslow 1943). These include relationships such as friendships, romantic attachments, family, companionship and acceptance in social and community groups. Kramer, Pommerenke & Newton (1993) investigated the effects of social identification and interpersonal accountability on negotiator judgment and decision making and proposed a social contextualist view on negotiation where the impact of the social environment within which negotiation occurs was taken into consideration. They found that shared social identity led to more concern for the other negotiator's outcome and reasoned that this was because the circumstances by which many real world negotiations occur involves pre-existing social ties and relations where members frequently share the same social group or organisation. Similarly, early social psychologists have documented the significance and value that individuals put on group belonging and membership (see e.g. Hogg & Abrams 1990; Tajfel 1982; Tajfel & Turner 1979). As social ties and relationships are valued and are seen to give rise to economic and social efficiency and benefits, social exchange theory proposes that such exchanges and relations first go through a series of cost-benefit evaluations.

Social exchange theory was introduced by Homans (1968) who examined dyadic exchanges and emphasized the behaviours of individuals when interacting with one another. While Homans focused purely on psychology principles which assumed that individuals based their next social move on past experiences, Blau (1964) extended this by including a utilitarian and economic perspective of social exchange theory. Blau (1964) proposed that individuals also anticipated the kind of rewards they would get in their next social interaction. He explained that social attraction is vital in the

establishment of social interaction as it give rise to the process of social exchange. This process of exchange can be equal through power exchange or unequal when differentials in exchange power are created. Hence, if one who holds power and is depended upon by others, adheres to societal norms and values such as fairness and reciprocity, those who depend on him/her can receive his/her power with loyalty and compliance. Through this, Blau (1964) projected that the organisation thus becomes an institutionalized system of exchange value and subsequently becomes part of the social structure. Blau's (1964) extended view on social exchange theory postulated that individuals engage in social interaction based on the expectation that it will lead to some form of social reward such as approval, status or respect. This suggests that individuals can benefit through active participation and actions which enhance their personal reputation in the network.

Central to social exchange theory is the influences of self-interest and interdependence (Lawler & Thye 1999). Lawler (2001) stated that both are fundamental forms of interaction when two or more parties have something of value to each other and have to decide if they want to exchange and in what amounts. The notion of individualism was also used by Homans (1968) to explain the combination of economic and psychological needs in the exchange process, of which McDonell, Strom-Gottfried, Burton & Yaffe (2006) put forth that satisfying self-interest is common within the economic aspect of social exchange theory. Roloff (1981) however, suggested that self-interest may not necessarily be viewed negatively as it can act as a form of advancement for parties in interpersonal and interdependent relationships. While self-interest may be a driving force for parties, Thibaut & Kelley (1959, 1978) highlighted the social implications of groups, citing different forms of interdependence such as reciprocity, and arguing that interdependence could be an issue as outcomes are based on a combination of effort as

well as reciprocal and complementary arrangements. This means that for interdependent relationships to continue, both parties have to play a part in maintaining and advancing the relationship. Thibaut & Kelley proposed that people are rational and will engage in a series of actions designed to achieve their goals and are to a certain extent, dependent on their relational partner for it to occur. These arguments were based on Emerson's (1976) assumptions in social exchange theory that people (a) seek rewards and avoid punishment, (b) are rational, and (c) have standards that they use to evaluate cost and rewards vary over time and between people; while relationships (d) are interdependent and (e) relational life is a process. Thibaut & Kelley's argument is consistent with Blau (1964) in that a certain outcome can only be achieved through interactions with others and when means are adopted to achieve that outcome. As such, the principle of reciprocity, which refers to mutual reinforcement by parties, developed (Ekeh 1974; Zafirovski 2005). The process of social exchange commences when one party initiates an offer and the other party reciprocates. As this process continues, a natural cycle of consequence is created out of each party's actions, where a level of equality is expected to be maintained. That is, the negative value of cost, such as time, money and effort, should be less than or equal to the positive value of benefits or rewards, such as support and acceptance. Consistent with Homan's theory on behaviourism where people chase rewards and minimize costs, this perspective in social exchange maintains that people will calculate the overall value of a particular relationship by subtracting its cost from benefits, where a positive value influences their willingness to continue the relationship, and a negative value probably leads to termination of the relationship. This discussion highlights the importance and relevance of social exchange theory as the basis of the social network environment variable to be explored in this thesis.

Based on the above literature, social exchange theory in this thesis includes economic (i.e. rewards and cost-benefit analysis) and social views (i.e. social interactions are essential) as suggested in Blau (1964). That is, parties in a social network perceive responsibility to each other through shared obligation (Lavelle, Rupp & Brockner 2007). Social exchange theory views individuals as dealing with various social and economic factors. Individuals may be motivated to terminate relationships if a fair return does not exist, and are equally motivated to maintain social exchanges and relations if they can maximize benefits and fair returns. The studies reviewed above show the process of social exchange and the circumstances in which continuation of relationships occur. Such relationship is referred to as 'social network' in this thesis. The next sub-section follows the review of social networks and how the environment may affect them.

2.5.2 Environmental Cues on Social Behavioural Outcomes

Social network is a term commonly used to describe a network of interpersonal relationships. Socio-psychologists have noted the benefits of establishing and maintaining networks of relations. For example, Coleman (1990) argued networks of connections to be the basis of social capital while Putnam (1995a) stated that networks, norms and social trust that facilitate coordination and cooperation for mutual benefit enhances productivity in organisations. Homans (1950, 1974) also put forth that conditions for a dense and stable network of relations and shared understandings can be constructed over time. Other notable benefits include Granovetter (1985) who suggested social relations and networks to be important between and within firms, as networks can enhance competitive advantage through levels of efficiency and provide access to resources of other networks inside and outside of organisations. While the literature points towards the importance of networks, researchers in behaviour and psychology

have found that individuals fundamentally have a social or survival need to feel a sense of belonging and acceptance in their community (see Maslow 1943, 1954 for a comprehensive review). Maslow (1954) pointed out that after physiological and safety needs are fulfilled, a third level of human needs is social needs. This is an essential and prerequisite human need for one to achieve any sense of self-worth and can come from larger social groups such as clubs, work culture, sports teams, religious groups, organisations, or smaller ones such as family members, partners, close friends, colleagues and confidants. Maslow suggested that the lack of social fulfilment can cause loneliness, clinical depression and social anxiety. Furthermore, he proposed that depending on the strength of social fulfilment, one's need for belonging can even overcome physiological and security needs. This notion of belongingness and relatedness have also been noted by motivational researchers to be one of three fundamental psychological needs essential to human growth and development, alongside competence and autonomy (Connell & Wellborn 1991; Deci, Vallerand, Pelletier & Ryan 1991; Ryan 1995). Similar to what was proposed by Maslow, these studies stated that such belongingness involves the need to feel securely connected with others in the environment as it allows for the experience of a sense of community. Ryan (1995) suggested that such approval affects psychological development and overall well-being and health even if one is not aware of it.

It has been suggested that work environment can affect and influence social interactions and behaviours of individuals (e.g. Adler 1995; Brief & Weiss 2002; Chartrand & Bargh 1999; Graham 1985; Hofstede 1980; Hoppock 1935; Motowidlo 1996). For example, Hoppock (1935) found that work environment such as supervision can influence job satisfaction. Chartrand & Bargh (1999) found the existence of a 'chameleon effect' which suggests that one's behaviour will passively and

unintentionally change to match that of others in the social environment. They argued that perception causes similar behaviour and the perception of similar behaviour creates shared feelings of empathy and rapport which provides a natural 'social glue'. Mas & Moretti (2009) found the work environment to affect productivity of workers. They argued that the introduction of a high productivity worker could lower efforts of low productivity workers due to free-riding, or could increase efforts because of peer effects induced by social norms, social pressure or learning. Their results showed evidence of positive productivity spill-overs which happened only when highly productive workers worked in the same shift. Specifically, a worker's effort was positively related to the productivity of workers who could see him, but not for workers who could not see him. Mas & Moretti further distinguished between specific forms of peer effects including (observed) social pressure and prosocial behaviour (altruistic behaviour). They found the magnitude of the productivity spill-overs to depend upon the frequency with which workers interact, with workers responding more to the presence of co-workers with whom they frequently interacted. Mas & Moretti indicated that individuals are motivated by social pressures and mutual monitoring and suggested that social preferences (i.e. preferences to engage in the social or organisational environment) play an important role in inducing effort. Taken together, the above studies collectively show that the work environment can affect and influence social interactions, productivity and behaviours of individuals.

Negotiated transfer pricing occurs between divisions in a firm. Research has long recognised such intrafirm negotiations to be affected by organisational and social climate and culture (Brett 2001; Gelfand & Brett 2004). Although there has been substantial research on social networks (Burt 2009; Coleman 1973; Granovetter 1973) and interpersonal relationships (Berscheid 1985; Rubin 1973), there is limited empirical

evidence on how the environment affects negotiation and social networking behaviour. The review of prior literature has indicated that social networks are vital to organisations and impact upon behaviour. However, much less research is seen on the effects of environmental cues in negotiation settings. Specifically, environmental dissuasion or encouragement of social ties and relations, and its effect on negotiation and transfer pricing, has never been discussed in the literature, to the best of knowledge. Despite the differences and limitations in the literature, there appears to be some consensus that environmental norms and sanctions impact upon behaviour. As such, this thesis adapts the arguments from prior literature that the organisational environment plays a part in shaping employee and group behaviour. The norms and sanctions imposed or created by organisations can thus motivate individuals to engage and disengage in certain behaviours, in favour of goals and direction of the organisational or social environment.

2.5.3 Other Factor – Fairness Concerns

Fairness concerns refers to the expectation of transfer prices formed by managers, where incentives for wealth maximization tend to override fairness expectations in equilibrium price predictions (Kachelmeier & Towry 2002). This is relevant where an external market exists as a benchmark or as a reserve price for negotiating managers. Prior studies have noted that the influence of fairness concerns on transfer pricing outcomes (Haka, Luft & Ballou 2000; Kachelmeier & Towry 2002; Luft & Libby 1997). These studies found that fairness concerns can affect not only the level of profit distribution between divisions in negotiations (Kachelmeier & Towry 2002; Luft & Libby 1997), but also incur extra costs when managers are unable to resolve differences in price setting (Haka et al. 2000).

2.5.4 Conclusion: Study One

The discussion above suggests that the social network environment is vital to organisations as it impacts upon managers' behaviours and decisional outcomes. In addition, an understanding the organisational environment enables top management to develop an organisational culture that promotes cooperative and cohesive behaviours. In line with the above literature reviewed, Study One suggests that individuals' social needs motivate them to act in accordance with social and environmental norms as it is fundamental to the gaining of social capital. In building social capital through social networks and ties, individuals will evaluate the value of the relational tie and decide whether to terminate or proceed with the other party. Social exchange theory proposes that this is done through a cost-benefit analysis where individuals maintain social ties and networks if the benefits from doing so outweigh the costs. If certain social networks are to be maintained, individuals will adhere and conform to social and environmental norms and rules which can dictate the sustenance of ongoing relationships.

The theories and arguments put forth in this review recognise the impact of the environment on individuals. Consequently, Study One of this thesis seeks to test how organisational encouragement and support of the establishment of social networks can affect negotiated transfer pricing outcomes. In addition, it controls for individuals' perceptions of fairness which have been observed in prior negotiated transfer pricing literature (e.g. Chang et al. 2008; Kachelmeier & Towry 2002; Luft & Libby 1997). In essence, Study One looks at the impact of the social network environment on managers' negotiated transfer pricing decisions.

While the social network environment provides the condition that allows for the cultivation or formation of social networks or connections in organisations, individuals

within the network must work at improving or sustaining their relationship with others in the network. This is because doing so will allow for the building and maintenance of interpersonal trust which is essential to interpersonal and organisational relationships. Zaheer, McEvily & Perrone (1998) argued that although early studies such as Williamson (1975; 1985) extrapolated and attributed individual motivations and behaviours to organisational perspectives, it is important to specify the link between micro and macro levels or risk committing a "cross-level fallacy" (Rousseau 1985). The second study in this thesis therefore examines an individual-level social factor on negotiated transfer pricing outcomes. One such social factor that could affect negotiated transfer pricing outcomes is trust reciprocity. This social factor is examined in Study Two and discussed in the next section.

2.6 STUDY TWO

2.6.1 Trust in Negotiation

Prior studies distinguished two forms of social capital: *bridging capital* which connects previously unconnected people, and *bonding capital* which brings people who know each other closer together (Vidal 2004). These forms of social capital rely on engagements in social networks to *build* interpersonal trust (Study One); while the reciprocal nature of relationships within social networks *increase* interpersonal trust (Study Two).

Social capital describes a structure of relations between people. It has been defined as "…networks, norms and social trust that facilitate coordination and cooperation for mutual benefit" Putnam (1995a, p. 67). As discussed in previous sections, establishing and building social capital motivates individuals to adhere to environmental and social norms. In order to build social capital where one can draw benefits, a trusting relationship has to exist. In social capital systems, the development of interpersonal trust can act as a form of social capital (Rohe 2004) and can be a source of competitive advantage (Barney & Hansen 1995) for organisations. Trust has further been suggested to engender cooperation and reduce transaction costs as it allows people to have faith that others will act as expected (Pretty & Ward 2001). The existence and reliance on trust can thus reduce the need for organisations to invest in formal monitoring or control systems.

Trust is based on social judgments accompanied by some assessment of risk as to whether the other party can or should be trusted (Inkpen & Tsang 2005). Trust can determine if parties are willing to contribute to the exchange and sharing of knowledge, or to take precautions against opportunistic behaviour by withholding information due

to mistrust (Blau 1964). However, feelings of mistrust can be reduced and eliminated through observations of trusting behaviours that develop over time. This is because trust is process-based where the integrity of parties is regularly tested (Lazerson & Lorenzoni 1999). As parties establish trust in each other over time, the relationship or network is strengthened and opportunities for information sharing and reciprocity increases. Hence, trust can be seen as both an antecedent and feature of social capital.

Many researchers have noted a link between trust and negotiation (Butler 1995, 1999; Deutsch 1973; Kimmel, Pruitt, Magenau, Konar-goldband & Carnevale 1980; Walton & Mckersie 1965; Zand 1972). Early studies such as Zand (1972) documented the effectiveness of trust on problem solving and provided evidence that shared trust or the lack of trust significantly impacted upon information exchange, the search for solutions, and the commitment to solutions. This finding has similar traits which can be found in negotiation settings. The exchange of information also appears to mimic negotiation settings. For example, Kimmel et al. (1980) documented a high-trust/low-trust setting where cooperative and integrative behaviour was observed from high-trust parties, while competitive and distributive behaviour was observed in low-trust parties. To achieve success in negotiations, Bazerman & Neale (1992) pointed out that it was necessary to build trust and share information while Zand (1972) recognised that both conditions mutually reinforced each other.

However, studies also acknowledge the risk of information sharing in negotiation, citing that it increases vulnerability. This was also noted in Butler (1999) and Gunia, Brett, Nandkeolyar & Kamdar (2011) who indicated that the vulnerability of one party in negotiation lies in the other party's ability to exploit or take advantage of information that a negotiator shares. However, negotiators with high levels of trust have confidence

that their negotiating partner will use shared and sensitive information about private preferences in good faith so as to achieve mutually-beneficial rather than self-interested opportunities (Butler 1991; Kimmel et al. 1980; Pruitt & Lewis 1975; Zand 1972). On the other hand, Butler (1995) found that information sharing and the pursuit of the other party's interest as opposed to self-interest led to increases in trust from the other party during negotiation. He stated that, "if negotiators withhold information from each other, each will perceive the other as untrusting, and will reciprocate by distrusting and withholding information. Thus, if one party begins by withholding information, neither side shares adequate information and this behaviour further reduces trust" (p. 487). This implies a downward spiralling effect of low levels of trust or mistrust on potential relationship and negotiation positions which would inadvertently lead to the loss of social capital, and suggests that observations of one party's actions in negotiation can result in the establishment and building of trust only when behaviours and actions are aligned with expectations from the negotiating party.

2.6.2 Concept and Types of Trust

Trust is a multifaceted concept that spans disciplines and multiple levels of analysis (Kramer 1999; Rousseau et al. 1998; Tsai & Ghoshal 1998). Prior studies suggested that the many forms, definitions and conceptualizations of trust had created much confusion (Bigley & Pearce 1998; Camerer 1998; Colquitt, Scott & LePine 2007; Rousseau, Sitkin, Burt &).[9] Conceptually, trust has been viewed as a form of behavioural intention by some researchers (Mayer, Davis & Schoorman 1995; Rousseau et al. 1998), while others perceive trust to be a form of personal characteristic (McKnight, Cummings &

[9] For example, sociologists tend to view trust as a socially embedded property of social relations (Granovetter 1985), psychologists frame trust as cognitive and personal attributes (Deutsch 1962; Rotter 1967; Tyler 1990), and economists view trust as either calculative (Williamson 1993) or institutional (North 1990).

Chervany 1998; Rotter 1967; Webb & Worchel 1995) or cooperative choice (Deutsch 1958, 1960; Zand 1972).

Rousseau et al. (1998) noted that the concept of trust appears to circle around three core ideas – *Interdependence*, *Risk* and the resulting *Expectation*. Interdependence was noted to be a necessary condition of trust where "interests of one party cannot be achieved without reliance upon another." Interdependence gives rise to potential *risk* (i.e. betrayal or the probability of loss) to the trustor as outcomes depend on actions of the trustee. This interaction between *interdependence* and *risk* in trust relationships thereby presents the opportunity for the trustor to form an opinion of the trustee, based on the outcome delivered by the trustee. Lewis & Weigert (1985) recognised that if there was complete certainty in the outcome, trust would not be necessary as it is uncertainty regarding whether the trustee will default or act appropriately that gives rise to trust. Thus, an *expectation* of the outcome is formed and observed by the trustor, with the final outcome by the trustee dictating the baseline for which the trustor decides whether or not to place trust in the trustee in future. This is reflected in Mayer et al. (1995)[10] and Rousseau et al.'s (1998)[11] definitions of trust which consist two parts – (1) the intention by the trustor to accept vulnerability and (2) positive expectation of the trustee's actions. Both factors have been widely documented and supported in prior trust studies and conceptualizations of trust (e.g. Boon & Holmes 1991; Deutsch 1958; Zand 1972).

Rousseau et al. (1998) also identified three basic types of trust – calculus-based trust, institutional-based trust and relational trust. Specifically, *calculus-based trust* derived

[10] Mayer et al. (1995) defined trust as the *willingness* of one party (the trustor) *to be vulnerable* to the actions of another party (the trustee) based on the expectation that the other party will perform a particular action which is of importance to the trustor. This definition has since formed the basis that trust requires one party to make 'a leap of faith' (Wick et al. 1999) and be potentially subjected to 'the losing end', while in hopes of a positive result or *expectation* which is determined by the other party's decision to follow through on his/her word.

[11] Rousseau et al. (1998, p. 395) defined trust as being "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another."

from rational and utilitarian choices in economic exchanges and is based on credible information such as reputation, certification and other verifiable sources. *Institutional trust* referred to as controls which exist in relationships, includes legal forms, social networks and societal norms, and can be often found in organisations. Finally, *relational trust* is said to derive from repeated interactions between parties where continuation is based on information available within the relationship.

The trust literature recognised that trust involves mutual interdependence and risk (Das & Teng 1998; Mayer et al. 1995), a willingness to be vulnerable (Mayer et al. 1995; Rousseau et al. 1998), and positive expectations of the other party's motives (Das & Teng 1998; Mayer et al. 1995; Rousseau et al. 1998). In addressing the role of trust on social capital, relational trust is of particular relevance as it is based on social interactions between individuals. Specifically, relational trust transpires when people are more interested in maintaining social interactions and relations while underplaying economic gains or losses. Relational trust thus forms the basis of social capital and relationship building as it is a construct inherent to the exchange between dyads in negotiations. In order to understand relational trust, it is essential to understand the dynamics by which relational trust occurs. As such, the next section looks at social exchange theory which is used to explain the dynamics of relational trust.

2.6.3 Trust and Social Exchange Theory

Trust is an underlying principle in effective social exchange where human relationships are formed through subjective cost-benefit analyses and comparison of alternatives (Blau 1964; Emerson 1976). Social exchange theory is based on the premise that the exchange of social and material resources is a fundamental form of human interaction, where interactions that elicit approval are more likely to be repeated than interactions

that elicit disapproval (Blau 1964). This sub-section examines social exchange theory according to the dynamics of relational trust and reciprocal behaviour.

The crux of social exchange theory encompasses notions of repeated interaction and reciprocity from which trust grows, where reciprocal relations arise from successful interactions between parties. Consistent with Blau (1964), Molm and her colleagues found that reciprocal exchanges led to stronger engendered trust and commitment (Molm et al. 2000) and perceptions of fairness (Molm et al. 2003). Ring and Van de Ven (1994, p. 100) also suggested that frequent interactions between parties create a sense of identity which facilitates "trust in the goodwill of others and an understanding of constraints on the relationship." McAllister (1995) suggested that it is this sense of obligation or emotions in business relationships that forms a psychological contract between parties, where members sacrifice and accommodate each other (Lewicki, Tomlinson & Gillespie 2006b). As a result, Parties A and B can be confident about entering into a vulnerable situation as both have rich information regarding past behaviours and a *mutual understanding* of the other's intentions (Lewicki et al. 2006b). Studies (e.g. Lawler & Yoon 1993, 1996, 1998) found such repeated interactions to produced positive affect which enhanced cohesion among parties. This ability for mutual cooperation and shared responsibility to engender reciprocal exchange is also highlighted in models of trust in exchange relations by Lewicki and colleagues (Lewicki & Bunker 1995, 1996; Lewicki et al. 2006b).[12]

[12] Lewicki and colleagues (Lewicki & Bunker 1995, 1996; Lewicki et al. 2006b) described three forms of trust which must occur in a particular sequence for social exchange relationships to develop. The first is *calculus-based trust* (CBT) which exists at the initial stage of the relationship where pragmatic and rational cost-benefit calculations are made to ascertain if one should continue with or sever the relationship. The second stage is *knowledge-based trust* (KBT) where one party evaluates the predictability or expected future behaviour of the other party and the history of interaction unfold over time, making behaviour more predictable. The third stage is *Identity-based trust* (IBT) which emphasizes the mutual appreciation and understanding of each other's needs and wants "to the point that they can effectively act for the other" (Lewicki & Bunker 1996, p. 122). IBT is based on shared desires and intentions.

Inherent within the trust literature and in particular, the formation of relationships, is the notion of reciprocity. Through histories of repeated dealings, a basis for trust and reciprocity is established. Blau's (1964) work has influenced many organisational models of social exchange. For example, research in organisations found that once social exchange relationships are created, workers reciprocated not just through work performance but also through engaging in beneficial activities that went beyond their job scope in order to benefit employers (see Eisenberg et al. 1986; Settoon, Bennett & Liden 1996). Similarly, the literature and theory in social exchange collectively suggest that the decision to terminate or continue trust relationships is based on prior histories and dealings. If reciprocation existed in the relationship, mutual trust develops and the relationship continues. However, without reciprocity from either party, trust cannot develop and the relationship fails. As such, social exchange theory encompasses the principle of reciprocity where parties mutually reinforce behaviours (Ekeh 1974; Zafirovski 2005), suggesting that reciprocal exchange leads to trust.

2.6.4 Relational Trust and Reciprocity

McEvily, Perrone & Zeheer (2003) acknowledged trust to be important when people become dependent and vulnerable to actions and decisions of other. Especially in complex decision making and where ambiguity exists, relational trust could be effectively used as an addition to organisational controls (Das & Teng 1998). The relevance of time, effort and resources has also been noted in trust development and maintenance (Jones & George 1998). In particular, development of relational trust is dependent upon individuals' perceptions of their partners through histories of interaction (Boom & Holmes 1991; Deutsch 1958; Kramer 1999). Models of trust relations have suggested that trust between parties strengthens or weakens based on their cumulative interaction, as such histories provide information useful to assessing

partners' dispositions, intentions and expectations (Kramer 1999; Wicks et al. 1999), subsequently allowing parties to draw inferences and make predictions about future behaviours. Prior experimental studies (e.g. Deutsch 1958, Lindskold 1978) have also provided evidence of behavioural interactions and changes in trust, documenting the importance of histories of interactions in such trust judgments. For example, Deutsch (1958) and Lindskold (1978) demonstrated that reciprocity enhances trust in exchange relations while the violation of reciprocity erodes trust. Similarly in a later study, McAllister (1995) noted that relational interactions embody a level of personal or emotional attachment as frequent and long-term interactions lead to attachment based upon reciprocated care and concern between parties. Prior literature holds that reciprocation is an important factor, suggesting that the building and sustenance of relational trust is dependent upon the act of reciprocity. This is because reciprocity in repeated interactions of exchange, risk-taking and successful fulfilment of expectations reinforces the willingness of parties to trust and rely upon each other, consequently expanding resources and evolving the initial set of exchange from an arm's length transaction into a trusting relationship (Rousseau et al. 1998). Reciprocation of the other party's effort is thus an important aspect for relational trust, as it is the meeting of expectations that encourages the receiving party to reciprocate in future interactions.

Prior studies have noted many benefits of relational trust (e.g. Barney & Hansen 1994; Mayer et al. 1995; Roberts & O'Reilly 1974; Zand 1972). For example, relational trust has been found to significantly impact upon attitudes, behaviours and outcomes such as problem solving (Zand 1972), communication (Roberts & O'Reilly 1974), performance (Barney & Hansen 1994) and cooperation (Mayer et al. 1995). Relational trust can also support risk-taking behaviours (McAllister 1995), enable and facilitate interactions between people which reduces transaction costs (Nooteboom 2002; Tomkins 2001;

Wicks et al. 1999), and enhance economic transactions and relationships due to social exchanges (Korsgaard, Brodt & Whitener 2002; Mayer & Gavin 2005). More importantly, relational trust allows for the alignment of goals and facilitates efficient knowledge and information sharing (Nooteboom 2002) which can result in the expansion of resources generated by numerous social exchanges between parties.

Relational trust has been cited by prior studies to emerge as a result of repeated interactions between trustor and trustee over time, where information available from within the relationship forms the basis of relational trust. Trust in exchange dyads includes a wide range of resource exchange such as social, emotional and physical as captured in studies of trust in social exchange and social capital. Over time, interdependence between relational trust parties is likely to increase as they continue to expand and pursue new initiatives. While relational trust grows through exchanges in which actions and experiences validate expectations, Dekker (2004) further described relational trust as an expectation that one will perform in the interest of the relationship even if it is not in his/her personal interests to do so. This implies an element of reducing self-interest behaviours at one's expense for the benefit of the relationship, and illustrates the preference for relationship preservation in a given interaction. Indeed, the principle that interpersonal relations generate trust and discourage opportunistic behaviours is reflected in social exchange theory. The next section looks at the concept of reciprocity in trust relationships.

2.6.5 Concept of Reciprocity

Reciprocity is the belief that people should help those who have helped them in the past (Gouldner 1960). An important element pointed out by Gouldner was that people are obligated to repay certain acts or behaviours because it is the right thing to do.

However, a tendency for people to respond to a beneficial action by returning a benefit, and a harmful action by returning a harm, exists. This 'eye for an eye, tooth for a tooth' strategy is referred to as the norm of reciprocity (see Gouldner 1960).

Reciprocity is one means by which close relationships develop (Gouldner 1960). It is where an obligation of similar value or commodity is returned to the other party at some point in the future (Homans 1961, 1974). Empirical studies have suggested that reciprocity is a driving concern in human behaviour (Carpenter, Matthews & Ong'ong'a 2004; Fehr & Fischbacher 2004b; Mohtashemi & Mui 2003). The rule of reciprocity aids confidence in other parties to initiate exchange as the giver knows that the receiver is obligated to live up to his end of the bargain. Reciprocity involves the propensity for one to repay another based on obligations that people felt were owed to one another (Malinowski 1932) Hence, such reciprocal exchanges tie people together. Malinowski (1932) argued that people supported one another with assumptions that exchanges would balance over the long run. His arguments of the existence of reciprocity in exchange relationship became one of the earliest studies that led to the advent of social exchange relationships. Mauss (1967), in a later study, emphasized that gift exchanges had symbolic value within the context of particular cultures. Mauss suggested that gifts go beyond monetary worth as such transactions were undertaken into order to build social ties that would allow societies to work harmoniously. He noted that such reciprocal exchanges often resulted in shared norms and obligations.

2.6.6 Trust Reciprocity

Trust is a form of social capital which encourages co-operation and is essential to the building of interpersonal relationship (Pretty & Ward 2001). As a trustor bears the risk of being vulnerable by trusting the trustee, a trustee must act in a manner consistent

with the expectations of the trustor in order to build a trust relationship. Prior studies (e.g. Gambetta 1988; Zand 1981) suggested that trust is reciprocal. Since trust engenders reciprocal trust, any act of reciprocity from the trustee signals "trust reciprocity" (Maas et al. 2012). Trust reciprocity therefore occurs when one derives positive utility from reciprocating trust that has been placed in them, or negative utility from failing to reciprocate a costly trusting act (Maas et al. 2012).

Early studies such as Berg et al. (1995) first showed that a preference for trust reciprocity existed. They found that regardless of whether participants were given (historical) information on how their partners played, they were willing to risk money as they trusted that their partner will reciprocate, with the effect being greater when historical information is provided.[13] They stated that while reciprocity accounts for trust extended to anonymous partners, social histories and identities could strengthen the relationship between trust and reciprocity. Importantly, Berg et al. (1995) found that it was *perceived* trust that was reciprocated, even if trust was not the underlying factor in motivating behaviour. In a later study, Malhotra (2004) examined trust reciprocity in two-person interactions and proposed that it was likely for individuals to view situations from their own perspective. He found that trustors tended to focus on the risk associated with trusting while trustees based decisions on the level of benefits they have received.[14] His study illustrates the different motivations between trustors and trustees, with reciprocation motivated by gratitude or obligation for benefits received in the past rather than the level of risk involved in the relationship.[15] Malhotra's (2004) study

[13] Berg et al. (1995) noted that trust reciprocity did not imply conscious trusting decisions but rather, the willingness to be more vulnerable to another.
[14] Specifically, Malhotra (2004) found trusting (by trustors) to be more likely when risk was low and that trust did not depend on the level of benefits provided to trustees. Reciprocity (by trustees) also tended to be higher when the benefit provided was high but did not depend on the level of risk faced by the trustor.
[15] Since the role of the trustee alternates over time, the motivation for trustworthy behavior by the trustee is derived from mutual obligations that arose out of the interdependent relationship through the continual swapping of trustor and trustee roles.

shows that motivation to reciprocate can be due to favourable perceptions parties have of each other which are built through histories of reciprocity.

Trust reciprocity has also been observed in the accounting literature. For example, Christ et al. (2012) examined the effect of trust reciprocity on agent effort in incentive contract framing. Predicting that bonus contracts created more trusting environments than penalty contracts, they argued that framing an incentive contract negatively could be interpreted as a sign of mistrust. Christ et al. found that trust (in single exchanges) between principal and agent was reciprocal both positively and negatively, where trustees (agents) responded according to how they perceived trust had been extended to them by their trustor (principal). Explicitly, they found that perceptions of trust and the tendency to reciprocate were higher when agents were employed on a bonus-based than penalty-based contract. This was because penalty contracts were seen as a sign of mistrust, leading to lower perceptions of trust and thus, reduction in reciprocation.

The principle of trust reciprocity has also been demonstrated in Maas et al. (2012). Maas et al. (2012) examined the willingness of managers to obtain additional costly information about individual performance to more accurately assess individual contributions to team output. They argued that the effect of social preferences (i.e. fairness and trust reciprocity) would influence the allocation of discretionary bonus pools by managers. Using an experiment that combined the trust game in Berg et al. (1995) and a one-shot prisoner's dilemma, they found that managers were more willing to obtain additional costly information if aggregate performance were relatively high. Specifically, they found that managers had preferences for fair allocations and were thus more willing to incur costs when subject performance was higher. Maas et al.'s findings on subjective performance evaluation in a bonus pool setting were consistent with

theories of social preferences and trust reciprocity found in Falk & Fischbacher (2006).[16]

2.6.7 Conclusion: Study Two

The above literature review suggests that reciprocity is a factor inherent to the trust building process, where reciprocity underlies the process by which individuals gather information to ascertain if each party is willing to sacrifice and accommodate (Lewicki et al. 2006b). On the trust side, it is the uncertainty of the trustee's behaviour that gives rise to risk to the trustor, and which allows the trustor to develop and evaluate expectations of the trustee. If the trustee acted according to the trustor's expectations, a positive relationship which would allow the trustor to place a higher level of trust on the trustee in future dealings is formed between them. Ongoing meeting of expectations between two trust parties (with interchangeable trustor/trustee positions) subsequently gives rise to reciprocity within the relationship. The notion of trust and reciprocity depicts the relational effect of trust and reciprocity over an observable period of time. This is known in this thesis as trust reciprocity. The above literature suggests that trust reciprocity has not been investigated in a negotiated transfer pricing setting. This is despite the literatures in management, sociology and organisational behaviour pointing to the relevance and significance of trust reciprocity in interpersonal relationships and interactions. Study Two thus contributes and extends the accounting literature by examining the effect of trust reciprocity on managers' negotiated transfer pricing decisions in a multi-period setting.

[16] Falk & Fishbacher (2006a) developed a theory of reciprocity which stated that reciprocity was a behavioural response to perceived kindness and unkindness, where kindness comprised both distributional fairness and fairness intentions.

CHAPTER 3

THEORETICAL DEVELOPMENT AND HYPOTHESES STATEMENTS

3.0 Introduction

This chapter develops a theoretical model to address the following research questions developed in Chapter 1:

Study One (Single-period setting):

1. *What is the impact of the social network environment on negotiated transfer pricing decisions?*
2. *What is the joint effect of the social network environment and compensation schemes on negotiated transfer pricing decisions?*

Study Two (Multi-period setting):

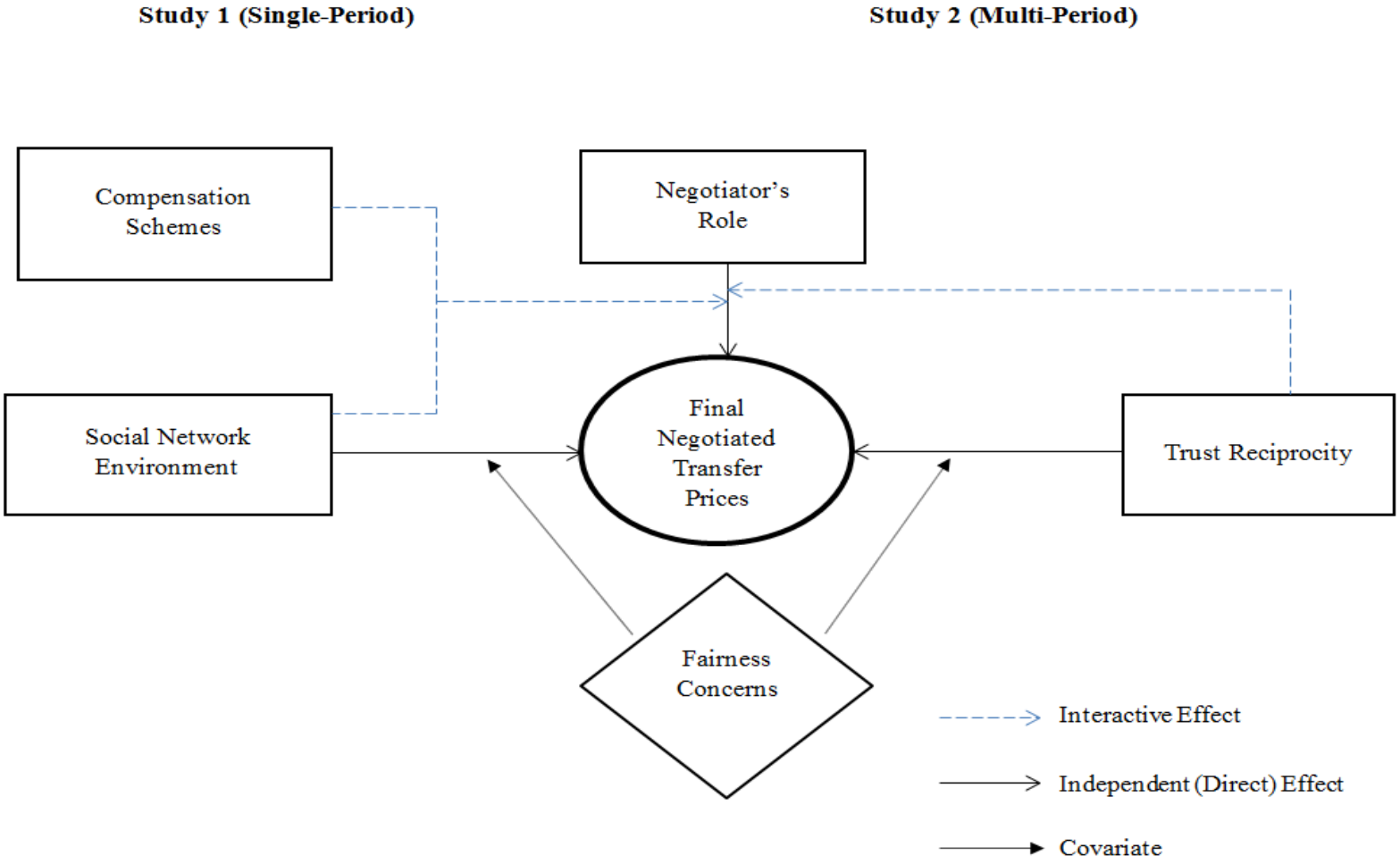
3. *How does trust-reciprocity influence negotiated transfer pricing decisions in a multi-period setting*?

The theoretical model for this thesis is shown in Figure 3.1.

Chapter 3 is organized as follows. Sections 3.1 and 3.2 discuss the theories and hypotheses formulations for Study One and Study Two, respectively. A summary of hypotheses for both studies is presented at the end of the chapter in Table 3.1.

Figure 3.1

Theoretical Model



3.1 STUDY ONE

3.1.1 Negotiator's Role

Negotiator's role refers to whether a negotiating manager takes on the role of a 'buyer' or 'seller' in a negotiation process. The role of negotiators can vastly affect the way in which they perceive the negotiation outcome (Kachelmeier & Towry 2002; Luft & Libby 1997). Lewicki et al. (2006a) note that self-serving bias, a form of cognitive bias, exists in the negotiation process which can lead negotiators to make systematic errors when they process information.[17] Self-serving bias refers to the cognitive bias arising from an individual's tendency to view an outcome more favourable to them as being fairer when resolving conflicts (Thompson & Loewenstein 1992). For example, Luft & Libby (1997) found that negotiators tend to choose comparisons that make themselves look better or to serve themselves. De Dreu, Nauta & Van de Vliert (1995) also found that negotiators believed that they used more constructive tactics than their counterparts and the strength of this self-serving bias increased with the strength of the conflict between the parties. As such, there is the tendency for a negotiating partner to overestimate their own situational factors and to underestimate the counterparty's situational factors.

Psychological research also shows that people process information in a self-serving way, placing greater weight on information that is consistent with their preferences (Hastorf & Cantril 1954). Hastorf & Cantril (1954) examined student perceptions of a football game between rival schools and found that students from both schools rated the number of penalties committed by both teams to be unequal, exhibiting a tendency to view the rival school as committing a greater number of penalties despite actual

[17] They identified 12 types of cognitive biases being (1) irrational escalation of commitment, (2) the belief that the issues under negotiation are all fixed-pie, (3) the process of anchoring and adjustment in decision making, (4) issue and problem framing, (5) the availability of information, (6) the winner's curse, (7) negotiator overconfidence, (8) the law of small numbers, (9) self-serving biases, (10) the endowment effect, (11) the tendency to ignore other's cognitions, and (12) the process of reactive devaluation.

statistics. Prior experimental studies in organisational behaviour and psychology have also shown that the perception of "fair" agreement in negotiation demonstrates this self-serving bias (Camerer & Loewenstein 1993; Roth & Murnighan 1982; Thompson & Loewenstein 1992). Collectively, these studies found that when more than one fair outcome exists, negotiators tend to choose the one that benefits them. This cognitive misjudgement is worsened since they also believe that others will agree with them. As such, when there are differences in values, costs or roles, both parties will tend to gravitate towards outcomes that favour themselves.

Prior transfer pricing studies find that mean price estimates are likely to be between the market price and equal profit price split since this is the fairest outcome for both parties. This however, holds true only if an external market exists (Chalos & Haka 1990). Studies that include the existence of an external market find that the perception of what "fair agreement" is exhibits a self-serving bias. That is, if there is more than one reasonable characterization of what is considered a "fair" outcome, a seller will generally consider the market price to be the fairer transaction price. A buyer, on the other hand, will view the transfer price that allows for profits to be equally shared between the negotiating parties as a fairer price (see Luft & Libby 1997). Following Luft & Libby (1997), Kachelmeier & Towry (2002) tested this self-serving bias and found that sellers expected systematically higher prices than buyers. Building on this theory, Chang et al. (2008) found this self-serving bias effect to be more apparent when managers were under a 'loss' than 'gain' frame. Through this self-serving bias, the seller is advantaged by transacting at the market price while the buyer is advantaged by transacting at the equal profit price. Hence, a seller will generally prefer a higher price while a buyer prefers a lower price. Relying on this self-serving bias theory and the

empirical evidence presented above, this thesis aims to replicate and makes a similar prediction. Thus, the following hypothesis is tested:

H1: Sellers' perceived negotiated final transfer prices are higher than buyers where an external market exists.[18]

3.1.2 Social Network Environment

Behavioural literature suggests that people are social creatures and thus, have (social or survival) needs to feel part of a group/community. Similarly, research in social psychology (e.g. Leary, Nezlek, Downs, Radford Davenport, Martin & McMullen 1994; Tice, Butler, Muraven & Stillwell 1995) suggests that there are a set of acceptable behaviours and social systems and people learn to conform to specific rules to be seen favourably by others, including audience specific norms. As such, social concerns play an important role in decisional and/or behavioural outcomes. Likewise, these psychological observations indicate that individuals will mold themselves in order to fit in with their environment. The motivation to perform well or act in a certain manner is influenced by many factors (e.g. to be accepted by peers, for promotion at work, to derive a benefit as a result of the behaviour etc.). Prior research suggests that the internal environment of organisations have considerable effect on employees' productivity and behaviour (Goleman 2000). In a collegial and socially encouraging work environment, individuals are found to feel more valued, have higher efficiency and work productivity, and are more satisfied at work. The perception of the workplace environment has also been linked to the characteristics of the leader (Goleman 2001). This suggests that employees' behaviours can be influenced and motivated by senior management (leaders) of organisations as they set the tone for the organisation's

[18] Note that buyers and sellers were not matched and acted independently (see explanation in Chapter 4).

internal environment. Indeed, prior studies (e.g. Chong & Ferdiansah 2011; Chong & Loy 2015; Cianci & Kaplan 2010; Francis, Huang, Rajgopal & Zhang 2008; Rogers & Stocken 2005) have suggested that a leader's reputation can influence the behavioural intentions of subordinates.

Prior studies in economics find positive effects of such social concerns on the productivity of workers. For example, Mas & Moretti (2006) find that not only can social considerations motivate workers, they may even be willing to give up monetary incentives to keep in line with the social environment. This suggests that the dynamic of social relationships can influence the decisional outcomes of managers. Additionally, it also points out the importance of the environment in shaping behaviours. This is because individuals wish to act according to what is expected of them, or what is the right thing to do socially. The importance of social concerns has also been highlighted in prior transfer pricing studies (see e.g. Chang et al. 2008; Kachelmeier & Towry 2002; Luft & Libby 1997). In particular, Chang et al. (2008) find that managers' final negotiated transfer prices are lower when they are negotiating with a partner with high concern-for-others, than when they are negotiating with a partner with low concern-for-others. They (p. 706) argue that "this is because managers tend to reciprocate the perceived social concerns of their negotiation partner." Thus, it can be inferred that managers will reciprocate favours (Alston 1989) or act in a socially desirable manner in order to go with the social norm of the environment. Furthermore, they do so in order to sustain long-term and trustworthy relationships.

The term 'social network' is also known as an *interpersonal connection* or *interpersonal relationship*.[19] It is an intricate and pervasive relational network that

[19] In this thesis, the term social network is used rather than *interpersonal connection* and *interpersonal relationship*.

contains implicit mutual obligations, assurances and understanding.[20] Social network places high values on trust, commitment, mutuality and long-term benefits, and emphasizes reciprocal exchange (Fan 2000). In an organisational context, a social network is part of an organisation's core competency and provides competitive advantage (Luo 1997). Studies in social economics have documented the importance of social connectivity and reciprocity on economic outcomes. For example, Uzzi (1999) finds that increased interaction allows for greater flow of information and capacity for individuals to build reciprocal relationships. Not only does a social network expand the relational aspect of individuals and potentially bring greater amounts of resources, it could also result in better management of divisions through less conflict and greater intra-firm cooperation. Hence, there are benefits for organisations to advocate and support social networking activities.

Social exchange theory suggests that individuals are rational and will weigh the potential costs and benefits of social relationships. Continuation of these social relationships is based on a process of negotiated exchange between parties (Sabatelli & Shehan 1993), in which they decide whether to continue or discontinue the social

[20] Social network is known as *guanxi* in China. However, the concept of *guanxi* is by no means culturally unique to China. The terms *Kankei* in Japanese, *Kwankye* in Korea, *blat* in Russia and *pratik* in Haiti have been used. Yang (1994, p. 1-2) states that, "*guanxi* means literally "a relationship" between objects, forces, or persons. When it is used to refer to relationships between people, not only can it be applied to husband-wife, kinship and friendship relations, it can also have the sense of "social connections," dyadic relationships that are based implicitly (rather than explicitly) on mutual interest and benefit. Once *guanxi* is established between two people, each can ask a favour of the other with the expectation that the debt incurred will be repaid sometime in the future." Guanxi literature suggests that human beings are fundamentally *relationship-oriented*. Firms utilise guanxi "to manage organisational interdependence and to mitigate institutional disadvantages, structural weakness, and other environmental threat" (Park & Luo 2001). The basis of guanxi requires that, in order to sustain a long-lasting and trustworthy relationship based on goodwill, individuals have to reciprocate favours (Alston 1989). This implies that for "guanxi" to occur, there has to be a(n) (established) relationship or dyadic link with the transacting partner. In essence, social networks are a source of social capital and an important resource for organisations to encourage cooperative behaviour through the expectation of reciprocity. In the context of "guanxi" orientation, Huang, Davison & Gu (2011) found that employees prefer to share knowledge with members of their guanxi network and with whom they have developed affect-based trust, but not with relative strangers. This suggest that individuals will act in ways that encourages growth and maintenance of good relational ties (such as trust, reliability), as well as portray a positive image that will contribute to the development of favourable relationships with transacting partners from whom they can draw resources or favours in the future.

relationship.[21] Molm, Takahashi & Peterson (2000, p. 1398) state that "social exchange occurs within structures of mutual dependence, in which actors are dependent on each other for valued outcomes." Following Molm et al. (2000), the underlying assumptions of social exchange theory is adopted in the context of social network: (1) parties are motivated to obtain more of the outcomes that they value and others control, (2) parties provide each other with valued benefits through exchange, and (3) the exchanges between parties recur over time. As such, parties belonging to a social network will exhibit reciprocating behaviours as long as the benefits of the relationship outweigh the cost. This holds in the long run as prior literature suggest that individuals value reciprocity and sustenance of relationships. As such, they prefer long term rather than short terms relationships and benefits. Since the continuation of the social relationship is based on assurance of mutual reciprocity, parties to the social network will refrain from defecting as doing so will lead to a breakdown in the social tie and the subsequent loss of exchange opportunities with members of the network (Standifird & Marshall 2000). Furthermore, defecting may bring about negative consequences for one's reputation, trustworthiness and credibility, thus affecting future network opportunities. The need for individuals to feel affiliated and socially accepted thus motivates them to behave in ways that will enhance their desirability and position within the network. To enhance these trust behaviours, individuals will need to be concerned with how they are perceived and will thus reciprocate in a social network setting.

Aside from the relational benefits that being part of a social network brings, the crux of developing social networks boils down to individuals' concerns over their social environment and how they are perceived. Social network is an important resource for organisations as it can encourage cooperative behaviour through the expectation of

[21] Individuals are rational and will aim to maximize benefits and minimize costs.

reciprocity. In order to ensure reciprocity, managers will behave in ways that are accepted and supported by the social environment. This is because employees prefer to share knowledge with members of their social network and with whom they have developed affect-based trust, but not with relative strangers (Huang et al. 2011). An organisation that supports intra-firm social network activities will enable divisional managers to establish informal relationships that could add to a manager's social capital.[22] On the other hand, an organisation that does not support social network activities will not provide managers with the opportunities to develop favourable interpersonal relationships. In a negotiated transfer pricing setting, it is expected that the dynamic of the social network environment will influence the decisional outcomes of managers. Hence, in the context of a negotiated transfer pricing decision, it is expected that managers' final negotiated transfer prices are lower (i.e. closer to the equal profit price) in a workplace environment that supports social networking activities than one that does not support social networking activities. As such, the following hypothesis is tested:

H2: Managers' final negotiated transfer prices are closer to an equal profit price in an environment that supports social networking activities than one that does not support social networking activities.

3.1.3 The Joint Effect of the Social Network Environment and Compensation Schemes

As noted in 3.1.2, supportive social network environments emphasize reciprocal exchange, commitment and long-term benefits. Through a repeated process of interaction and where an individual asks for a favour from another individual, the

[22] Social capital refers to the value derived from social networks or connections. It is the collective value of all social networks (people) and the inclinations that arise from these networks to do things for each other (reciprocity).

process of mutual exchange and obligation begins. Prior studies examining social networks argue that organisations can benefit from interactions from social networks as these ties supplement the existing hierarchy imposed by the organisation (Kautz, Selman & Shah 1997; Raghavan 2002). Hence, managers in social network environments can utilise these networks to gain some sort of comparative advantage over those who do not possess such connections.

However, individuals can also use their social network connections to pursue self-interests or organisational-interests. Standard agency theory predicts that individuals will pursue self-interest activities for personal gain as it assumes individuals are motivated solely by self-interest motives. Behavioural literature (Angle & Perry 1981; Birnberg & Snodgrass 1988; Porter, Steers, Mowday & Boulian 1974) however, predicts that individuals with high organisational commitment will pursue organisational interest without the opportunity for personal gain.[23] For example, Birnberg & Snodgrass (1988) argue that employees in Japanese firms have "cooperative" utility functions that value the pursuit of organisational goals. Additionally, Chang et al. (2008) find that selling managers reciprocate their negotiating partners' concerns and are more willing to accept a lower transfer price when the negotiating partner showed high concern-for-others. Taken together, existing theories and literatures suggest that managers' negotiated transfer prices may depend on whether the social network environment is supportive or non-supportive (i.e. Hypothesis H2).

[23] This commitment is supported in organisational support theory. According to organisational support theory (Eisenberger, Huntington, Hutchison & Sowa 1986; Rhoades & Eisenberger 2002; Shore & Shore 1995), employees form a general belief concerning the extent to which the organisation values their contribution and cares for their well-being. This points to the organisation meeting the extrinsic needs of employees; and when successful, results in an increased obligation by employees to help the organisation achieve its objectives. As a result, the organisation serves as a source of socio-emotional resource where employees seek their need for approval, esteem and affiliation. Hence, the organisational culture will have a profound impact on employees as they want to feel affiliated and be (socially) accepted within the organisation. This motivates employees to behave in ways that will enhance their desirability and status in the organisation, and further enhances trust behaviours between individuals. As such, there is a high propensity for individuals to reciprocate in the network setting and to conform and work in the best interest of the organisation.

The presence of a supportive social network environment can positively impact managers' behaviours consistent with what the accepted environmental norm is. Prior studies find that when a workplace environment supports social networking activities, information exchange and sharing takes place amongst people (Shin, Ishman & Sanders 2007). In addition, Krackhardt (1992) posits that the efficiency of information transmission depends on the strength of the social tie between people. Indeed, in a team setting, Towry (2003) relies on social identity theory and demonstrates that team identity has a direct effect on communication. Specifically, she (p. 1069) found that "when a team has achieved a high level of identity, the most effective way to use this information is likely horizontal in nature, delegating responsibility for control to self-managed teams, rather than extracting the information through reporting mechanisms." This is supported by Konsynski & McFarlan (1990) who suggest that frequent exchanges and sharing of information through a firm's social network environment results in intimate relationship and thus lead to successful transactions.

Prior studies (e.g. Ackelsberg & Yukl 1979; Ravenscroft & Haka 1996) have also examined the effects of compensation schemes on behaviours and outcomes. Ackelsberg & Yukl (1979) found that when corporate profits were emphasized, individuals exhibited cooperative behaviour because it would be advantageous to do so.[24] On the contrary, when divisional profits were emphasized, there was no sign of cooperative behaviour in the making of independent decisions by individuals. Similar to this, Ravenscroft & Haka (1996) examined the effect of incentives and the opportunity to share information on information sharing and productivity in groups. They found that when cooperative incentives were used and the opportunity to share information existed, productivity increased. Competitive compensations, on the other hand, did not

[24] Cooperating when corporate profits are emphasized could lead to higher overall profits and thus, a bigger share for each individual.

lead to any gain in productivity. The results of both studies show how extrinsic motivators (i.e. compensation schemes) affect the outcome of individuals' behaviours and decisions in a transfer pricing negotiation environment. Since cooperative schemes emphasize firm-wide profit while competitive compensation schemes depend on increased divisional profits, divisional managers (acting as a profit centre) have incentives to widen the profit gap between them and the other transacting division. This means that where competitive compensation schemes exist, the selling division will quote a price equivalent or close to the market price in order to profit as much as they can from the buying division.

While the positive aspects of cooperative schemes are frequently emphasized, prior research offers little empirical support for competitive incentive schemes, often citing competitive schemes as less favourable and productive (Ravenscroft & Haka 1996). In general, competitive incentives that emphasize divisional profits will lead to transacting managers striving to increase the profit gap. Thus, in the context of negotiated transfer pricing decision, it is expected that managers' negotiated transfer prices will be further from the equal profit price under a competitive rather than a cooperative compensation scheme. This prediction is expected to persist only under a non-supportive social network environment. Specifically, it is predicted that under a non-supportive social network environment, managers' negotiated transfer prices will be higher under a competitive compensation scheme than under a cooperative compensation scheme. Stated formally, H3 predicts:

H3: In a non-supportive social network environment, managers' negotiated transfer prices will be *higher* under a competitive compensation scheme than under a cooperative compensation scheme.

3.1.4 Covariate

Prior studies suggest that various factors can potentially affect negotiation outcomes. Prior negotiated transfer pricing studies (e.g. Kachelmeier & Towry 2002; Luft & Libby 1997) have found fairness concerns to be an important factor. This thesis therefore examines fairness concerns to control for the random assignment of subjects.

3.1.4.1 Fairness Concerns

Fairness concerns refers to managers' expectations of the equality of transfer prices, where incentives for wealth maximization tend to override fairness expectations in equilibrium price predictions (Kachelmeier & Towry 2002). This occurs where a benchmark (e.g. an external market) or reserve price for negotiating managers exists. As such, fairness concerns can affect both the expected transfer price and the costs of arriving at the negotiated price (Kachelmeier & Towry 2002; Luft & Libby 1997).

Prior experimental studies also suggest that concern for fairness and unfairness affects bargaining and outcomes. (see Fisher, Frederickson & Peffer 2000; Fisher, Maines, Peffer & Sprinkle 2002b; Selten 1987; Thompson & Lowenstein 1992). It is argued that negotiators tend to rely upon their perceptions of distributive and procedural fairness in making and reacting to offers of others before deciding whether to reach an agreement or end negotiations. As such, perception of fairness has implications for the negotiation process and outcome. In an early study, Thomson & Lowenstein (1992) found that egocentric interpretations of fairness were greatest before negotiation and mitigated following bargaining and concluded that egocentric interpretations of fairness hinders conflict resolution because people are reluctant to agree when they perceive the outcome to be unfair. As this perception tends to be biased, their results cannot be conclusive as negotiators in their experiment may have weighed the evidence that was

in their favour to be more important than the negotiating party or discounted evidence supporting the other negotiator in the process. Hence, prior research (e.g. Kachelmeier & Towry 2002; Luft & Libby 1997) suggests that the way in which fairness is perceived can affect not only the level of profit distribution between negotiating divisions, but also incur extra costs when managers are unable to resolve differences in price setting (Haka et al. 2000). As such, fairness concerns is examined in both Study One and Study Two.

3.2 STUDY TWO

3.2.1 Negotiator's Role

Study Two extends Hypothesis H1 from Study One to a multi-period setting. As discussed in Section 3.1, the negotiating manager takes on the role of a buyer or seller in a transfer pricing setting. A selling manager (seller) will generally consider the market price to be the fairer transaction price, while the buying manager (buyer) will view the transfer price that allows for profits to be equally shared between the two parties as the fairer price (Luft & Libby 1997). Prior studies (e.g. Chang et al. 2008; Kachelmeier & Towry 2002; Luft & Libby 1997) collectively found selling managers to have a higher transfer price than buying managers when the market price is higher than the equal profit price. Luft & Libby (1997) argue that the existence of a self-serving bias causes negotiators to make systematic errors when they process information during the negotiation process. Chang et al. (2008) further confirmed the existence of a self-serving bias. This self-serving bias is a cognitive bias that appears consistently in negotiation (see Lewicki et al. 2006a, p. 150-151). To date, prior studies that tested the influence of self-serving biases on negotiated transfer price decisions were solely conducted in a single-period setting. No studies have attempted to examine the influence of self-serving biases in a multi-period setting. In a multi-period setting, buyers and sellers negotiate repeatedly. It is postulated that, holding all things equal,

the divergence of market and equal-profit prices tend to increase the conflicting expectations in buyers and sellers. Hence, a seller will still consider the external market price to be the fairer transaction price, while a buyer will continue to view the transfer price that allows for profits to be equally shared between the negotiating parties as a fairer price, period after period. This prediction will hold true only if an external market does exist, and when the external market price influences the price estimate. Thus, it is expected that sellers' opening offers are higher than those of their counterparts in a multi-period negotiation setting. H4 predicts that the self-serving bias effect will persist throughout a multi-period negotiation setting as managers are clouded by their cognitive biases. The following hypothesis is tested.

H4: When a market price exists, sellers' opening offers are higher than those of buyers in a multi-period setting, *ceteris paribus*.

3.2.2 Trust Reciprocity

Trust reciprocity is a form of reciprocity that exists among parties in a network. It includes reciprocal behaviour that predicts a trustee will return trust to the trustor, given the trustor first initiates a trust link with the trustee.[25] In social and human interaction, psychological and anthropological studies have reported extensively on trust reciprocity. Prior studies (e.g. Blau 1964; Fiske 1992) suggest that people feel obligated to return a favour and engage in some form of scorekeeping when it comes to reciprocation.[26] In this regard, an initial favour is put forth involving *trust* of subsequent

[25] Reciprocal trust prediction requires a new initiated trust link to another party while general trust prediction predicts trust between two parties without the initiating link condition.
[26] That is, person A may be willing to incur some cost in assisting person B even if the benefit to person B exceeds the cost to person A, if person A believes that person B will return the favour one day (Blau 1964).

reciprocation.[27] As such, trust reciprocity requires a relation or trust link with another individual and is built on *hope or trust* that a reciprocal relationship exists.

According to Maas et al. (2012), trust reciprocity means that "managers derive positive utility from reciprocating trust that has been placed in them or, equivalently, derive negative utility from failing to reciprocate a costly trusting act." This suggests that the trustee will derive utility from the trust given by the trustor (Berg et al. 1995). As such, the trustee returns that trust to the trustor to show (dis)appreciation and thus influence the extent of the trustee's (un)willingness to accommodate the trustor. Trust reciprocal behaviours are embedded within the social structure and exist in many ways, for example, in gifting and returning favours.

Prior studies have documented the validity of social preferences into the social structure. Consistent with social motive of reciprocity, Falk & Fischbacher (2006) modelled a theory of reciprocity based on kindness and intentions.[28] Utilizing a gift-exchange game, they provide empirical evidence that the same consequences of an action are perceived and reciprocated differently, depending on the underlying intention. Their results further suggest that reciprocal behaviour is mainly driven in response to kindness, not a desire to reduce inequity. More recently, Maas et al. (2012) incorporated fairness and trust reciprocity into managers' utility functions in investigating managerial discretion in compensation decisions in team settings. They found that managers were more willing to obtain additional costly information when an employee's aggregate performance is relatively higher. In particular, the willingness to do so increases as aggregate performance increased given a specific level of extremeness. This result is

[27] Trust reciprocity involves the hope or *trust* that there will be a reciprocal relationship whereas social network (as discussed above) involves the *expectation* of reciprocation.
[28] According to the theory, people reward kind and punish unkind actions. Kindness comprises both the consequences as well as the intention of an action.

consistent with prior studies (e.g. Falk & Fischbacher 2006) which integrated social preferences with notions of fairness and trust reciprocity.

As shown in Maas et al. (2012), the existence of trust is shown through an increase in investment output from the trustor to the trustee.[29] Since the measure of trust equates to the level of investment the trustor is willing to make after a trust-reciprocal relationship is built, this thesis builds on behavioural economics theory and theories of trust reciprocity by exhibiting the level of trust as the willingness of the selling manager to offer the buying manager a price lower than that of the market price and vice-versa, in a negotiated transfer pricing setting.[30]

While trust reciprocity acts as a form of loyalty towards the negotiating partner, this relationship requires building over time. Cochard, Van & Willinger (2004) noted that when participants interacted repeatedly, trust and reciprocity can evolve over time. They (p. 32) argued that "…repetition may create a context in which trust can emerge as the outcome of a sustained social relationship in a controlled environment." Similarly, Chalos & Haka (1990, p. 628) recognised that in a single-period negotiation, reciprocity does not occur, while in a multi-period negotiation setting, "…long term relationships prevent competition over short-term results from becoming detrimental to long-term performance." Specifically, they (p. 640) alluded as a limitation of the experiment, that "… additional multi-period session could allow negotiators to better observe strategies and perhaps foster more cooperative behaviours." Fisher et al. (2006, p. 511) examined

[29] Based on the notion of trust reciprocity, the setting in Maas et al. (2012) expected managers to be more willing to obtain the information on individual effort levels when employees performed relatively well in the aggregate. Consequently, employees who choose to invest effort convey trust that managers will provide a fair return, while those who do not trust managers to provide a fair return prefer to make no investment to maximize their payoffs. As such, the higher the total investment made by employees, the greater the trust employees have demonstrated to the manager. Hence, managers willingly incur costs to obtain information that would allow for a fairer allocation.

[30] Where managers are concerned about unequal profits, transfer price judgments may also be affected by their perception of the negotiation partner. Hence, managers will try to gauge their partner's objective and combine it with their own when formulating transfer pricing decisions (see Lewicki et al. 2006a).

budget negotiations in a multi-period setting and concluded that individuals who expect future negotiations or interactions were "…willing to forgo current benefits and receive a smaller current payoff in an effort to create sustainable cooperative solutions across future periods."

Reciprocity theory (Berg et al. 1995; Falk & Fischbacher 2006) dictates that a general preference for trust reciprocity is expected to occur (Falk & Fischbacher 2006; Hannan 2005). However, as noted above, prior studies suggest that the relationship between trust and reciprocity evolves over time (Colletti, Sedatole & Towry 2005). For example, Colletti et al. (2005) predicted and found that control systems can enhance trust and such trust-building accrues over time. Trust has also been recognised to be important in inter-firm transactional relationships (Vosselman & van der Meer-Kooistra 2009; Day, Fawcett, Fawcett & Magnan 2013) as it leads to increased inter-firm learning (Dodgson 1993; Fawcett, Jones & Fawcett 2012), lower cost of governance (Dyer 1997; Dyer & Chu 2003), reduced conflict (Zaheer, McEvily & Perrone 1998) and more cooperative behaviours (Palmatier, Dant & Grewal 2007). For example, Vosselman & van der Meer-Kooistra (2009, p. 267) suggested that trust is established over time through relational signals that parties "show each other that they are competent, benevolent and honest, …signal their willingness to not act opportunistically in the short-term, and …indicate to each other that they are prioritizing their long-term interests above their short-term interests, thereby indicating their commitment to a stable and durable relationship above short-term opportunistic behaviour."

Unlike a single-period setting where any pre-existing trust is readily captured, individuals in a repeated interaction or multi-period setting can either reinforce trust behaviours or break it down. This can be further affected through an expectation of

future negotiations with the same individual with whom one negotiates. As such, repeated interaction with the same individual is a condition necessary for trust reciprocal relationships to be established and observed. Relying on existing theories and empirical evidence, an expectation of repeated negotiation with the same partner will cause an individual to act more cooperatively, resulting in more cooperative and integrative negotiated outcomes. This is because individuals who negotiate repeatedly and with the same negotiating partner will have opportunities to build and witness trust and reciprocity over time. Such repeated negotiations also allow for clear observation of each party's negotiation strategies which could dictate how the other party responds in future periods of negotiation.

In a multi-period setting, individuals who are willing to forgo current benefits and receive smaller current payoffs in an effort to create sustainable cooperative solutions across future periods will signal to the negotiating partners that they are "reciprocal-type" as opposed to "selfish-type" individuals. If such trust reciprocity is established, this relationship is expected to persist over multi-period negotiations under the condition that an individual negotiates repeatedly with the same negotiating partner. As such, the extent of a trust reciprocal relationship is not expected to influence negotiators in initial periods of a multi-period negotiation. Instead, such trust reciprocal behaviours are expected to evolve only after repeated interaction among negotiators. This is supported by Lewicki, Minton & Saunders (1999, p. 132) who noted that "trust has to be built during the negotiation." Thus, negotiators are expected to use the first few rounds of negotiation to signal their willingness (or not) to forgo current benefits and receive smaller current payoffs in a bid to create cooperative outcomes across future periods. Their action further signals to their negotiating partners whether they are "reciprocal" or "selfish" types. It is further expected that their 'reputation' for such

behavioural types will be established over time. Since repeated interaction with the same negotiating partner is necessary for trust reciprocity to build over time, negotiators who negotiate with different partners will thus be unable to build trust or reinforce reciprocal behaviours over time. Hence, while negotiators who interact repeatedly are expected to use *integrative* negotiation strategies which would result in 'win-win' solutions[31], those who consistently negotiate with different partners are expected to be unable or unwilling to build trust or reciprocity. As such, it is expected that such individuals will adopt *distributive* negotiation tactics which would lead to 'win-lose' outcomes.[32]

Based on the above discussions, selling (buying) managers' final negotiated transfer prices are expected to decrease (increase) and move towards the equal profit price over multiple periods of negotiation with the same partner. Specifically, it is predicted that the average negotiated transfer price made by dyads will be lower in the final rounds of negotiation than the average negotiated transfer prices in the initial rounds of negotiation when negotiators repeatedly negotiate with the same partner (i.e. when trust reciprocity is present).

H5: Negotiated transfer prices in final rounds of negotiation will be lower than the negotiated transfer prices in initial rounds of negotiation in the presence of trust reciprocity, *ceteris paribus*.

The hypotheses are summarized in Table 3.1.

[31] Integrative negotiation strategy is also known as cooperative or collaborative negotiation strategy. An integrative negotiation strategy involves the following processes: (1) creating a free flow of information, (2) attempting to understanding the other negotiator's real needs and objectives, (3) emphasizing the commonalities between the parties and minimizing the differences, and (4) searching for solutions that meet the goals and objectives of both sides (Lewicki et al. 1999, p. 108-110).

[32] In a distributive negotiation strategy, the negotiating parties seek their own advantage through concealing information, attempting to mislead or using manipulative actions (Lewicki et al. 1999, p. 106).

Table 3.1 Summary of Hypotheses

Hypothesis	Hypotheses Statements
STUDY ONE (Single-period setting)	
H1	Sellers' perceived negotiated final transfer prices are higher than buyers where an external market exists.
H2	Managers' final negotiated transfer prices are closer to an equal profit price in an environment that supports social networking activities than one that does not support social networking activities.
H3	In a non-supportive social network environment, managers' negotiated transfer prices will be *higher* under a competitive compensation scheme than under a cooperative compensation scheme.
STUDY TWO (Multi-period setting)	
H4	When a market price exists, sellers' opening offers are higher than those of buyers in a multi-period setting, *ceteris paribus*.
H5	Negotiated transfer prices in final rounds of negotiation will be lower than the negotiated transfer prices in initial rounds of negotiation in the presence of trust reciprocity, *ceteris paribus*.

CHAPTER 4

STUDY ONE

RESEARCH METHODOLOGY

4.0 Introduction

This chapter outlines the research methodology employed in the first study and is organized as follows. First, details and results of two pilot tests are presented in Section 4.1, followed by the task overview of the primary study in Section 4.2. Information relating to participants and the various treatment conditions are presented in Section 4.3 and Section 4.4 respectively. A discussion of the main experimental procedures and operational variables, as well as information on manipulation checks and scales used in the study is presented in Section 4.5.

4.1 Pilot Tests

Two pilot tests were carried out in formulating the case materials for this study.

4.1.1 Pilot Test #1

The aim of the first pilot test was to test the feasibility of the experimental task as well as the validity of the case study and scales used. A case study, comprising three parts, was prepared to test the variables of interest.[33] The main experimental task in Part B

[33] Part A consisted of materials for a different research project.

was adapted from Luft & Lubby's (1997) instrument and was similar to that of Chang et al. (2008). It included a hypothetical scenario describing (1) the social network environment, and (2) the type of incentive compensation scheme. The nine-item *guan xi* scale of Su, Sirgy & Littlefield (2003) which measures participants' attitude to social-business relationships was presented in Part C.[34] As the original scale was predominantly used in the Chinese context, two out of nine questions were slightly revised (see Appendix A 4.1, p. 218).[35]

Case materials were distributed to 40 Accounting and Finance staff (professors and lecturers) at the Business School of a large Australian university. The rationale was that academic staff members would be more familiar with the relevant methodologies and would thus be able to critically evaluate and provide comprehensive feedback on the experimental task. Fifteen case materials were received, with eight providing written feedback and evaluation of the case.

The experimental task in Part B was revised according to suggestions made in the first pilot test after rounds of evaluation and discussion. The majority of concerns were related to the wording of the questions, the operationalization of the social network variable, and the need to bring out the different manipulations in various conditions. These concerns were addressed and revised for the second pilot test.

4.1.2 Pilot Test #2

The aim of the second pilot test was to test the validity of the constructs used in the case study and to address the concerns from the first pilot test. The case materials were revised to convey information succinctly with the use of sub-headings, diagrams and

[34] The social network environment was formed using factors described in the *guan xi* scale.
[35] For example, the examples of social inclusion (in question seven) were changed from gift giving in the original scale to invitations to sporting events, business breakfasts and elite events etc.

tables. To improve participants' understanding of the case, thorough explanation of the incentive compensation scheme was added. Questions pertaining to participants' preferences were also included to better understand the reasons behind their answers to the case.[36]

Part B comprised scales which measure the general attitude of participants to various behavioural scenarios. In addition to the *guan xi* scale (from the first pilot test), an additional scale by Maas, Van Rinsum & Towry (2012) was also included to measure participants' perceptions of fairness and trust reciprocity.

The case material for the second pilot test was distributed to 25 academic staff (professors and lecturers) and higher degree research students at the Accounting and Finance department of a large Australian university. Case materials were also distributed to families of staff who were working in professional industries (e.g. accounting profession, managers, directors etc.) so as to elicit feedback that might provide a more rounded perspective, and to ensure the case was relevant and easily comprehensible by members outside the academic circle.

Feedback was provided for the second pilot test and the case was further revised through rounds of discussion. This was done to ensure the main variable (i.e. the social network environment) was operationalized as intended. Answers to the second pilot test were analysed to check if participants understood the case. Results were also analysed to test the content and convergent validity of the case materials and scales. Feedback on the time taken to complete the case was also received and taken into consideration when

[36] Questions asked included, "Based on the scenario, how willing are you to reach an agreement with Manager A/ P on the transfer price?"; "Based on the scenario, how likely are you to reach an agreement with Manager A/ P on the transfer price?", and "What are the factors that most influenced your negotiated transfer pricing decision in this case study?"

planning the time schedule for the primary test. The case materials for the primary study was formed based on revisions made from the second pilot test.

4.2 Primary Study - Task Overview

The experimental instrument for the primary study comprised two parts: (A) a negotiated transfer pricing decision and subject demographic, and (B) an exit-questionnaire.

The main experimental task (Part A) was adapted from Luft & Lubby's (1997) instrument and is similar to that of Chang et al. (2008). The case described the organisational structure of a manufacturing company, XYZ, with two divisions – Parts and Assembly. Managers of each division could choose to work with each other or with outsiders in selling or buying products manufactured by the Parts division. Participants assumed the role of either a Parts (selling) or Assembly (buying) manager. They were presented with a hypothetical scenario describing the social network environment of the organisation (manipulated at two levels as to whether it supported social networking or not). This was followed by a description of Company XYZ's incentive compensation scheme, where managers were either compensated based on their division's profit (competitive) or the company's (cooperative) overall profit.[37]

Participants were randomly assigned to one of eight treatment conditions – Negotiator's Role (Parts or Assembly manager), Social Network Environment (supportive or not supportive) and Incentive Compensation Scheme (competitive or cooperative). A profit table that depicted how much each department would make as a result of the transfer was presented. At the end of the case scenario, participants were asked to indicate what

[37] The compensation scheme in Study One was hypothetical as the research ethics committee did not approve for participant compensation to be made otherwise. As such, all participants were compensated an equal amount of $10 for their participation.

they expected (1) the final transfer price to be; (2) the lowest (highest) price they thought the other manager would accept (offer), and (3) the lowest (highest) price they would accept (offer). This was followed by manipulation check and demographic questions. The experimental material is shown in Appendix A 4.2.1 to 4.5 (p. 219-233).

4.3 Participants

A total of 129 students participated in six experimental sessions over a one-week period. Participants consisted of level two and level three undergraduate business students enrolled in the Bachelor of Commerce program at a large Australian university. These students were enrolled in or had previously completed courses in management accounting, auditing, and applied financial management. Each participant was given $10 (Australian dollars) for their participation in the experiment as compensation for their time (45 minutes).

Of the 129 responses, 14 participants failed the manipulation checks (described later) and were thus excluded from the analysis. This resulted in a total of 115 usable responses for the final data analysis.

The demographic composition of participants by age and gender is presented in Table 4.1. Participants' age ranged from 18 to 31 years (mean = 21.3). The gender mix consisted of 50 males (43.5%) and 65 females (56.5%). Table 4.1 also shows that 14.8% of participants had no working experience, while 23.5% worked in accounting-related jobs and 61.7% in non-accounting related jobs. Of the 115 participants, 49.6% were international students (predominantly from Asian-Pacific regions) and 50.4% were Australians. The use of undergraduate students as surrogates for managers in behavioural accounting research is appropriate as the observed tasks involves

information processing and decision making (Ashton & Kramer 1980). Numerous studies (e.g. Chang et al. 2008; Chow 1983; Fisher et al. 2002a; Fisher et al. 2002b; Hunton 2001) have also relied on students as surrogates for managers in their experimental research. Furthermore, Hunton (2001) suggested that students and professionals are identical in acquiring and interpreting socially cognitive information.[38]

Table 4.1 Demographic Composition of Participants

Category/ Type	Number	Percent
Work Experience:		
• Accounting	27	23.5%
• Non-accounting	71	61.7%
• No work experience	17	14.8%
Gender:		
• Male	50	43.5%
• Female	65	56.5%
Subject Type:		
• Local Australians	58	50.4%
• International	57	49.6%
Mean Age	21.3 years	

4.4 Treatment Conditions

The experiment involves a 2 x 2 x 2 between-subjects design.[39] Participants were randomly assigned to one of eight treatment conditions (Figure 4.1). These are: (1) PARTS manager, non-supportive social network environment and competitive compensation scheme; (2) PARTS manager, non-supportive social network environment and cooperative compensation scheme; (3) PARTS manager, supportive

[38] Prior accounting studies (Chow et al. 1988, 1991; Fisher et al. 2000, 2002a, 2006; Fisher et al. 2002b; Libby 1999; Stevens 2002; Waller 1988; Webb 2002) recruited students for their experimental studies and the use of students did not violate the internal validity of their experiments.

[39] The independent variables were the negotiator's role (buyer or seller), social network environment (supportive or non-supportive) and incentive compensation scheme (competitive or cooperative).

social network environment and competitive compensation scheme; (4) PARTS manager, supportive social network environment and cooperative compensation scheme, (5) ASSEMBLY manager, non-supportive social network environment and competitive compensation scheme; (6) ASSEMBLY manager, non-supportive social network environment and cooperative compensation scheme; (7) ASSEMBLY manager, supportive social network environment and competitive compensation scheme; (8) ASSEMBLY manager, supportive social network environment and cooperative compensation scheme (see Figure 4.1).

Figure 4.1 Eight Treatment Conditions

Negotiator's Role	Non-Supportive Social Network Environment		Supportive Social Network Environment	
	Competitive Compensation Scheme	**Co-operative Compensation Scheme**	**Competitive Compensation Scheme**	**Co-operative Compensation Scheme**
PARTS (Seller)	*Cell 1* (n=15)	*Cell 2* (n=15)	*Cell 3* (n=14)	*Cell 4* (n=14)
ASSEMBLY (Buyer)	*Cell 5* (n=13)	*Cell 6* (n=15)	*Cell 7* (n=15)	*Cell 8* (n=14)

4.5 Experimental Procedures

Participants assumed the role of either a Parts or Assembly division manager of a hypothetical company, 'XYZ Company'. The experimental procedures involved two parts and are explained as follows.

4.5.1 Part A – The Negotiated Transfer Pricing Process

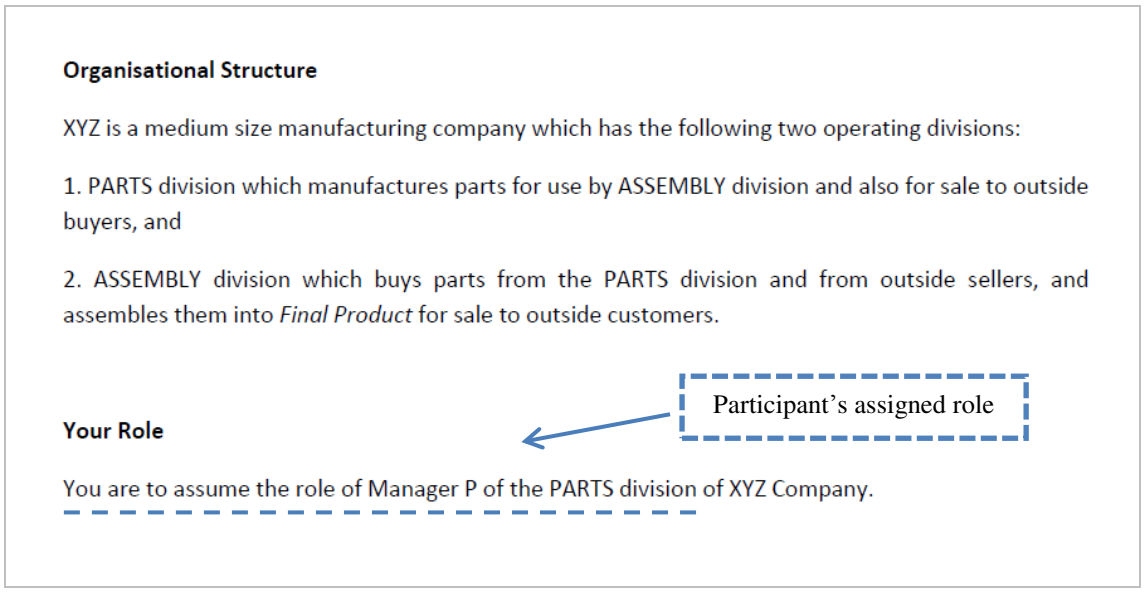
The objective of Part A was to elicit participants' responses to a transfer pricing scenario. The scenario stated that Parts division had manufactured several batches of a component 'Alpha'. 'Alpha' was sold by the Parts Division to the Assembly Division, which would be further processed into 'Final Product' by Assembly Division to be sold to outside customers. Parts and Assembly Divisions were autonomous and both managers were free to either negotiate a mutually acceptable transfer price or to trade with outsiders at the prevailing market price ($700 per component). The equilibrium profit price was $500. A profit schedule was included in the case, illustrating the implications of a range of transfer prices for both parties (between $200 where profit for seller was $0; and $800 where profit for buyer was $0). Participants were free to choose any transfer price within the specified price range ($200 to $800).

Participants were also told that outside costs (e.g. marketing and purchasing costs) would be incurred should they trade with outsiders. That is, if Parts sold to the outside market (at market price), selling costs would be incurred. Similarly, if Assembly bought from the outside market, purchasing costs would be incurred. However, the exact cost was unknown and it was stated that the company preferred if they traded internally since the combined profit would be higher due to the absence of these external costs.[40]

Three experimental factors were manipulated. First, *negotiator's role* was manipulated by randomly assigning participants to the role of either a 'Parts' (i.e. seller) or 'Assembly' (buyer) manager (see Exhibit 4.1 for an example. For detailed example of a specific condition, see Appendix A 4.2.1, p. 219).

[40] Examples of the negotiated price were given.

Exhibit 4.1



The *social network environment* was operationalized by depicting an environment that was either supportive of social networking or not. This manipulation was introduced in order to capture the notion of social relationship or connectedness within the company, through framing of participants' perceptions of the environment - a warm and welcoming, or a cold and unwelcoming work environment. In the case where social network was supported, participants were told that senior management agreed with the idea of having social functions (e.g. sports team, bonding sessions) in order to promote good working relationships within the company. They were told that most employees were happy and felt valued (see Exhibit 4.2). On the other hand, in the case where social networking was not supported, participants were informed that senior management thought that socialising was a waste of time. Instead, a performance review system based on meeting individual goals was implemented. This was intended to represent a remote environment where social relationships were not valued. Participants were told that most employees were unhappy and did not feel valued (see Exhibit 4.3). Participants were subsequently told that they frequently (supportive social network

environment) or rarely (non-supportive social network environment) interacted with the manager of the division with whom they were to transact.[41]

Exhibit 4.2

Your Workplace

At an executive meeting several years ago, senior management of XYZ called for ideas on how to increase work productivity. A manager suggested one way of increasing work productivity was to have good working relationships with other employees within the company.

Senior management agreed with this view and monthly get-togethers were arranged as an initiative to promote good working relationships within the company. Soon, firm wide social events were introduced every last Friday of the month and everyone was invited to mingle and discuss informally any issues they had. In addition, a few junior managers suggested having divisional sports teams which would help in actively promoting interaction between divisions. All these initiatives were taken well and subsequently implemented by senior management.

A recent survey carried out in XYZ showed that most employees were happy and comfortable within the company. They felt valued and had good working relations within their division and with colleagues in other divisions.

At the moment, you frequently interact with Manager A of the ASSEMBLY division.

Exhibit 4.3

Your Workplace

At an executive meeting several years ago, senior management of XYZ called for ideas on how to increase work productivity. A manager suggested one way of increasing work productivity was to have good working relationships with other employees within the company.

Senior management disagreed with this view, declaring that the promotion of work relationships within the company was irrelevant to increasing productivity and that employees should concentrate on the work at hand instead of wasting time socialising. Senior management felt that they should be the ones setting the pace of the environment and took it upon themselves to implement a system of performance review that focused on meeting individual goals set by senior management.

A recent survey carried out in XYZ showed that most employees were unhappy and uncomfortable within the company. They did not feel valued and felt remote both within their own division and with colleagues in other divisions.

At the moment, you rarely interact with Manager A of the ASSEMBLY division.

[41] Limitations of this include a less than realistic scenario as participants were not made to interact with each other (or not) before making their pricing decision. They were merely told that they interacted frequently or rarely with the other manager.

The *incentive compensation scheme* in which bonus depended either upon division profit (competitive compensation scheme) or company's overall profit (cooperative compensation scheme) was then introduced. In order to add to the reality of the case, participants in all conditions were told that their performance was assessed by senior management based on their division's performance.

Exhibit 4.4

Your Total Compensation

Your performance is assessed by senior management based on your division's performance and efficiency. Your total compensation consists of a fixed salary and a bonus. The bonus is tied to your division's profits.

Exhibit 4.5

Your Total Compensation

Your performance is assessed by senior management based on your division's performance and efficiency. Your total compensation consists of a fixed salary and a bonus. The bonus is tied to overall company profits.

4.5.1.1 Dependent Variable

The dependent variable, the *final negotiated transfer price*, was measured by asking participants to predict the final transfer price.[42] Additionally, they were asked to indicate what they expected their negotiating partner's reservation price to be.[43] In order to better understand the decisions made, participants were asked to state what factors in the case study most influenced their pricing decision.

[42] At the end of Part A, participants were asked to state on a seven-point Likert scale: (1) how **willing** and (2) how **likely**, they were to reach an agreement with the other manager based on the given scenario. They were then asked to state what their (1) beginning transfer price, (2) highest/lowest transfer price (i.e. reserve price), and (3) final expected negotiated transfer price would be (see Appendix A 4.4.1 and 4.4.2, p. 230 and 231)

[43] While Luft & Libby (1997) and Chang et al. (2008) did not ask participants to estimate buyer's reservation price in order to save time during the experiment, we asked participants in both roles to estimate the reservation price in order to calculate the variance between participants' reservation price and final transfer price.

4.5.1.2 Manipulation Checks[44]

At the end of the experiment, participants were asked to fill in demographic information and presented with manipulation check questions to determine if they understood the conditions they were assigned to. They had to identify if (1) they were a Parts or Assembly manager, (2) the company supported the building of social relationships or not, and (3) whether their bonus depended upon their division's or company's overall profits. The manipulation check questions are show in Table 4.2.

Table 4.2 Manipulation Check Questions

Manipulation Check Question
What role did you take when completing the experimental task? A. I was the PARTS manager B. I was the ASSEMBLY manager
Based on the business environment of XYZ, the company: A. Supports maintaining good relationship and/or relationship building within the company B. Does not support relationship building within the company
Your bonus depends on: A. Divisions' profit levels B. Company profit level

[44] Total of 15 subjects failed the manipulation checks. 14 subjects failed one manipulation check question and one subject failed two (question 13 and 15) manipulation check questions (see Appendix A 4.5, p. 232).

4.5.2 Part B - Exit Scale

A Likert-type scale was presented in Part B of the experimental instrument to measure participants' attitudes. A fairness/trust-reciprocity scale, adapted from Maas et al. (2012) (see Appendix A 4.6, p. 234), was used to further analyse perceptions of fairness which was intended to be a control variable in this experiment. Participants' perceived fairness was measured using a 5-item Likert-type scale, varying from 1 (strongly disagree) to 5 (strongly agree). This scale was originally developed by Maas et al. (2012).[45]

[45] Other exploratory scales and questionnaires not included in this study but used for other research projects were also collected.

CHAPTER 5

STUDY ONE

DATA ANALYSIS AND RESULTS

5.0 Introduction

This chapter presents the results of the data analysis and tests of hypotheses for the first study. This chapter is outlined as follows: Section 5.1 discusses the variables of interest and the relevant descriptive statistics. Section 5.2 sets out the distributive statistics analysis of the variables while Section 5.3 shows the correlation matrices. Analysis of Covariance (ANCOVA) statistics technique is conducted to test the various hypotheses developed for Study One and the results are presented in Sections 5.4. Section 5.5 discusses the covariates in Study One. Additional analyses and robustness tests are carried out and the results are presented in Sections 5.6 and 5.7 respectively. A summary of the results is presented at the end of the chapter (Table 5.12).

5.1 Descriptive Statistics

Results (not reported) indicated that the demographic variables of age, work experience, job type and transfer pricing experience were not significantly correlated with any independent or dependent variables and were therefore not included in the analysis. However, the preliminary analysis indicated that the demographic variables of gender and subject type (local and international) were related to one or more of the dependent

and independent variables. Hence, along with fairness concerns, they were included in the main analysis.

Table 5.1 therefore presents the descriptive statistics for the variables used in Study One. These variables include the manipulated variables (i.e. negotiator role, social network, and compensation scheme), the dependent variable (i.e. final negotiated transfer price), the demographic variables (i.e. gender and subject type) and covariate (i.e. fairness concerns).[46] Table 5.1 shows how the variables were measured and their theoretical and actual ranges.

Perception of fairness was measured using a five-item Likert scale adapted from Maas et al. (2012) (see Appendix A 4.6, p. 234, Questions 1 to 5). To test for construct validity, a factor analysis was conducted on the fairness scale. Results (not reported) indicated that questions 2 and 5 had low factor loading and high cross factor loading and were thus removed. The Cronbach's alpha coefficient (Cronbach 1951) was 0.69, suggesting satisfactory internal reliability for the three-item scale (Nunnally 1967). As participants were defined as having low or high fairness concerns in the analysis, the mean of the three-item fairness concern scale (mean = 12.07) was used to rescale to a dichotomous variable (i.e. 0 and 1), differentiating participants with higher (=0) and lower (=1) fairness concerns respectively. Robustness tests using the raw fairness concern score gave essentially the same result (see Appendix B, p. 235).

[46] Details of how participants were allocated to categorical variables are presented in Chapter 4.

Table 5.1

Descriptive Statistics (n = 115)

Variables	Mean	Standard Deviation	Theoretical Range	Actual Range
NR = Negotiator Role	-	-	0, 1	0, 1
SNE = Social Network Environment	-	-	0, 1	0, 1
CS = Compensation Scheme	-	-	0, 1	0, 1
FC = Fairness Concerns	0.557	0.499	0, 1	0, 1
G = Gender	0.565	0.498	0, 1	0, 1
ST = Subject Type	0.496	0.502	0, 1	0, 1
FNTP = Final Negotiated Transfer Price	$553.826	87.568	$200 to $800	$300 to $750

Definition of Variables	Measures
NR	0 = "Parts Manager (Seller)" and 1 = "Assembly Manager (Buyer)"
SNE	0 = "Supportive Environment" and 1 = "Not Supportive Environment"
CS	0 = "Division Profit" and 1 = "Company Profit"
FC	0 = "High Fairness Concerns" and 1 = "Low Fairness Concerns" rescaled based on the following questions: "Managers who act cooperatively should be rewarded", "Managers who act in the common interest should be rewarded", "Managers who act in the common interest should get a fair return" (Scaled from 1 = 'Strongly disagree' to 5 = 'Strongly agree').
G	0 = "Male" and 1 = "Female"
ST	0 = "Local student" and 1 = "International student"
FNTP	The final negotiated transfer price

5.2 Frequency Analysis

Table 5.2 Summary of Frequency of Independent Variables

Negotiator Role

	Frequency	Percentage	Cumulative Percentage
Parts: Seller	58	50.4	50.4
Assembly: Buyer	57	49.6	100
Total	115	100	

Social Network

	Frequency	Percentage	Cumulative Percentage
Supportive	57	49.6	49.6
Not Supportive	58	50.4	100
Total	115	100	

Compensation Scheme

	Frequency	Percentage	Cumulative Percentage
Competitive: Division	57	49.6	49.6
Cooperative: Company	58	50.4	100
Total	115	100	

Approximately half of the participants were assigned to a different condition (seller or buyer; supportive or non-supportive social network environment; competitive or cooperative compensation scheme). A summary of the frequency of independent variables in Table 5.2 shows that the sample was evenly distributed in terms of negotiator role, social network environment and compensation schemes.

5.3 Correlation Matrix

Both Pearson correlation matrix and Spearman rho correlation matrix analyses for the above variables were conducted. Results are shown in Table 5.3, Panels A and B respectively. Spearman correlation is more suitable in this context as some of the data under analysis is on a nominal scale (e.g. gender, job type, subject type) and hence reflects categorical group membership. However, both were computed to see if differences existed between the coefficients.

Table 5.3, Panel A indicates that variables such as fairness concerns and subject type are significantly correlated with the final negotiated transfer price. Similarly, Panel B shows fairness concerns, subject type and gender to be significantly correlated. The results show that subject type is significantly related to gender under both Pearson (Panel A) and Spearman (Panel B). Further analysis (not reported) showed subject type to have a greater influence.[47] Results thus indicate a need to control for these demographics variables.

[47] Specifically, results show international participants (526.75) awarded a lower final price than local participants (580.43). This effect was greater in international female (525.64) than local female participants (562.5).

Table 5.3 Correlation Matrix

Panel A: Zero-Order (Pearson) Correlation Matrix

Variables	Negotiator Role	Social Network	Compensation Scheme	Fairness Concern	Subject Type	Gender	Final Negotiated Transfer Price
Negotiator Role	1.000						
Social Network	-0.026	1.000					
Compensation Scheme	0.009	0.026	1.000				
Fairness Concerns	-0.204*	-0.113	-0.184*	1.000			
Subject Type	0.200*	0.009	0.044	0.240**	1.000		
Gender	-0.113	-0.063	0.078	-0.182	0.238*	1.000	
Final Negotiated Transfer Price	-0.228**	0.155*	-0.084	-0.229*	-0.308**	-0.176	1.000

*significant at the 0.05 level (2-tailed); **significant at the 0.01 level (2-tailed)

Table 5.3 Correlation Matrix

Panel B: Spearman Rho Correlation Matrix

Variables	Negotiator Role	Social Network	Compensation Scheme	Fairness Concern	Subject Type	Gender	Final Negotiated Transfer Price
Negotiator Role	1.000						
Social Network	-0.026	1.000					
Compensation Scheme	0.009	0.026	1.000				
Fairness Concern	-0.204*	-0.113	-0.184*	1.000			
Subject Type	0.200*	0.009	0.044	0.240**	1.000		
Gender	-0.113	-0.063	0.078	-0.182	0.238*	1.000	
Final Negotiated Transfer Price	-0.242**	0.152	-0.089	-0.212*	-0.324**	-0.213*	1.000

*significant at the 0.05 level (2-tailed); **significant at the 0.01 level (2-tailed)

5.4 Analysis

Table 5.4 shows the results of a 2 (buyer or seller) by 2 (supportive or non-supportive social network environment) by 2 (competitive or cooperative compensation scheme) ANCOVA (R-squared = 0.215, F-value = 2.852, p = 0.004). The dependent variable is the final negotiated transfer price.[48] Descriptive statistics for final negotiated transfer price are shown in Table 5.5. As suggested by the previous section, subject type, gender and fairness concerns are included as covariates.

Table 5.4

Analysis of Covariance (ANCOVA)

Source	**df**	**MS**	**F-value**	***p*-value (one-tailed)**
Negotiators' role (NR) H1	1	20107.433	3.048	0.042
Social network (SN) H2	1	23106.916	3.503	0.032
Compensation scheme (CS)	1	1204.810	0.183	0.335
Covariate:				
Fairness Concerns	1	17758.218	2.692	0.052
Subject Type	1	30366.616	4.603	0.017
Gender	1	10315.856	1.564	0.107
Interactions:				
NR x SN	1	25.371	0.004	0.476
NR x CS	1	593.842	0.090	0.383
SN x CS H3	1	26180.199	3.969	0.025
NR x SN x CS	1	1319.900	0.200	0.328
Error	104	6596.571		

R-Squared = 0.215 (Adj. R-Squared = 0.140); F-value = 2.852; p = 0.004

[48] Additional analysis for the dependent variable is shown in Section 5.6, with robustness tests shown in Section 5.7.

Table 5.5

Mean (Standard Deviation) and Cell Size of Final Negotiated Transfer Price

Negotiator role	Non-supportive of social network environment			Supportive of social network environment			Compensation Scheme		Row total
	Competitive	Cooperative	Total	Competitive	Cooperative	Total	Competitive	Cooperative	
Sellers	613.33 (82.30) n = 15 ***Cell 1***	555.00 (116.57) n = 15 ***Cell 2***	584.17 (103.49) n = 30	556.429 (88.91) n = 14 ***Cell 3***	567.86 (74.31) n = 14 ***Cell 4***	562.14 (80.62) n = 28	585.86 (88.85) n = 29	561.21 (96.96) n = 29	573.53 (93.01) n = 58
Buyers	***Cell 5*** 561.54 (87.57) n = 13	***Cell 6*** 538.33 (69.35) n = 15	549.11 (77.72) n = 28	***Cell 7*** 513.33 (81.76) n = 15	***Cell 8*** 525.00 (70.71) n = 14	518.97 (75.49) n = 29	535.71 (86.45) n = 28	531.90 (69.08) n = 29	533.77 (77.42) n = 57
Column total	589.29 (87.25) n = 28	546.67 (94.63) n = 30	567.24 (92.86) n = 58	534.14 (86.56) n = 29	546.43 (74.45) n = 28	540.18 (80.36) n = 57	561.23 (90.50) n = 57	546.55 (84.74) n = 58	553.83 (87.57) n = 115

5.4.1 Hypothesis H1

H1 predicted that sellers' perceived final negotiated transfer prices will be higher than buyers where an external market price exists. As shown in Table 5.5 the final negotiated transfer price for sellers (573.53) is higher than those of buyers (533.77). This mean difference (main effect of negotiators' role) between seller and buyer is statistically significant (F-value = 3.048, p = 0.042, one-tailed, see Table 5.4) and the interaction between negotiator's role and the other variables are not significant. Thus, H1 is supported. The results provide support for the existence of a self-serving bias as predicted by prior studies (Chang et al. 2008; Kachelmeier & Towry 2002; Luft & Libby 1997).

5.4.2 Hypothesis H2

H2 predicted that managers' final negotiated transfer prices are closer to the equal profit price in an environment that supports social network activities than one that does not support social network activities. As shown in Table 5.5, the final negotiated transfer price under a supportive social network environment (540.18) is closer to the equal profit price (of $500) than those in the non-supportive social network environment (567.24). The main effect of the social network environment shown in Table 5.4 suggests that this difference (567.24 – 540.18 = 27.06) is statistically significant (F-value = 3.503, p = 0.032, one-tailed).[49] Thus, H2 is supported, although it is qualified by the interaction in H3 discussed below.

[49] Final negotiated transfer price in the supportive social network environment *minus* equal profit price = (540.18 – 500) = 40.18. Final negotiated transfer price in the non-supportive social network environment *minus* equal profit price = (567.24 – 500) = 67.24. The difference between supportive and non-supportive social network environments is 27.06 as per above.

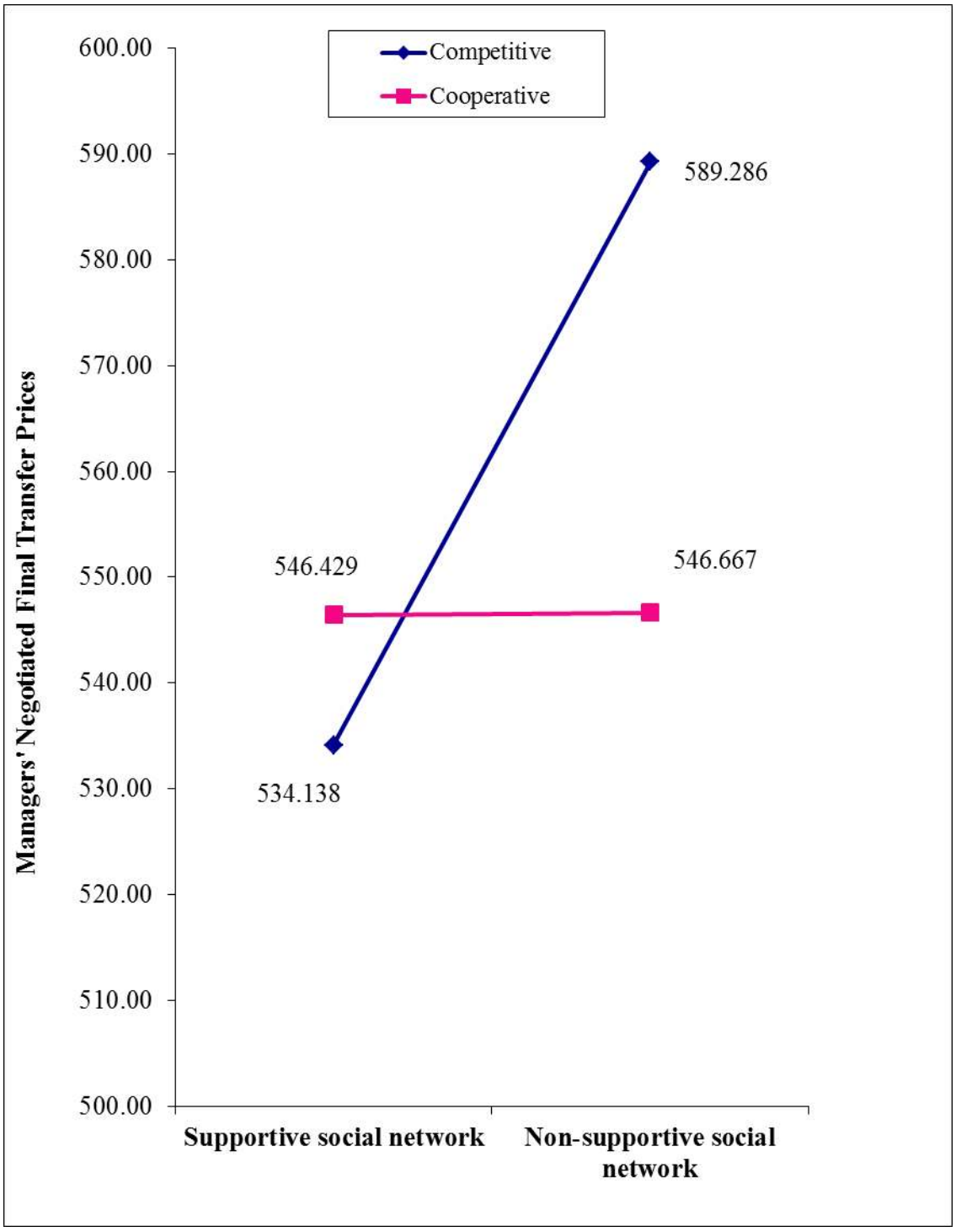
5.4.3 Hypothesis H3

H3 predicted that the relationship between compensation schemes and the final negotiated transfer price to be moderated by the social network environment. The results presented in Table 5.5 reveal that the difference in negotiated transfer prices under a competitive compensation scheme (589.29 – 534.14 = 55.15) is higher than that under a cooperative compensation scheme (546.67 – 546.43 = 0.24). The ANCOVA in Table 5.4 shows that there is a significant (F-value = 3.969, p = 0.025, one-tailed) two-way interaction between the social network environment and compensation schemes on final negotiated transfer prices. Taken together, the results show support for H3.

The nature of the significant two-way interaction in Hypothesis H3 is depicted graphically in Figure 5.1. Figure 5.1 shows that the difference in final negotiated transfer prices between the compensation schemes in a non-supportive social network environment (F-value = 0.024, p = 0.041, one-tailed) is greater than the difference in compensation schemes in the supportive social network environment (F-value = 0.412, p = 0.284, one-tailed).

Figure 5.1

The Relationship between the Social Network Environment and Compensation Schemes on Managers' Negotiated Final Transfer Prices



5.5 Significance of Covariates

The results in Table 5.4 indicate that fairness concerns (F-value = 2.692, p = 0.052, one-tailed) and subject type (F-value = 4.603, p = 0.017, one-tailed) significantly impact upon the final negotiated transfer price. Gender, however, is not significant in explaining the final transfer price when subject type is included (F-value = 1.564, p = 0.107, one-tailed, Table 5.4). To further test the difference in means for fairness concerns, subject type and gender used in this study, a t-test is conducted for each covariate and results are discussed in the sections below.

5.5.1 Fairness Concerns

Fairness concerns refers to managers' expectations of the equality of the transfer price. This usually comes into play when an external market exists as negotiating managers use the market price as the benchmark to set a reserve price for the negotiation. Prior studies suggest that fairness concerns affect bargaining outcomes (see Selten 1987). Studies in accounting have also found that perceptions of fairness affect final negotiated transfer prices (Kachelmeier & Towry 2002; Luft & Libby 1997). These studies found that fairness concerns affect the way in which profits are distributed between negotiating partners. Thus, it is expected that when there is perceived fairness in the negotiation, negotiators will exhibit fairness on their part and attempt to conclude the negotiation close to the equal profit price. Results indicate that the means of participants with low fairness concerns (577.40) are further from the equilibrium price of $500, while those with high fairness concerns (536.94) are nearer to the equilibrium price. Results of an independent t-test show that the difference is significantly different (t-value = -2.499, p = 0.014).

5.5.2 Subject Type

Research in psychology suggests that values and ideals differ among culture (Markus & Kitayama 1991; Triandis 1989). For example, certain cultures are known for placing greater emphasis on maintaining social relationships than attaining individual objectives (see Hofstede 1980, 1984, 1991, 2001, 2015). Specifically, individualistic cultures focuses on separating from others and promoting one's own goals, interests and preferences, while collectivistic cultures focus on maintaining relatedness, fitting in with others, promoting the goals of others and the interests of those to whom one is related. Prior studies have also suggested that culture affects negotiation outcomes (Gelfand, Higgins, Nishii, Raver, Dominguez, Murakami & Toyama 2002). Gelfand & Christakopoulou (1999) carried out an intercultural negotiation experiment between American and Greek students and found that although similar outcomes were achieved, U.S participants engaged in behaviours that enhanced their own status, while Greek participants tended to attend to the needs and interests of their negotiating partner. Lituchy (2009) did an experimental study and found Japanese negotiators to reach integrative outcomes (win-win) with their partners while American negotiators tended to reach distributive (win-lose) outcomes in intra-national negotiations. Literature on culture further suggests that in predicting social behaviour, collectivists pay more attention to norms, whereas individualists pay more attention to attitudes (Bontempo & Rivera 1992; Hofstede 1980; Triandis 1993). Prior studies (e.g. Fishbein & Ajzen 1975; Kashima, Siegal, Tanaka & Kashima 1992) also found Western cultures (e.g. United States, Australia, England, Canada etc.) to be more individualist-centred than other cultures (e.g. Spain, Mexico, Japan etc.). In the context of this study, Australian participants are thus viewed as having individualistic values, while their international counterpart (made up of participants from various backgrounds predominantly from Asia-Pacific regions such as Singapore, Malaysia, Hong Kong, China etc.) are viewed

as having collectivistic values. According to research in cultural psychology, it is expected that Australian participants will have a higher final transfer price than international participants. Results of an independent t-test show that the means between local participants (580.43) and international participants (526.75) are significantly different (t-value = 3.439, p = 0.01).

5.5.3 Gender

Some studies documenting gender suggest that men tend to negotiate more self-serving outcomes and obtain more profits than women (Gerhart & Rynes 1991; King & Hinson 1994; Stevens, Bavetta & Gist 1993), while others find no differences (Kimmel et al. 1980; Pruitt, Carnevale, Forcey & Van Slyck 1986). Despite mixed results in empirical research, theoretical views suggest that men receive more self-serving negotiation outcomes because of differences in perception, behaviour and the context in which they are viewed (King, Miles & Kriska 1991; Rosenthal & Jacobson 1968; Snyder, Tanke & Berscheid 1977). In negotiation, King et al. (1991) found that such stereotypical behaviour can be caused by the mere knowledge of stereotypes. They had participants play a Prisoners' Dilemma game with a partner whose identity was concealed and found that when the partner used a competitive strategy, participants were three times more likely to guess that the partner was male than female. On the other hand, when a cooperative strategy was used, participants were equally likely to guess that the partner was male or female. Evidence also suggests that women perceive themselves as less entitled and tend to allocate lesser resources to themselves when dividing profit between themselves and others (Major & Konar 1984; Major, McFarlin & Gagnon 1984). Furthermore, women tend to exhibit more cooperative behaviour than men as they are motivated to maintain relationships more than competition and status (Tannen 1990; Walters, Stuhlmacher & Meyer 1998). Results of an independent t-test show that the

means between male (571.3) and female (540.38) participants is significant (t-value = 1.898, p = 0.03, one-tailed). This result is further confirmed in the univariate model as international participants consist of more females (n = 39) than males (n = 18). However, since international participants consist of more females, results suggest that gender and subject type are related. The robustness test in Section 5.7 shows this to be consistent with our expectations.

Robustness tests of the significant covariates – fairness concerns and subject type, are also reported in Section 5.7.

5.6 Additional Analyses

To further investigate the effect of the social network environment and compensation schemes on selling managers' negotiated transfer pricing decisions, additional analyses were conducted with the reservation (reserve) price and price premium. The reservation price is the sellers' minimum acceptable transfer price, while the price premium (i.e. reserve price *minus* transfer price) is the anticipated concession the negotiator is willing to make during the negotiation process.[50]

The effect of the social network environment and compensation schemes on sellers' reservation (reserve) price and price premium is examined. This analysis is important as it allows further investigation as to how these factors affect managers' negotiated transfer pricing decisions.

[50] Refer to case material in Appendix A 4.4.1 (p. 230). Question to determine seller's reservation price: "What is the lowest price you would sell to ASSEMBLY at? (At offers below this price, you would prefer to sell to outsider buyers)."

5.6.1 Reservation Price

The reservation price for sellers is the minimum acceptable transfer price.[51] Table 5.6, Panel A shows that on average, the seller's reservation price (532.76) was significantly higher than the equal profit price of $500 (paired sample t-test, t-value = -2.002, p = 0.025, one-tailed). This result is consistent with the expectation that sellers would not consider the equal profit price as being the fair outcome or price of the negotiation. This result further confirms the existence of a self-serving bias which causes managers to prefer the negotiation outcome that is most favourable to them. Results of the experiment show that for sellers, the negotiated transfer price is significantly higher than those of buyers when the market price is higher than the equal profit price. Table 5.6, Panel A reveals that sellers in the competitive compensation scheme reported a higher reservation price (568.97) than those in the cooperative compensation scheme (496.55). This main effect of compensation schemes is statistically significant (F-value = 4.533, p = 0.019, one-tailed) as shown in Table 5.6, Panel B.

[51] On the other hand, the reservation price for buyers is the maximum acceptable transfer price or the maximum transfer price they are willing to pay.

Table 5.6

Additional Analysis – Sellers' Reservation Price

Panel A: Mean (Standard Deviation) and Cell Size

Social Network Environment	Competitive Compensation Scheme	Cooperative Compensation Scheme	Total
Supportive	548.214 (89.046) n = 14 Cell 1	496.429 (122.418) n = 14 Cell 2	522.321 (111.251) n = 28
Non-Supportive	Cell 3 588.333 (83.381) n = 15	Cell 4 496.667 (165.795) n = 15	542.500 (137.112) n = 30
Total	568.966 (87.028) n = 29	496.552 (146.038) n = 29	532.759 (124.623) n = 58

Panel B: Analysis of Covariance (ANCOVA)

Source	df	MS	F-value	*p*-value (one-tailed)
Social network (SN)	1	3918.202	0.265	0.305
Compensation scheme (CS)	1	66921.825	4.533	0.019
Covariates:				
Fairness Concerns	1	13922.209	0.943	0.168
Subject Type	1	13070.778	0.885	0.176
Gender	1	17790.128	1.205	0.139
Interaction:				
SN x CS	1	5268.060	0.357	0.277
Error	51	14761.816		

R-Squared = 0.150 (Adj. R-Squared = 0.050); F-value = 1.495; p = 0.199

5.6.2 Price Premium

The price premium is the difference between the reservation price and the final negotiated transfer price.[52] Table 5.7 shows the descriptive statistics and ANCOVA results for sellers' price premium. Results in Table 5.7, Panel A reveal that sellers' price premium under a competitive compensation scheme was lower (-16.897) than those negotiating under a cooperative compensation scheme situation (-64.655). This difference (the main effect of compensation schemes) as shown in Table 5.7, Panel B is statistically significant (F-value = 4.461, p = 0.020, one tailed). The result suggests that sellers who were negotiating with a partner under a cooperative compensation scheme were willing to give up a greater share of their divisional profit compared to those under a competitive compensation scheme.

[52] Price premium = Reserve price - Transfer price. As such, a bigger negative value means a participant is willing to give up more. For example, if one's reserve price is $5 but expects to sell at a transfer price of $7, the price premium is -$2.

Table 5.7

Additional Analysis – Sellers' Price Premium

Panel A: Mean (Standard Deviation) and Cell Size

Social Network Environment	Competitive Compensation Scheme	Cooperative Compensation Scheme	Total
Supportive	-8.214 (72.340) n = 14 Cell 1	-71.429 (122.418) n = 14 Cell 2	-39.821 (103.785) n = 28
Non-Supportive	Cell 3 -25.000 (87.117) n = 15	Cell 4 -58.333 (102.499) n = 15	-41.667 (94.989) n = 30
Total	-16.897 (79.355) n = 29	-64.655 (110.703) n = 29	-40.776 (98.457) n = 58

Panel B: Analysis of Covariance (ANCOVA)

Source	df	MS	F-value	*p*-value (one-tailed)
Social network (SN)	1	1580.874	0.165	0.343
Compensation scheme (CS)	1	42794.283	4.461	0.020
Covariates:				
Fairness Concerns	1	16518.337	1.722	0.098
Subject Type	1	4652.758	0.485	0.245
Gender	1	3454.026	0.360	0.276
Interaction:				
SN x CS	1	3590.679	0.374	0.272
Error	51	9593.812		

R-Squared = 0.114 (Adj. R-Squared = 0.010); F-value = 1.099; p = 0.376

5.7 Robustness Tests

To enhance the robustness of the results on the negotiated transfer price, further analyses were undertaken to understand how other factors could affect the negotiated transfer pricing outcome. Based on the ANCOVA results shown in Table 5.4, the impacts of the significant covariates – fairness concerns (Section 5.7.1) and subject type (Section 5.7.2), as well as the impact of gender (Section 5.7.3), were tested individually. This was also done without the inclusion of covariates (Section 5.7.4) to test the effect of the main variables.[53]

[53] The main analysis is done only on hypothesis H2 and H3. Hypothesis H1 is not relevant in this case as it predicts the final negotiated transfer prices will be higher for sellers than buyers.

5.7.1 Covariate: Fairness Concerns

Table 5.8

Analysis of Covariance (ANCOVA) (Fairness Concerns)

Source	df	MS	F-value	*p*-value (one-tailed)
Negotiators' role (NR) H1	1	25221.207	3.620	0.030
Social network (SN) H2	1	27051.777	3.883	0.026
Compensation scheme (CS)	1	1627.099	0.234	0.315
Covariate:				
Fairness Concerns	1	39066.888	5.607	0.010
Interactions:				
NR x SN	1	653.831	0.094	0.380
NR x CS	1	1609.929	0.231	0.316
SN x CS H3	1	27371.450	3.929	0.025
NR x SN x CS	1	1290.836	0.185	0.334
Error	106	6967.071		

R-Squared = 0.155 (Adj. R-Squared = 0.091); F-value = 2.434; p = 0.010 (one-tailed)

5.7.1.1 Hypothesis H2

Table 5.8 suggests that the difference in final negotiated transfer prices between the social network environments is statistically significant (F-value = 3.883, p = 0.026, one-tailed). This is consistent with the primary result reported in Section 5.4.2.

5.7.1.2 Hypothesis H3

H3 predicted that the relationship between compensation schemes and the final negotiated transfer price to be moderated by social network. The results presented in Table 5.8 shows that the two-way interaction between sellers and buyers under a competitive and cooperative compensation scheme is marginally significant (F-value = 3.929, p = 0.025, one-tailed). As such, it is consistent with the primary result reported in Section 5.4.3.

5.7.1.3 Additional Analysis – Sellers' Reservation Price

Table 5.8.1

Robustness: Additional Analysis – Sellers' Reservation Price (Fairness Concerns)

Analysis of Covariance (ANCOVA)

Source	**df**	**MS**	**F-value**	***p*-value (one-tailed)**
Social network (SN)	1	5192.399	0.346	0.280
Compensation scheme (CS)	1	75757.172	5.044	0.015
Covariate:				
Fairness Concerns	1	159.909	0.106	0.373
Interaction:				
SN x CS	1	5259.823	0.350	0.279
Error	53	15018.369		

R-Squared = 0.101 (Adj. R-Squared = 0.033); F-value = 1.486; p = 0.110

Table 5.8.1 indicates that the main effect of compensation schemes for sellers with fairness concerns as a covariate remains significant (F-value = 5.044, p = 0.015, one-tailed). As such, the inclusion of fairness concerns is consistent with the main result in Section 5.6.1.

5.7.1.4 Additional Analysis – Sellers' Premium Price

Table 5.8.2

Robustness: Additional Analysis – Sellers' Price Premium (Fairness Concerns)

Analysis of Covariance (ANCOVA)

Source	**df**	**MS**	**F-value**	***p*-value (one-tailed)**
Social network (SN)	1	501.148	0.054	0.414
Compensation scheme (CS)	1	44040.314	4.710	0.017
Covariate:				
Fairness Concerns	1	20569.968	2.200	0.072
Interaction:				
SN x CS	1	4612.731	0.493	0.243
Error	53	9531.229		

R-Squared = 0.103 (Adj. R-Squared = 0.035); F-value = 1.522; p = 0.105

As shown in Table 5.8.2, the main effect of compensation schemes on sellers' price premium remains statistically significant with the inclusion of fairness concerns as a covariate.

5.7.2 Covariate: Subject Type

Table 5.9

Analysis of Covariance (ANCOVA) (Subject Type)

Source	df	MS	F-value	*p*-value (one-tailed)
Negotiators' role (NR) H1	1	23462.518	3.459	0.033
Social network (SN) H2	1	20922.204	3.085	0.041
Compensation scheme (CS)	1	4515.164	0.666	0.208
Covariate:				
Subject Type	1	58587.013	8.637	0.002
Interactions:				
NR x SN	1	90.021	0.013	0.455
NR x CS	1	1068.841	0.158	0.346
SN x CS H3	1	18231.969	2.688	0.052
NR x SN x CS	1	1936.877	0.286	0.297
Error	106	6782.918		

R-Squared = 0.178 (Adj. R-Squared = 0.115); F-value = 2.860; p = 0.003 (one-tailed)

5.7.2.1 Hypothesis H2

The ANCOVA results in Table 5.9 shows that the social network environment is statistically significant (F-value = 3.085, p = 0.041, one-tailed). This is consistent with the primary results reported in Section 5.4.2.

5.7.2.2 Hypothesis H3

Table 5.9 shows that the two-way interaction between sellers and buyers under a competitive and cooperative compensation scheme is marginally significant (F-value = 2.688, p = 0.052, one-tailed). As such, it is consistent with the primary results reported in Section 5.4.3.

5.7.2.3 Additional Analysis – Sellers' Reservation Price

Table 5.9.1

Robustness: Additional Analysis – Sellers' Reservation Price (Subject Type)

Analysis of Covariance (ANCOVA)

Source	**df**	**MS**	**F-value**	***p*-value (one-tailed)**
Social network (SN)	1	9303.210	0.633	0.215
Compensation scheme (CS)	1	65988.562	4.492	0.020
Covariate:				
Subject Type	1	18899.586	1.286	0.131
Interaction:				
SN x CS	1	5101.668	0.347	0.279
Error	53	14691.865		

R-Squared = 0.120 (Adj. R-Squared = 0.054); F-value = 1.814; p = 0.140

Table 5.9.1 shows that the difference in competitive and cooperative compensation schemes for sellers is significant (F-value = 4.492, p = 0.02, one-tailed). This is consistent with the main results in Section 5.6.1.

5.7.2.4 Additional Analysis – Sellers' Premium Price

Table 5.9.2

Robustness: Additional Analysis – Sellers' Price Premium (Subject Type)

Analysis of Covariance (ANCOVA)

Source	**df**	**MS**	**F-value**	***p*-value (one-tailed)**
Social network (SN)	1	461.620	0.048	0.414
Compensation scheme (CS)	1	37244.773	3.896	0.027
Covariate:				
Subject Type	1	9489.994	0.993	0.162
Interaction:				
SN x CS	1	2883.244	0.302	0.293
Error	53	9560.285		

R-Squared = 0.083 (Adj. R-Squared = 0.014); F-value = 1.199; p = 0.322

Similar to the main result in Section 5.6.2, Table 5.9.2 indicates that the main effect of compensation schemes on sellers' price premiums remains statistically significant with subject type as a covariate.

5.7.3 Covariate: Gender

Table 5.10

Analysis of Covariance (ANCOVA) (Gender)

Source	df	MS	F-value	*p*-value (one-tailed)
Negotiators' role (NR) H1	1	51303.819	7.317	0.004
Social network (SN) H2	1	16610.870	2.369	0.064
Compensation scheme (CS)	1	3984.853	0.568	0.227
Covariate:				
Gender	1	34318.561	4.894	0.015
Interactions:				
NR x SN	1	1052.812	0.150	0.350
NR x CS	1	1259.879	0.180	0.337
SN x CS H3	1	24011.934	3.424	0.034
NR x SN x CS	1	2055.378	0.293	0.295
Error	107	7011.866		

R-Squared = 0.150 (Adj. R-Squared = 0.086); F-value = 2.334; p = 0.01 (one-tailed)

As mentioned earlier, gender is significant in the model when the confounding effect of subject type is removed.

5.7.3.1 Hypothesis H2

The main effect shown in Table 5.10 suggests that the difference between the social network environments is marginally statistically significant (F-value = 2.369, p = 0.064, one-tailed). This is consistent with the main result in Section 5.4.2.

5.7.3.2 Hypothesis H3

Table 5.10 reveals that the two-way interaction between sellers and buyers under a competitive and cooperative compensation is statistically significant (F-value = 3.424, p = 0.034, one-tailed). This is consistent with the primary results reported in Section 5.4.3.

5.7.3.3 Additional Analysis – Sellers' Reservation Price

Table 5.10.1

Robustness: Additional Analysis – Sellers' Reservation Price (Gender)

Analysis of Covariance (ANCOVA)

Source	**df**	**MS**	**F-value**	***p*-value (one-tailed)**
Social network (SN)	1	3433.520	0.235	0.315
Compensation scheme (CS)	1	61475.151	4.206	0.023
Covariate:				
Gender	1	22898.643	1.567	0.108
Interaction:				
SN x CS	1	7631.568	0.522	0.237
Error	53	14616.411		

R-Squared = 0.125 (Adj. R-Squared = 0.059); F-value = 1.892; p = 0.126

Table 5.10.1 shows that the difference in competitive and cooperative compensation schemes for sellers' reservation price is significant (F-value = 4.206, p = 0.023, one-tailed). Hence, the main result is supported.

5.7.3.4 Additional Analysis – Sellers' premium price

Table 5.10.2

Robustness: Additional Analysis – Sellers' Price Premium

Analysis of Covariance (ANCOVA)

Source	**df**	**MS**	**F-value**	***p*-value (one-tailed)**
Social network (SN)	1	37.481	0.004	0.476
Compensation scheme (CS)	1	33418.887	3.432	0.035
Covariate:				
Gender	1	53.241	0.005	0.471
Interaction:				
SN x CS	1	3277.764	0.337	0.282
Error	53	9738.337		

R-Squared = 0.066 (Adj. R-Squared = -0.005); F-value = 0.935; p = 0.451

Table 5.10.2 indicates that the main effect of compensation schemes on sellers' price premium remains statistically significant with the subject type as a covariate (F-value = 3.432, p = 0.035, one-tailed). This is consistent with the main results in Section 5.6.2.

5.7.4 Without Covariates

Table 5.11

Analysis of Variance (ANOVA) (Without Covariates)

Source	df	MS	F-value	*p*-value (one-tailed)
Negotiators' role (NR) H1	1	42740.110	5.881	0.009
Social network (SN) H2	1	19983.708	2.750	0.050
Compensation scheme (CS)	1	6122.532	0.843	0.181
Interactions:				
NR x SN	1	548.383	0.075	0.392
NR x CS	1	2242.033	0.309	0.290
SN x CS H3	1	19624.830	2.701	0.052
NR x SN x CS	1	2182.064	0.300	0.293
Error	107	7267.069		

R-Squared = 0.110 (Adj. R-Squared = 0.052); F-value = 1.899; p = 0.039 (one-tailed)

5.7.4.1 Hypothesis H2

Table 5.11 shows the results of ANOVA. The social network environment appears to be statistically significant (F-value = 2.750, p = 0.05, one-tailed). This is consistent with the primary results reported in Section 5.4.2.

5.7.4.2 Hypothesis H3

Results of the two-way interaction between sellers and buyers under a competitive and cooperative compensation scheme shown in Table 5.11 is marginally significant (F-value = 2.701, p = 0.052, one-tailed). As such, it is consistent with the primary results reported in Section 5.4.3.

5.7.4.3 Additional Analysis – Sellers' Reservation Price

Table 5.11.1

Robustness: Additional Analysis – Sellers' Reservation Price (Without Covariates)

Analysis of Variance (ANOVA)

Source	**df**	**MS**	**F-value**	***p*-value (one-tailed)**
Social network (SN)	1	5897.014	0.399	0.265
Compensation scheme (CS)	1	74508.672	5.045	0.015
Interaction:				
SN x CS	1	5758.672	0.390	0.268
Error	54	14769.786		

R-Squared = 0.099 (Adj. R-Squared = 0.049); F-value = 1.979; p = 0.128

Table 5.11.1 reveals that the differences in competitive and cooperative compensation schemes on sellers' reservation prices are significant (F-value = 5.045, p = 0.015, one-tailed). This is consistent with the main results in Section 5.6.1.

5.7.4.4 Additional Analysis – Sellers' Premium Price

Table 5.11.2

Robustness: Additional Analysis – Sellers' Price Premium (Without Covariates)

Analysis of Variance (ANOVA)

Source	df	MS	F-value	*p*-value (one-tailed)
Social network (SN)	1	49.312	0.005	0.472
Compensation scheme (CS)	1	33750.051	3.531	0.033
Interaction:				
SN x CS	1	3232.810	0.338	0.282
Error	54	9558.984		

R-Squared = 0.066 (Adj. R-Squared = 0.014); F-value = 1.268; p = 0.295

The main effect of compensation schemes on sellers' price premium shown in Table 5.11.2 remains statistically significant with the exclusion of covariates.

5.8 Summary

The robustness tests reveal that the results for the main hypotheses are not affected by choice of covariate. The hypotheses are supported at approximately the same level of significance regardless of which covariate was used. Furthermore, test of ANOVA also shows that the main variables remain supported without the inclusion of covariates in the analysis.

The results of the hypothesis testing are summarized in Table 5.12.

Table 5.12 Summary of Hypotheses

Hypothesis	Hypothesis Statement	Extent of Support
H1	Sellers' perceived negotiated final transfer prices are higher than buyers where an external market exists.	Supported
H2	Managers' final negotiated transfer prices are closer to an equal profit price in an environment that supports social networking activities than one that does not support social networking activities.	Supported
H3	In a non-supportive social network environment, managers' negotiated transfer prices will be *higher* under a competitive compensation scheme than under a cooperative compensation scheme.	Supported

CHAPTER 6

STUDY TWO

RESEARCH METHODOLOGY

6.0 Introduction

This chapter outlines the research method employed in the multi-period transfer pricing task of Study Two and is organized as follows. First, an overview of the pre-tests undertaken is explained in Section 6.1, followed by a discussion of the computer program test runs in Section 6.2 and the pilot test in Section 6.3. Section 6.4 presents an overview of the primary study. Information relating to participants is presented in Section 6.5, followed by the various treatment conditions in Section 6.6. Section 6.7 discusses the main experimental procedures and the operational variables used in Study Two. It concludes with information on manipulation checks and scales used in the study.

6.1 Pre-Tests

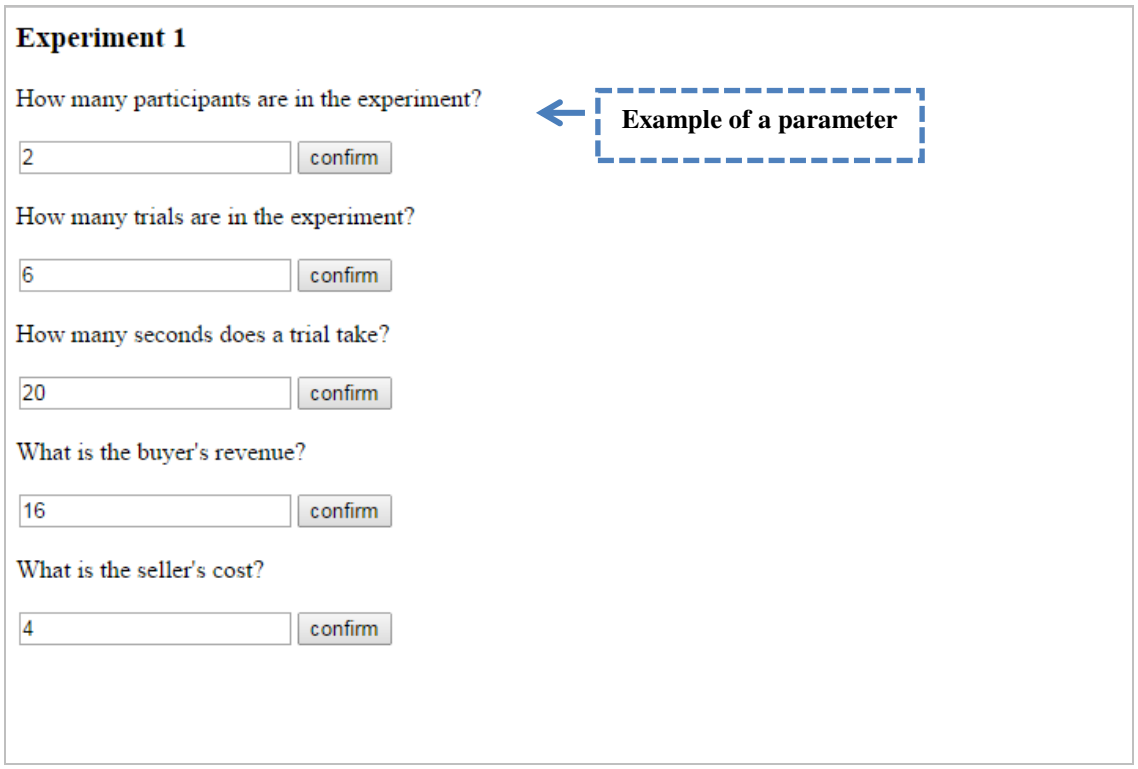
Two pre-tests were carried out in formulating the case materials and computer program for this study.

6.1.1 Pre-Test #1

Study two was executed on the computer. A computer program was built to simulate a negotiation task between a buyer and seller to test the variables of interest. The aim of the first pre-test was to test the strength and identify any weaknesses of the computer program. The computer program allowed for two types of users – (1) the administrator, and (2) participants of the experiment. To start the experiment, the administrator had to first enter a site, also known as the "control room", which allows the parameters of the experiment to be set.[54] These parameters included questions such as: (1) How many experiments do you want to run, (2) How many participants are in the experiment, (3) How many trials are in the experiment, (4) How many seconds does a trial take, (5) What is the buyer's revenue, and (6) What is the seller's cost.[55] The administrator inputs the parameters based on the conditions of the test environment (see Screenshot 6.1 for an example). The computer program then randomly assigns participants to the role of either a buyer or seller. As the computer program only had the main negotiation task embedded for the first pre-test, participants were briefed on the settings of the negotiation task. A table that illustrated the profits they could earn at various transfer prices was shown and explained to them (see Appendix C 6.1, p. 240). They were also told that the market price would vary between a range ($2 to $8) for each period of negotiation and a transaction cost ($1) would be incurred if they chose to transact with the outside market.

[54] The link for the control centre was http://106.186.122.224:8000/1234.
[55] Negotiation "trial" and "round" are used interchangeably in this thesis.

Screenshot 6.1

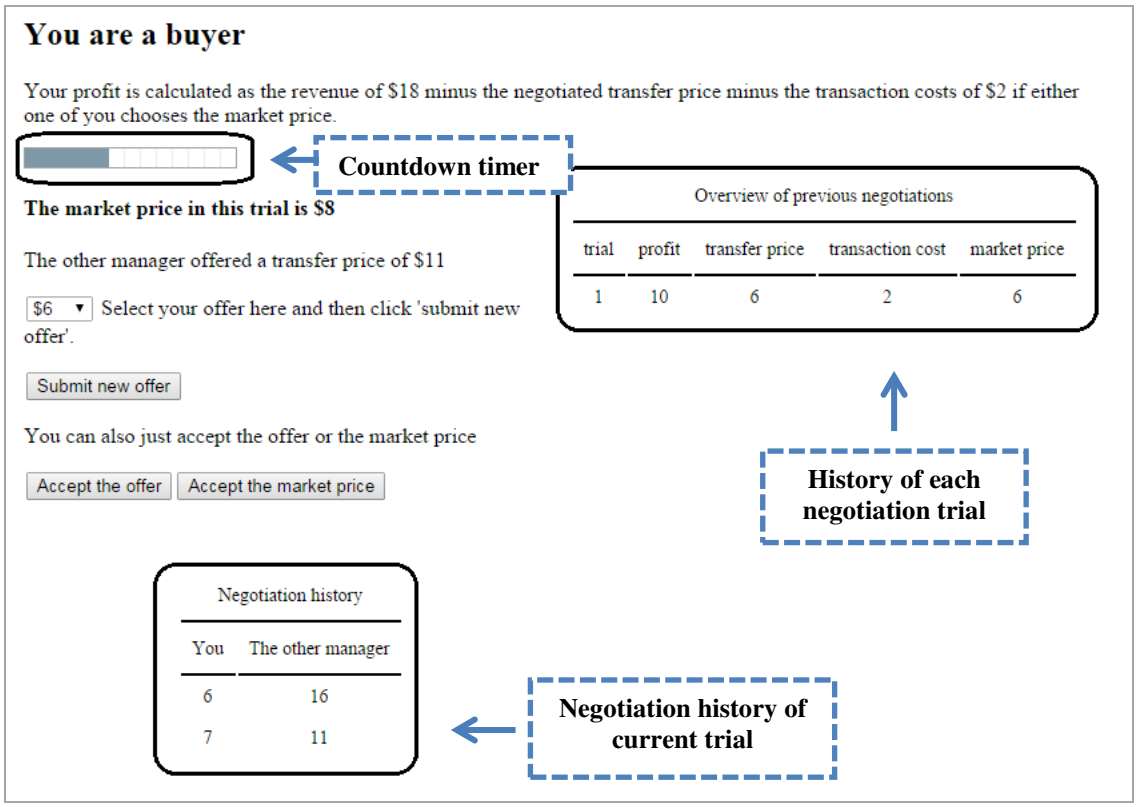


Six participants took part in the first pre-test. They were academics from the Accounting discipline of a large Australian university. These academics were part of a research cluster group that had experience in experimental research and hence, critically evaluated and provided comprehensive feedback on the experimental task. Most of the suggestions given were in the layout and visibility of the task on the computer. Aside from those, computer logs from the first pre-test showed that the computer program was reliable and worked accordingly. The computer negotiation task was revised based on suggestions made in the first pre-test, with inclusion of other tables and figures to make it more user-friendly and clearer to participants. The transaction cost was also increased from $1 to $2 to make it more salient.

6.1.2 Pre-Test #2

The aim of the second pre-test was to test the usability of the computer negotiation task. Participants were briefed on the settings of the negotiation and were randomly assigned to the role of a buyer or seller by the computer program. In the second pre-test, participants were given a table that showed their negotiation history as well as an overview of all the negotiations they had during the task (see Screenshot 6.2). This was to allow participants to keep track of their choices made for each period of negotiation and to allow them to clearly view the profits they accumulated over the course of the negotiation. A countdown timer was also included in the second pre-test so participants were aware of the time they had with their negotiating counter-party. This was important as the computer program was set to go to the market price by default if participants did not come to an agreement by the time the timer ran out.

Screenshot 6.2



Eight participants comprising accounting and finance professors and lecturers at a large Australian university took part in the second pre-test. Aside from testing the usability of the computer program in the second pre-test, the time limit for each negotiation round was tested so as to gain an understanding of the most appropriate time limit to set for participants in the main experiment. Participants were first given ninety seconds to complete each negotiation round. This time limit proved to be too long as after four or five rounds, participants became familiar with how the negotiation process worked in the program. As such, the parameters were re-entered and participants were given sixty seconds for each negotiation period. This time limit proved to be an appropriate time for participants to come to a decision.

6.2 Computer Program Test Runs

The computer program was tested each time new information and data was put into the program. This was done to ensure the system ran smoothly. Various permutations and combinations of parameters for participants and the control centre were tested to ensure the reliability of the program during the actual experiment. Through these test runs, the negotiation process was made more robust to human error and the wordings of the task were continually improved.

6.3 Pilot Test

In order to ensure the reliability of the computer program in the primary study, a pilot test was conducted to test the system and the ability of participants to understand the task and negotiation process. The computer task consisted of twenty negotiation rounds, manipulation checks, demographic questions and a questionnaire. Twenty-two undergraduate students who were enrolled in a large Australian University took part in the pilot test over two sessions. Each session lasted between 35 minutes to an hour.

The 22 participants were allocated to two computer laboratories. Participants were seated two seats away from each other to ensure that they could not see each other's computer screens. Participants first signed a consent form indicating their agreement to participate in the experimental study, and were then told to enter the computer program in which they were assigned a role – buyer or seller.[56] Twenty minutes into the pilot test, two computers stalled, and the computers of all other participants in the pilot test subsequently stalled too. At that stage, many participants had completed approximately 10 negotiation rounds. The program was reset in the control centre and participants were

[56] They entered the program by clicking a "Continue" button which appeared on the computer screens as soon as the parameters were set in the control centre.

told to refresh their browser and start the test again. In the second round, participants were only given 10 negotiation rounds.[57] Four participants failed to complete the test due to system errors.[58]

Issues in the pilot test were checked in the computer logs and alterations were made in an attempt to resolve the problem of computers stalling. The computer program was tested by repeatedly trying various ways to break the program. In the process of trial and error, it was discovered that repeated multiple clicking caused the program to stall. A deeper analysis of the computer logs proved that the stalling during the pilot occurred after some participants made multiple clicks in order to expedite the negotiation process.[59] Based on the recount of events, it was suggested that because participants were all on the same server, the stalled computers of a pair of negotiating partners led to the breakdown of the entire system. As this proved to be the biggest threat to the continuation of the negotiation task, the program was strengthened by building in room for error should the case of multiple clicking occur.

Aside from the stalling of the computer program, the session administrator of the pilot test advised that participants did not read the information presented. Many went through the negotiation task instinctively and had failed the manipulation check questions because they did not pay attention to the information provided. As such, important information in the negotiation task was highlighted and sentences were shortened with

[57] Participants were only made to do 10 more rounds of negotiation when the program was restarted as most had already completed 10 before the program froze, and the time advertised for each session was approximately 45 minutes. Starting from round number one would have delayed the entire session and the experiment would have gone over the stated time.

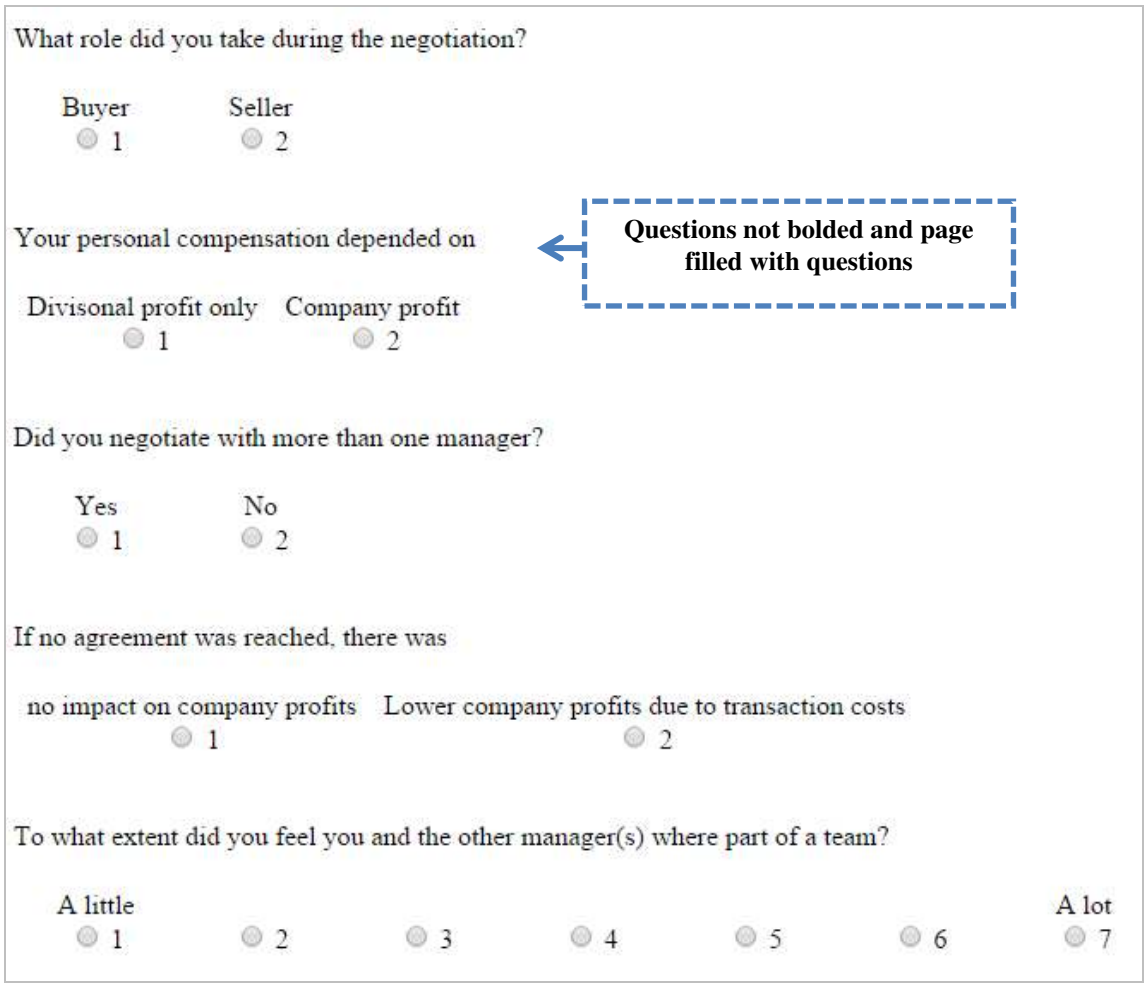
[58] The computer program stalled for these four participants again. As such, they were allowed to leave and were given $10 as compensation for their time.

[59] Test logs showed that participants made multiple clicks on one button hoping that the system would continue quickly. The system however, had to wait for all participants within the round to continue. As such, the freezing of the computers were due to participants' impatience and eagerness to move to the next round.

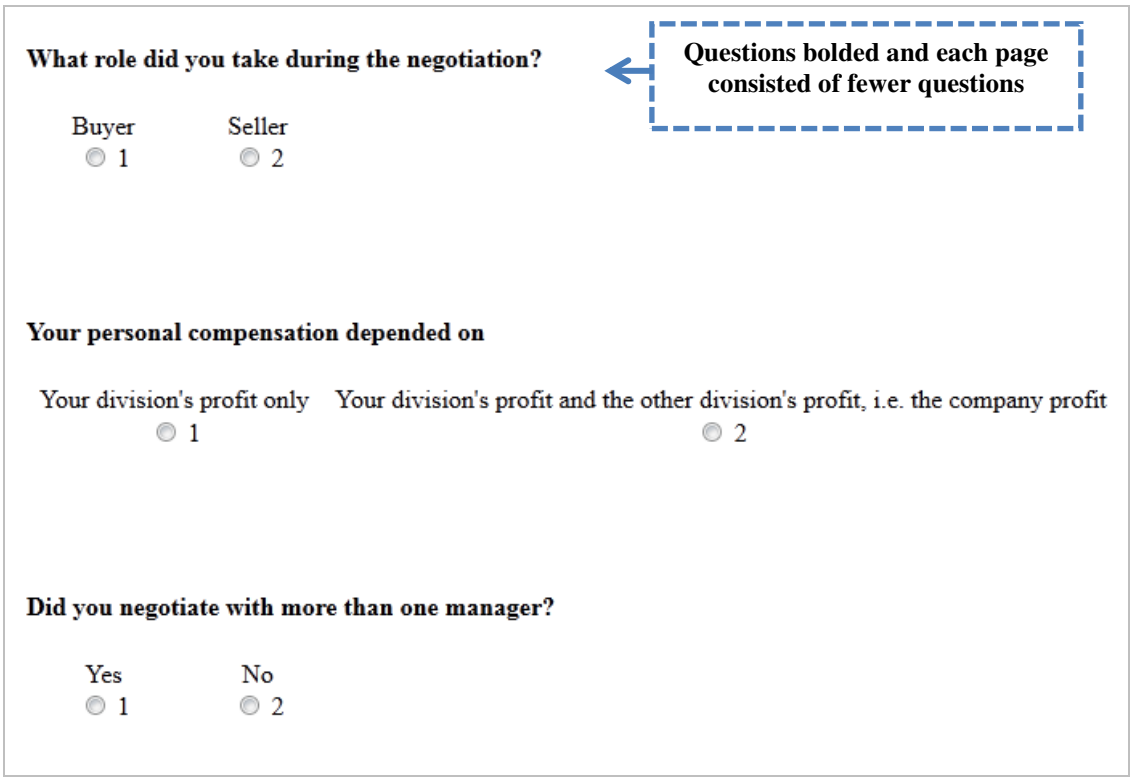
the hope that participants would read the information presented carefully. Questions pertaining to manipulation checks, demographics and the questionnaire were also limited to three per page on the computer screen (see comparison between Screenshot 6.3.1 and Screenshot 6.3.2). This was done so that participants who did not have English as a first language could better understand the task and questions. Errors in the computer program were fixed and the program was tested four times under different conditions before the actual experiment.[60] These tests were conducted to ensure the reliability of the program during the main experiment.

[60] Additional testing was done over different servers and conditions. It was tested under various conditions such as a local area cabled network, wireless connection (WiFi), on laptops and desktops, at home, at work and at the designated computer labs. Extreme circumstances such as multiple clicking and refreshing of browsers were also tested in an attempt to break the program. This was done so that solutions for potential errors which would lead to the breakdown of the program during the actual experiment could be built into the system.

Screenshot 6.3.1



Screenshot 6.3.2



6.4 Primary Study - Task Overview

The primary study had two parts – (A) the negotiation task and (B) manipulation checks, demographics and questions on participants' perceptions of trust and reciprocity. All tasks were done on the computer.

Part A consisted of an instrument adapted from Luft & Lubby (1997) which is similar to that of Chang et al. (2008) and was a modified version of Study One. Participants were randomly assigned a role by the computer program and were then given a hard copy of an experimental booklet which consisted of background information for the main negotiation task (an example is available in Appendix C 6.2, p. 241). The experimental booklet described the organisational structure of a manufacturing company, XYZ, with two divisions - Parts and Assembly. Managers of each division could choose to work with each other or with outsiders (also known as 'the market') in selling or buying a

product manufactured by the Parts division (the "Seller"). A profit table that depicted the buying and selling manager's profits at possible transfer prices was presented in the booklet. An explanation of how each manager's profit and total compensation would be calculated was also explained. After reading the experimental booklet, participants proceeded to the computer task which included the actual negotiation, demographic questions, manipulation checks and a questionnaire.

Before the actual negotiation started, participants were required to follow prompts on the computer that included information on how their division's profit and compensation for the experiment would be calculated.[61] Participants had to click 'OK, I got it' before they could proceed to the next page and subsequently to the negotiation task. This information regarding their division's profit and compensation was presented to them on their screens throughout the experiment.

At the start of each negotiation round, participants were told whether they would be negotiating with the same manager or if they would be rematched with a random manager for each round. In each round, a table depicting the negotiation history with the other manager was presented to allow participants to keep track of their offers for each round. At the end of each round, information regarding whether the final offer was accepted (or if the market price was chosen) and the division's profit for that round was presented. A table that displayed the overview of all previous negotiation rounds and each participant's compensation was updated and calculated at the end of each negotiation round.

[61] This information included (1) "Your division's profit = Buyer/ Seller profit – transaction cost of $2 if either of you chooses the market price", and (2) "Your compensation is calculated as the average of divisional profit over all negotiations".

Several factors were kept constant in the experiment. For example, participants had to complete a set of 20 rounds. Each round represented one period and each round was independent to the next. Furthermore, each round lasted for a minute and a timer that indicated the time left for each round was presented on their screens. Finally, participants' compensation at the end of the experiment was based on a fixed and variable component. The fixed component was a sum of $5, while the variable component was the average of division's profits earned over the course of the 20 rounds.[62] Hence, they were told that the profit they earned for each period would affect the final compensation that they could receive at the end of the experiment.

6.5 Participants

A total of 84 participants took part in nine experimental sessions over a two week period. Participants consisted of students enrolled at a large Australian university. These students were enrolled in different disciplines and ranged from undergraduate to postgraduate. Participants were paid between $10 and $17 (Australian dollars) based on the profits they earned in the experimental task.[63] Each session lasted for approximately 45 minutes.

Of the 84 participants, 11 failed the manipulation checks and were thus excluded from the analysis. As 9 of 11 participants who failed the manipulation checks negotiated with the same partner throughout the experiment, their partners (an additional 9 participants)

[62] A new ethics application was put in for Study Two. The research ethics committee approved for participants to be compensated according to how they fared in the experiment.
[63] Participants were paid $14 on average.

were also removed from the analysis.[64] This resulted in a total of 64 usable responses for the final analysis.[65]

6.6 Treatment Conditions

The experiment involved a 2x2 between-subjects design.[66] Participants were randomly assigned to one of four treatment conditions (see Figure 6.1). These are: (1) Buyer (parts manager) and trust reciprocity absent, (2) Buyer (parts manager) and trust reciprocity present, (3) Seller (assembly manager) and trust reciprocity absent, and (4) Seller (assembly manager) and trust reciprocity present.

In order to test the effects of trust reciprocity, participants would negotiate either with the same manager (trust reciprocity present) or be rematched with managers (trust reciprocity absent) throughout the experiment. Negotiations with the same manager meant that participants could track the behaviours and outcomes over time. As such, trust could be built and reciprocal behaviours established. On the other hand, being rematched with managers meant that the behaviours and negotiation outcomes with other managers could not be predictably tracked. Hence, prior negotiation outcomes should not affect the decisions made for subsequent negotiation rounds.

[64] As these dyads negotiated for 20 rounds with the same partner, the incorrect perception of one partner would have impacted upon the process by which the dyads arrived at the final transfer price.
[65] Due to the nature of the system, demographic information were collated and saved in a separate file. The amount of data collected led to huge amounts of data which proved impossible to match with participants' demographic information. As such, demographic information of remaining participants (n=64) cannot be accurately extracted and reported.
[66] The independent variables were the negotiator's role (buyer or seller) and trust reciprocity (present or absent).

Figure 6.1 Four Treatment Conditions

Negotiator's Role	**Trust Reciprocity Absent (Re-matched)**	**Trust Reciprocity Present (Fixed)**
Seller (Parts)	*Cell 1* (n=18)	*Cell 2* (n=13)
Buyer (Assembly)	*Cell 3* (n=20)	*Cell 4* (n=13)

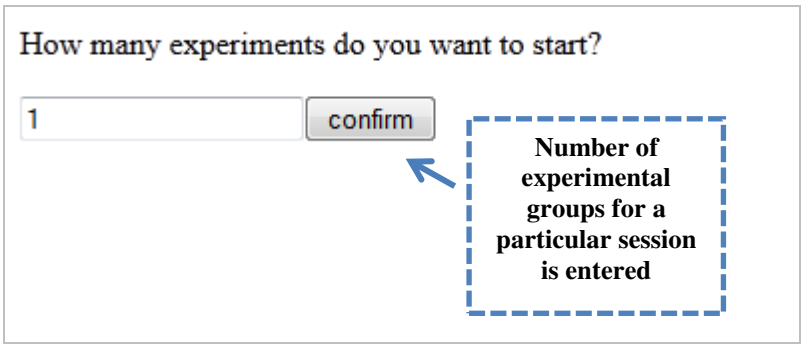
6.7 Experimental Procedures

6.7.1 Starting the Experiment

Parameters were set in the control centre at the start of each experimental session to enable the computer program to run the conditions for that particular session. To begin, the number of experiments for a particular session is entered in the control centre (see Screenshot 6.4.1). This meant that the session administrator could input one or more experiments based on the conditions to be run for that particular session. For example, if two experiments were run, the parameters of the first experiment could be different to the second (e.g. Experiment 1 could have 2 participants – fixed partners; 20 trials; while Experiment 2 could have 6 participants – rematched partners; 20 trials etc.) (see Screenshot 6.4.2). Both sessions would run concurrently and participants would be assigned randomly to either of the two experiments. The number of experiments to start depended on the conditions to be tested (i.e. fixed or rematched – see Figure 6.1) and the number of participants present in each session.[67]

[67] Any even number of participants less than 6 (i.e. 2 or 4) entered as a parameter meant that randomly assigned participants would negotiate with the same partner throughout the experiment (fixed condition). On the other hand, any even number of participants more than 6 entered as a parameter meant that randomly assigned participants would be rematched with negotiating partners throughout the experiment (rematched condition).

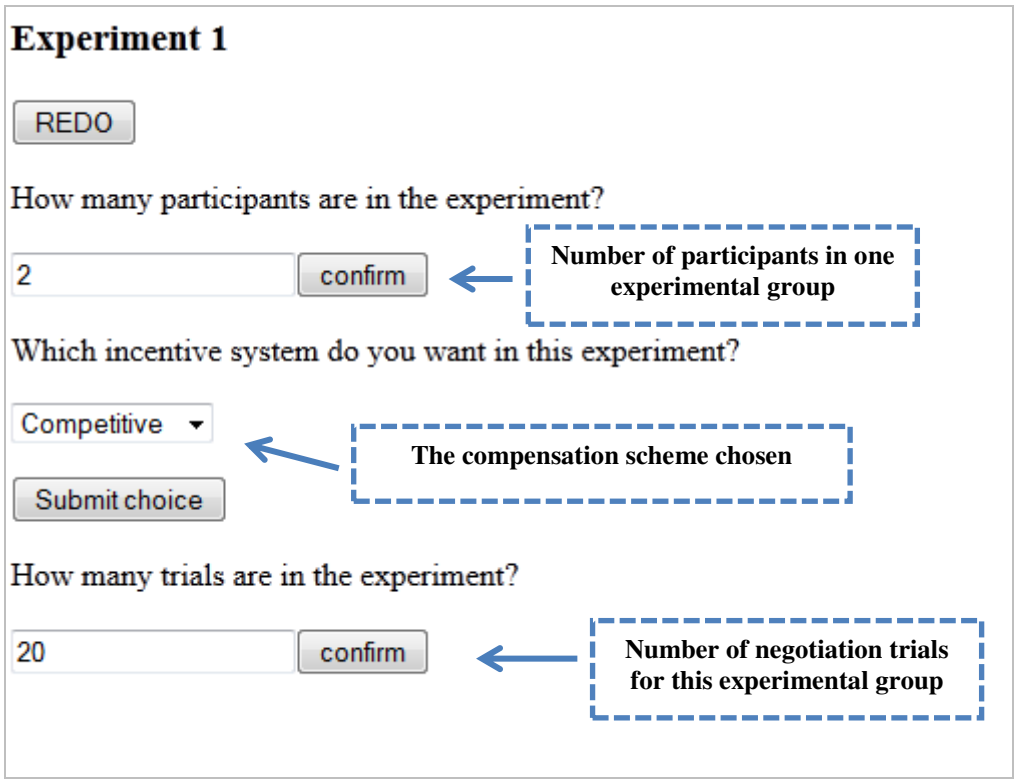
Screenshot 6.4.1



The control centre then redirected the session administrator to enter the parameters for each experiment.[68] These parameters included (1) the number of participants in the specified experimental group, (2) the incentive compensation scheme (competitive or cooperative), and (3) the number of trials for the experiment (see Screenshot 6.4.2).

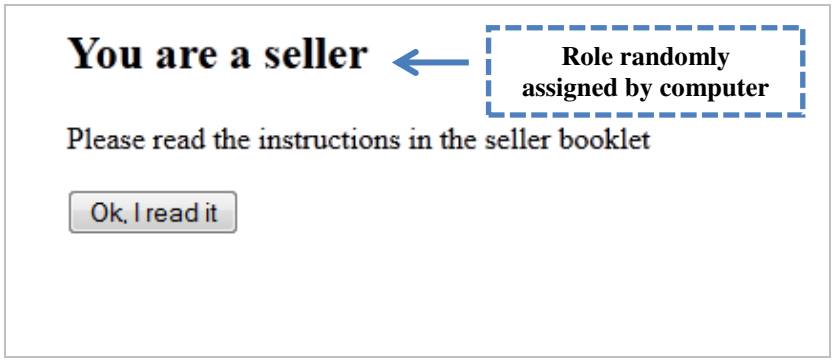
[68] In this example, only one experiment was entered. As such, the session administrator only had to enter the parameters for that one experiment.

Screenshot 6.4.2



As participants clicked “Continue” to enter the program, they were randomly assigned as buyers or sellers (see Screenshot 6.5 for an example). Participants were then told to read the experimental booklet relevant to their roles.

Screenshot 6.5



6.7.2 Experimental Booklet

The experimental booklet consisted of background information to the negotiation task (see Appendix C 6.2, p. 241). It explained a scenario where a company, XYZ, had two divisions – Parts and Assembly. Parts division (the "Seller") had manufactured a product 'Alpha', which could be sold to the Assembly division (the "Buyer") or to the outside market. Similarly, the manager of the Assembly division (the "Buyer") could choose to either buy 'Alpha' from the Parts division (the "Seller") or from the outside market. Parts and Assembly divisions were autonomous and both managers were free to either negotiate a mutually acceptable transfer price or to trade with outsiders at the prevailing market price which varied each period (between $14 and $26). However, should either manager trade in the outside market, they would each incur a transaction cost of $2 for that period.

A profit schedule illustrating the implications of a range of possible transfer prices for both parties (between $14 where the profit for seller was $4 and $16 for buyer; and $26 where the profit for seller was $16 and $4 for buyer) was included in the experimental booklet (see Table 1, Appendix C 6.2, p. 244). Participants were free to choose any transfer price within the specified price range ($14 to $26).[69] An example of each manager's profit split based on an agreed transfer price was given. For example, at a transfer price of $22, the profit split for seller and buyer was $12 and $8 respectively. Participants were also reminded that a transaction cost of $2 would be incurred in any period in which either of them decided to trade with outsiders, thus affecting their final profit figure. This meant that if they traded at the market price of $22, the profit split would then be $10 and $6 for seller and buyer respectively.

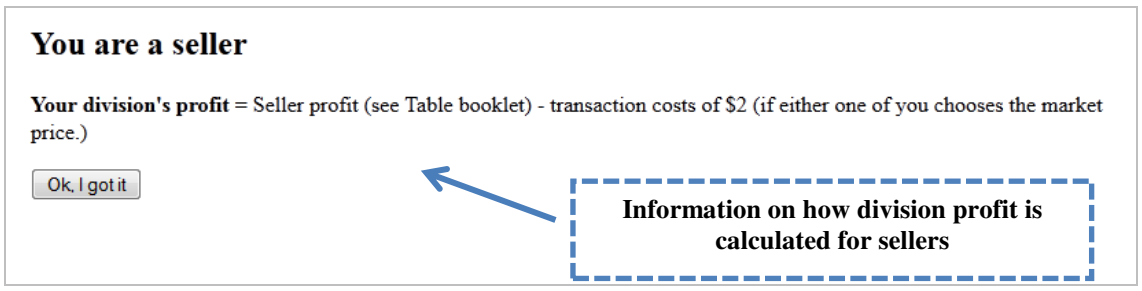
[69] The equilibrium profit price was $20.

At the end of the booklet, participants were told they would negotiate a total of 20 rounds over the course of the experiment. Each round had a one minute time limit and should they not reach agreement before the timer ran out, they would be forced to transact in the outside market and incur a $2 transaction cost. At the end of the booklet, participants were told to wait for further instructions from the session coordinator before proceeding to the negotiation task on the computer.

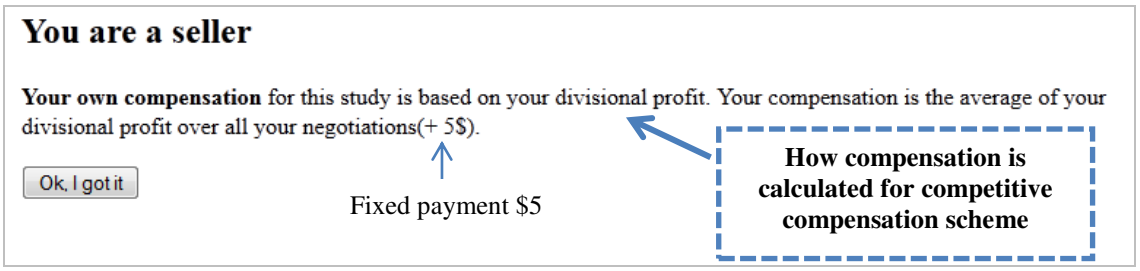
Once participants finished reading the experimental booklet, the session administrator instructed participants to read the information presented on their computer screens carefully and to follow the prompts (i.e. "OK, I read/got it"). Information regarding how participants' division's profits were to be calculated (see Screenshot 6.6 for an example of a seller's screen), followed by how their compensation for the experiment was to be calculated, was presented (see Screenshot 6.7).[70] This was added to reiterate the information presented in the experimental booklets and was done to ensure participants fully understood the conditions in the negotiation rounds (see Appendix C 6.3, p. 247 for an example of a buyer's screen).[71] Following these prompts, participants proceeded to the negotiation task on the computer.

[70] Participant's compensation had two components – a fixed fee ($5) and a variable component based on their average division profits made in the negotiation task.
[71] Information regarding calculation of participant's division profit and compensation was reiterated and required participants to click on "OK, I got it" to ensure they fully understood the conditions (for example, see Screenshot 6.7).

Screenshot 6.6



Screenshot 6.7



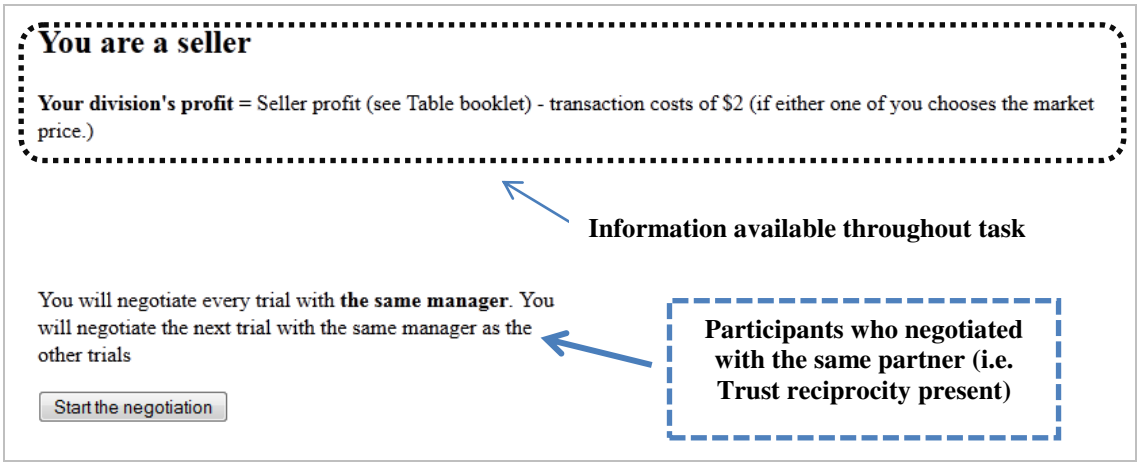
6.7.3 The Negotiation Task

The main experimental task consisted of the negotiation process. The objective was to gather information on the way participants negotiate and how that may change over multiple periods.

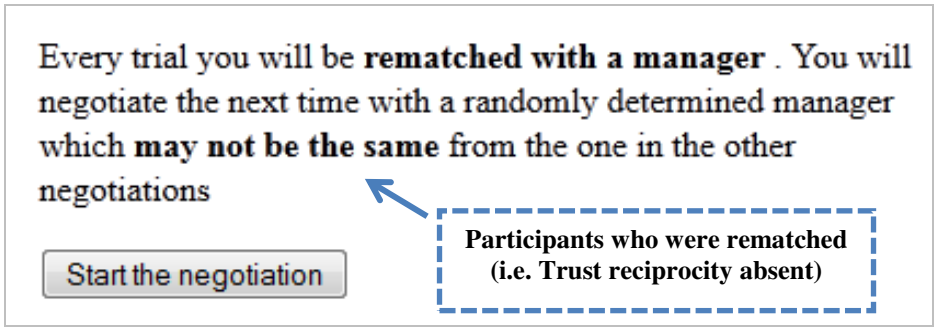
Before each negotiation round in the computer task, participants were given information on whether they were negotiating with the same manager or rematched with a manager for the entire negotiation (see Screenshot 6.8.1 for an example of negotiating with the same manager). This depended on the condition in which they were assigned to (trust reciprocity present or trust reciprocity absent) and this condition remained the same for the entire experiment. To ensure participants understood this, they were shown the information at the start of each negotiation round. In addition, participants' role and information as to how their division's profit was to be calculated was shown in the same

screen area throughout the experiment (see Screenshot 6.8.1). An example of information presented to participants if they were rematched with a manager is shown in Screenshot 6.8.2. The following sections demonstrate a series of (six) negotiation rounds that covers some of the permutations possible in Study Two.

Screenshot 6.8.1



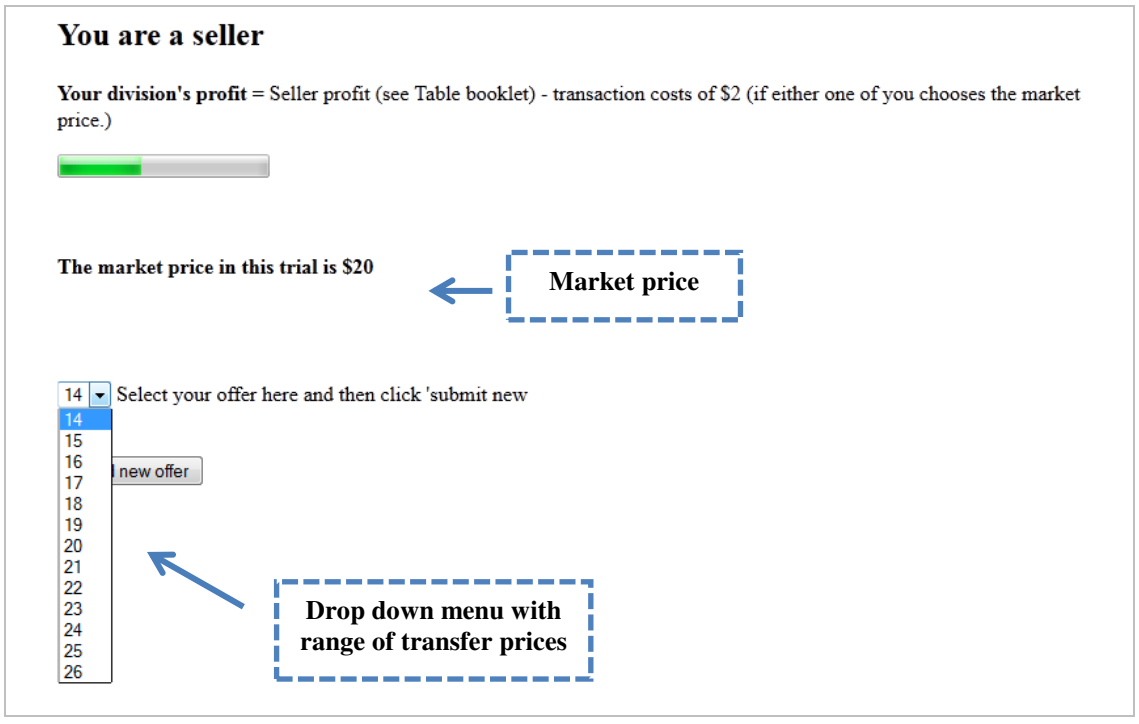
Screenshot 6.8.2



6.7.3.1 Round #1

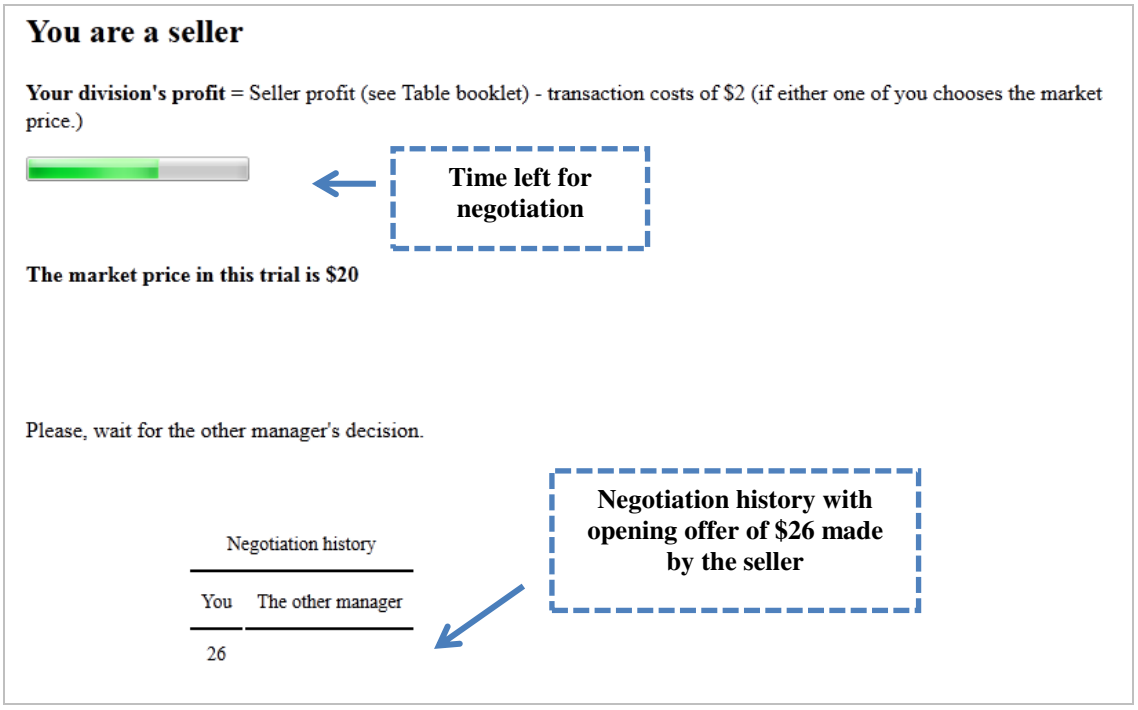
As soon as participants started a negotiation round, they were given the market price for the current negotiation round. They were then either asked to make an opening offer to their negotiating partner, or to wait for their negotiating partner to make them an opening offer. The process of who got to make the opening offer was randomized by the computer program for every negotiation round and offers were made by clicking a transfer price from a drop down menu (see Screenshot 6.9.1 where the seller got to make the opening offer).

Screenshot 6.9.1



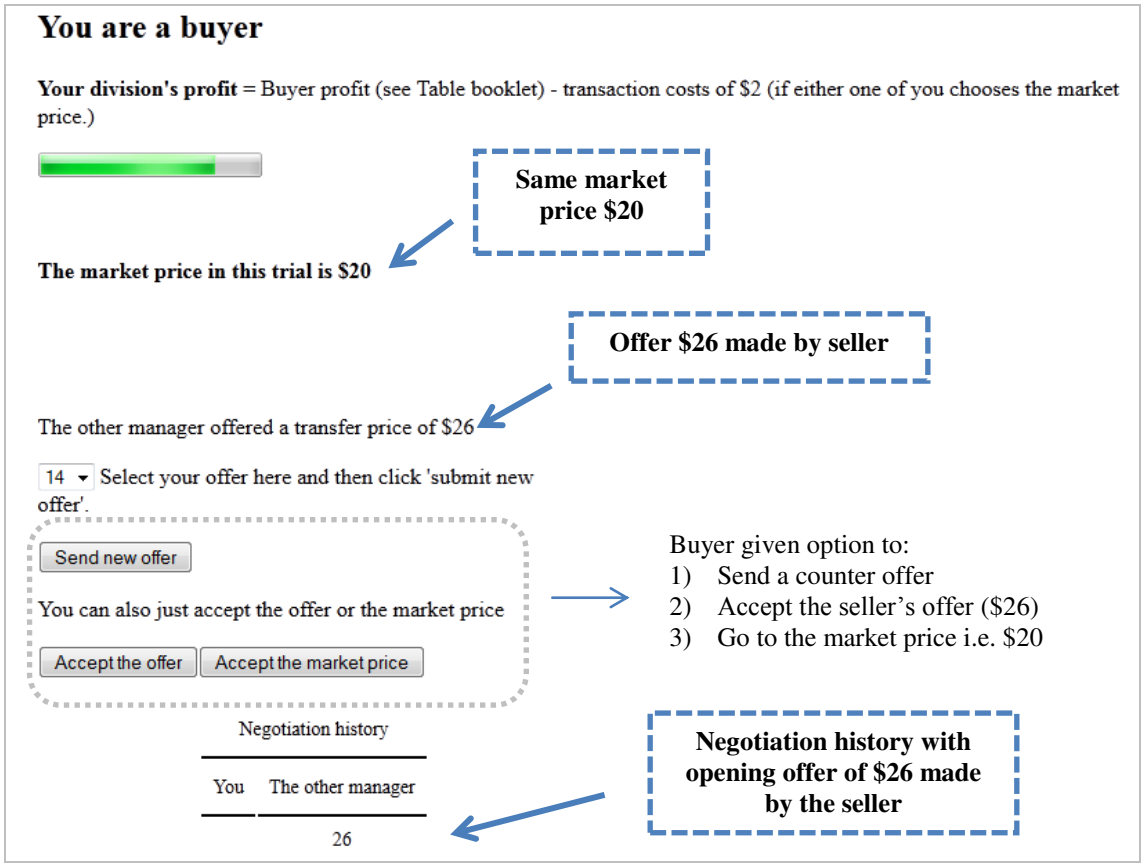
This offer was then sent to the negotiating partner. In the instance depicted in Screenshot 6.9.2, the seller made an opening offer of $26 which was sent to the negotiating partner, the buyer, as soon as the seller clicked “send new offer”. The opening offer of $26 was presented in a negotiation history table. The seller was told to wait for the buyer’s decision and a timer indicated at the top of the screen illustrated the time left for the particular negotiation round (see Screenshot 6.9.2).

Screenshot 6.9.2



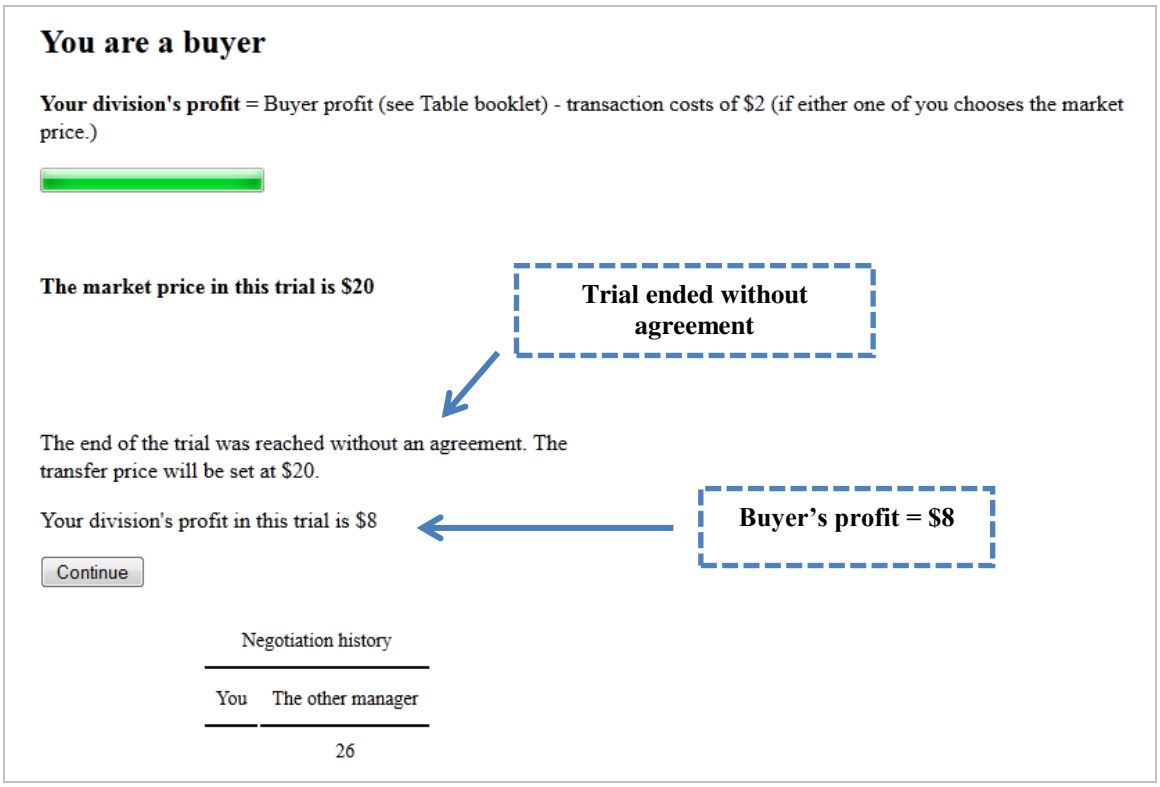
The anonymous buyer, on a separate computer, was told of the offer made and given the option to submit a counter offer, accept the other manager's offer, or to accept the market price for that period (see Screenshot 6.9.3). The table of each participant's negotiation history for a period was updated each time an offer and counter-offer was made in a negotiation round.

Screenshot 6.9.3



At the end of each negotiation round, participants were told how the negotiation ended (in agreement or not) (see Screenshot 6.9.4). In this case (Round #1), the timer of 60 seconds ran out and negotiation was not reached. As such, the negotiation automatically went to the market price for the period ($20) (see Appendix C 6.4, p. 248 for seller's screen). Participants were told in the experimental booklet that failure to reach agreement meant they had to transact in the outside market. As such, the division profit for the buyer in this instance was $8 as calculated by the computer program using the formula provided at the top of the screen.[72]

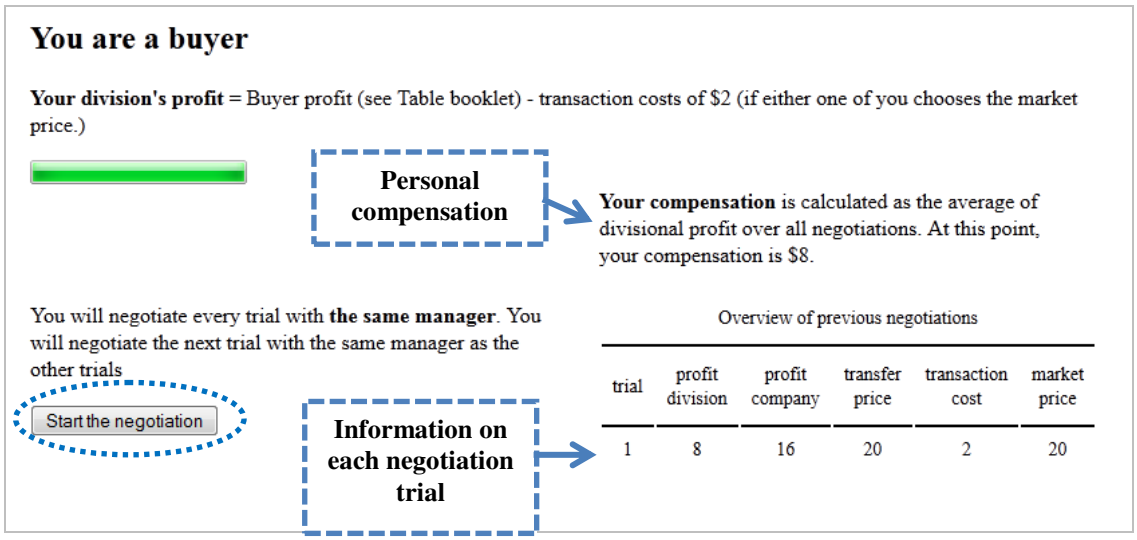
Screenshot 6.9.4



[72] $20 would result in equilibrium profit price of $10 each. At the market price of $20, each manager's profit was calculated as $10 – $2 (transaction cost) = $8.

Participants were also presented with a table with an overview of the previous negotiation rounds. This table comprised information relating to their division's profit, the company's profit, the transfer price, any transaction costs incurred, and the market price for a period. Each participant's compensation was also individually calculated and updated at the end of every negotiation round based on the average profits made up to a particular round (see Screenshot 6.9.5). In this case, the buyer in Round #1 had earned $8 based on how the first round was negotiated. Participants had to then click on "Start the negotiation" to commence negotiations for the next round.

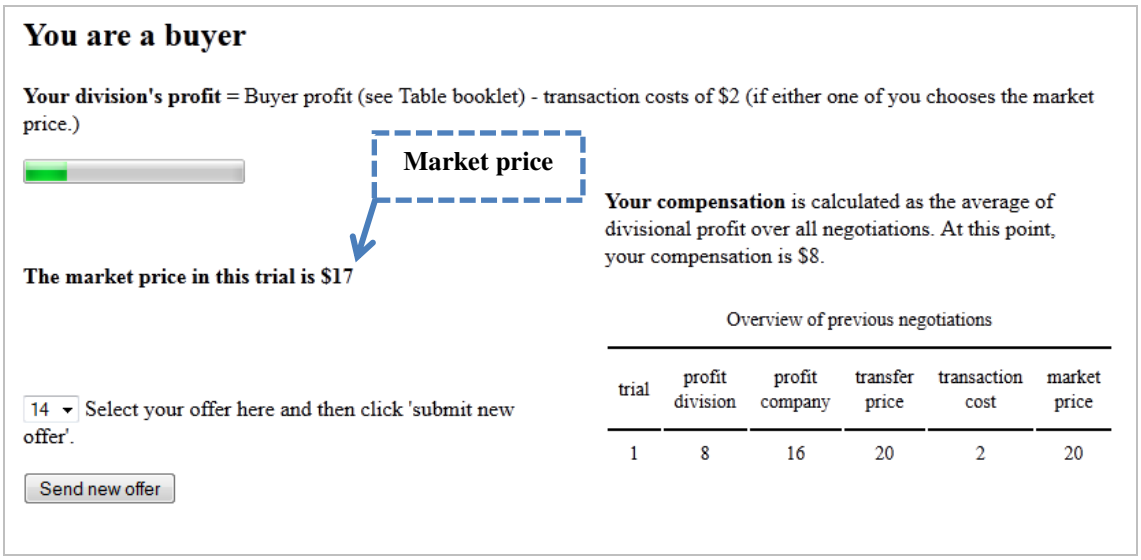
Screenshot 6.9.5



6.7.3.2 Round #2

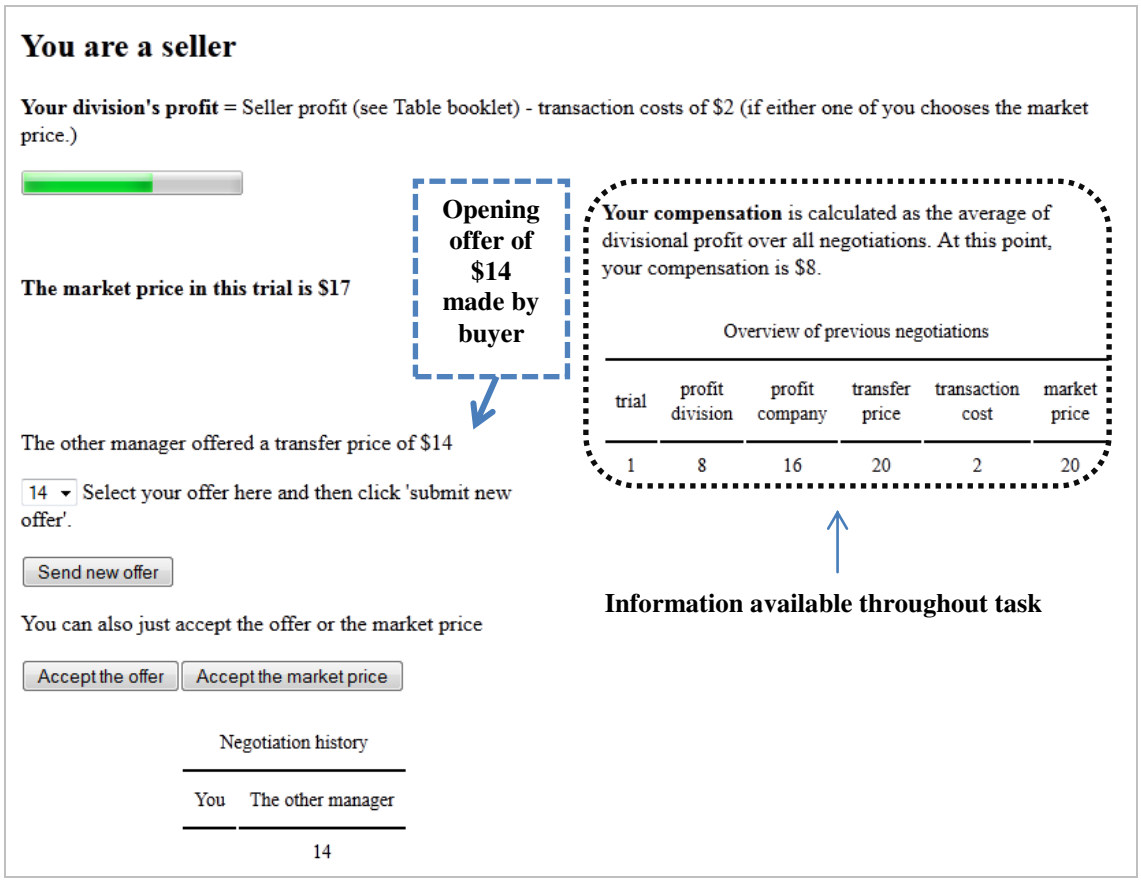
In the second round, the example below shows that the buyer got to make the opening offer based on randomization of the computer program. The market price for the second round was $17 (see Screenshot 6.10.1).

Screenshot 6.10.1



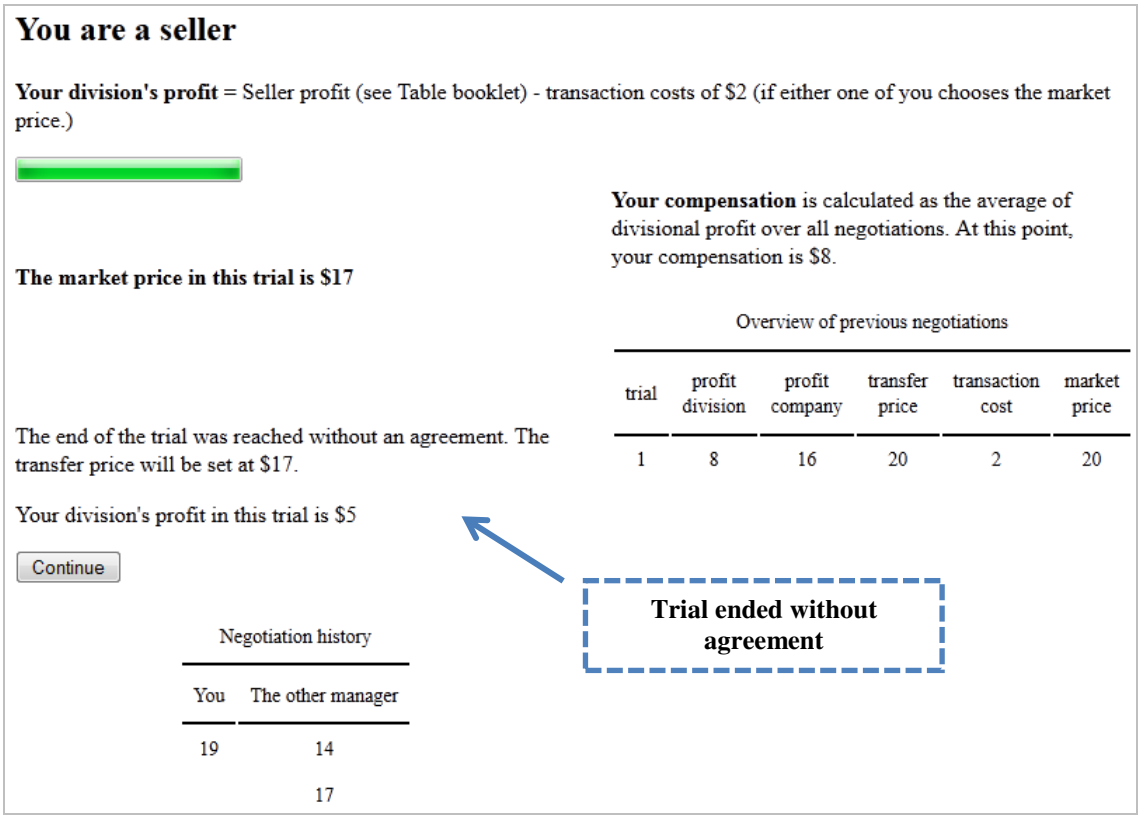
In this case the buyer sent an opening offer of $14 and the information was available on the seller's screen (see Screenshot 6.10.2). As shown in Screenshot 6.10.2, the total compensation and overview of previous negotiations was available to participants should they wish to make reference.

Screenshot 6.10.2

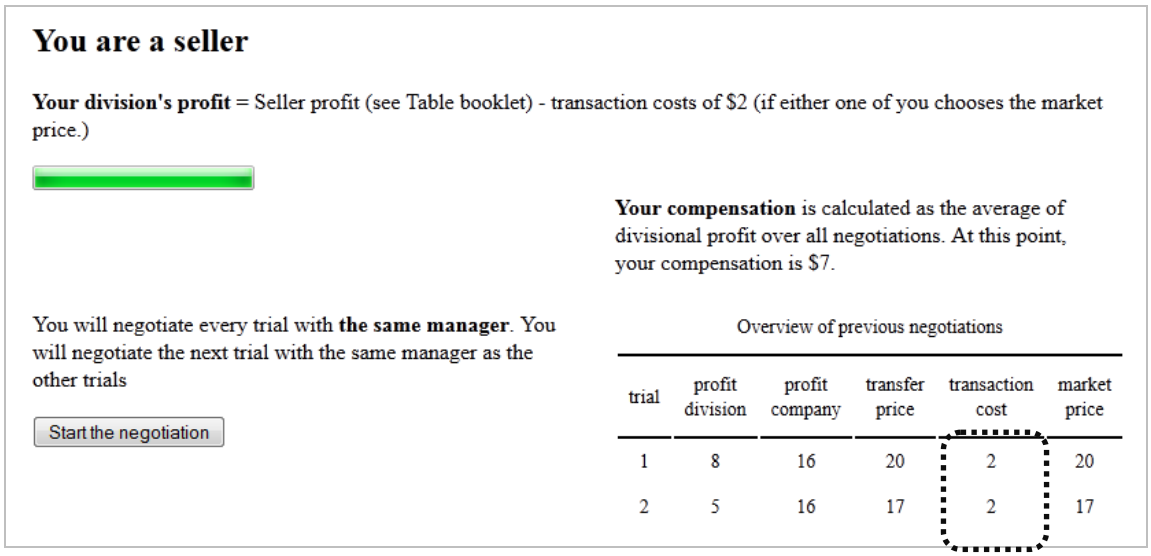


The negotiation ended without agreement in the second round (see Screenshot 6.10.3). As a result, both participants went to the market and a $2 transaction cost was incurred (see Screenshot 6.10.4).

Screenshot 6.10.3



Screenshot 6.10.4



You are a seller

Your division's profit = Seller profit (see Table booklet) - transaction costs of $2 (if either one of you chooses the market price.)

Your compensation is calculated as the average of divisional profit over all negotiations. At this point, your compensation is $7.

You will negotiate every trial with **the same manager**. You will negotiate the next trial with the same manager as the other trials

Start the negotiation

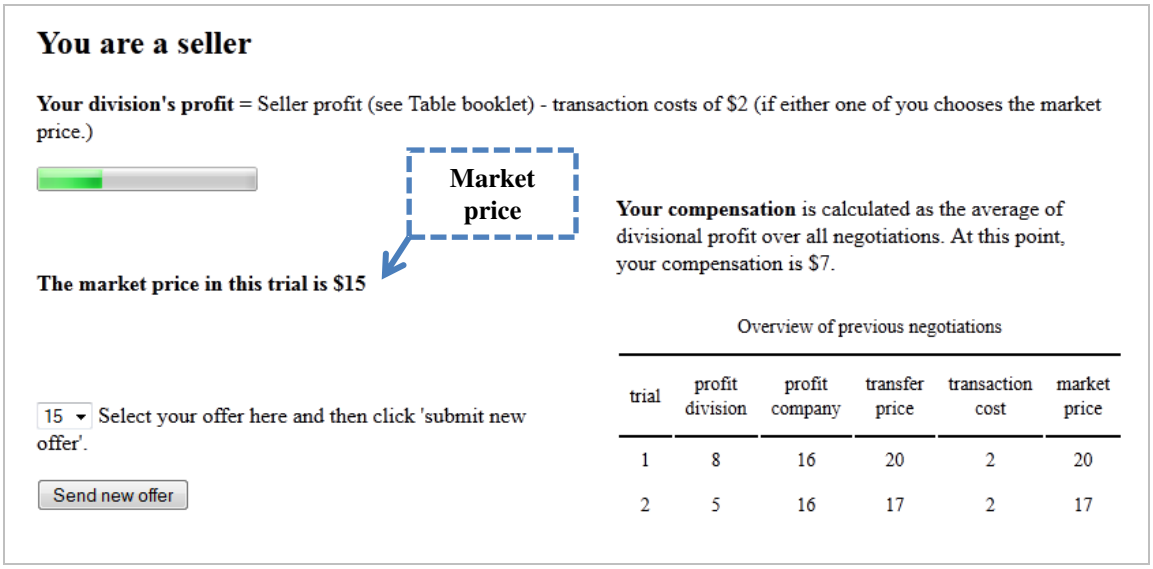
Overview of previous negotiations

trial	profit division	profit company	transfer price	transaction cost	market price
1	8	16	20	2	20
2	5	16	17	2	17

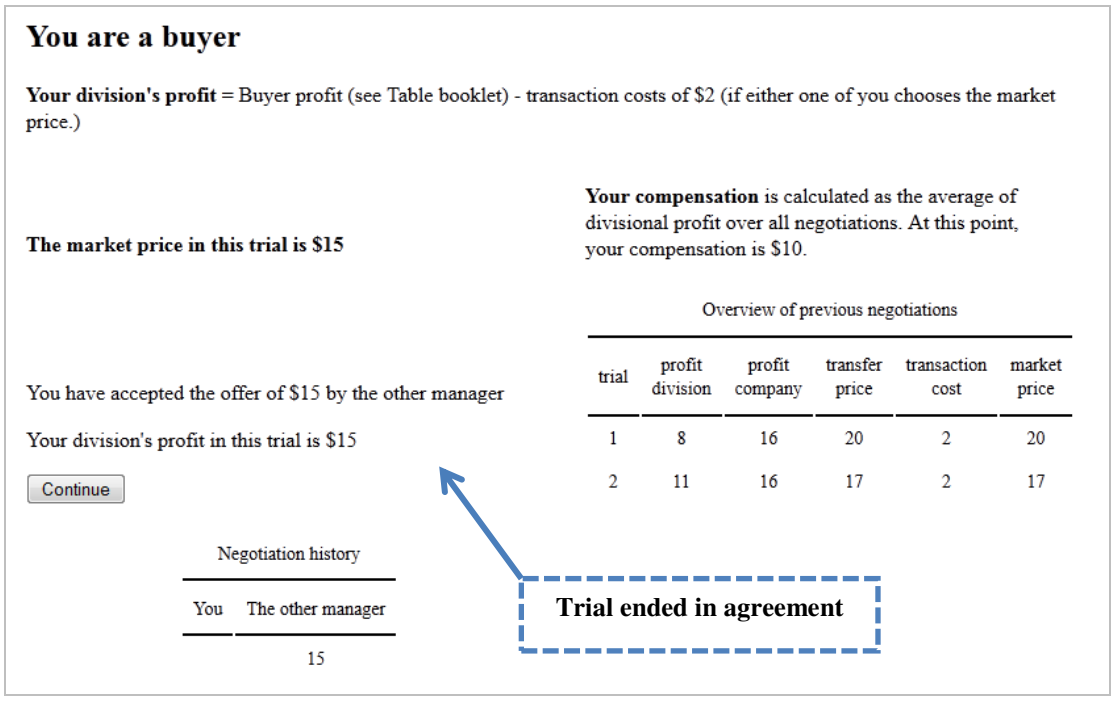
6.7.3.3 Round #3

In the third round, the seller made the opening offer. The market price for the third round was $15 (see Screenshot 6.11.1). The seller's offer was accepted by the buyer and the round ended in agreement (see Screenshot 6.11.2 and Screenshot 6.11.3 for buyer's and seller's screen).

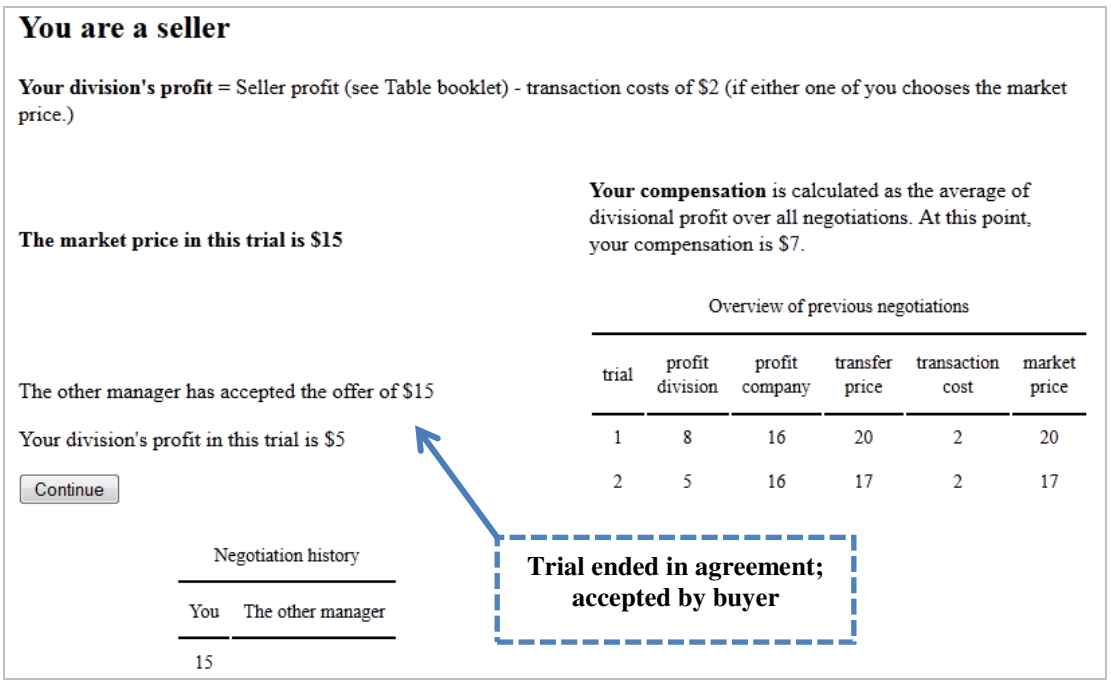
Screenshot 6.11.1



Screenshot 6.11.2

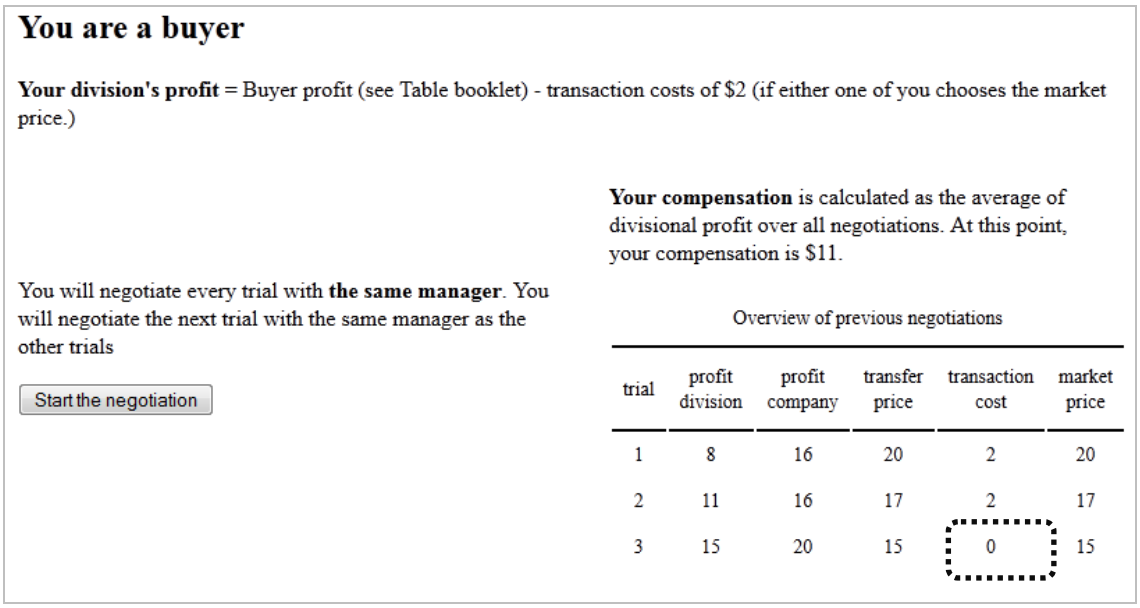


Screenshot 6.11.3



The overview of previous negotiations and compensation to each participant was updated accordingly. Unlike the previous two rounds, no transaction cost was incurred in the third round as agreement was reached between the negotiating parties (see Screenshot 6.11.4).

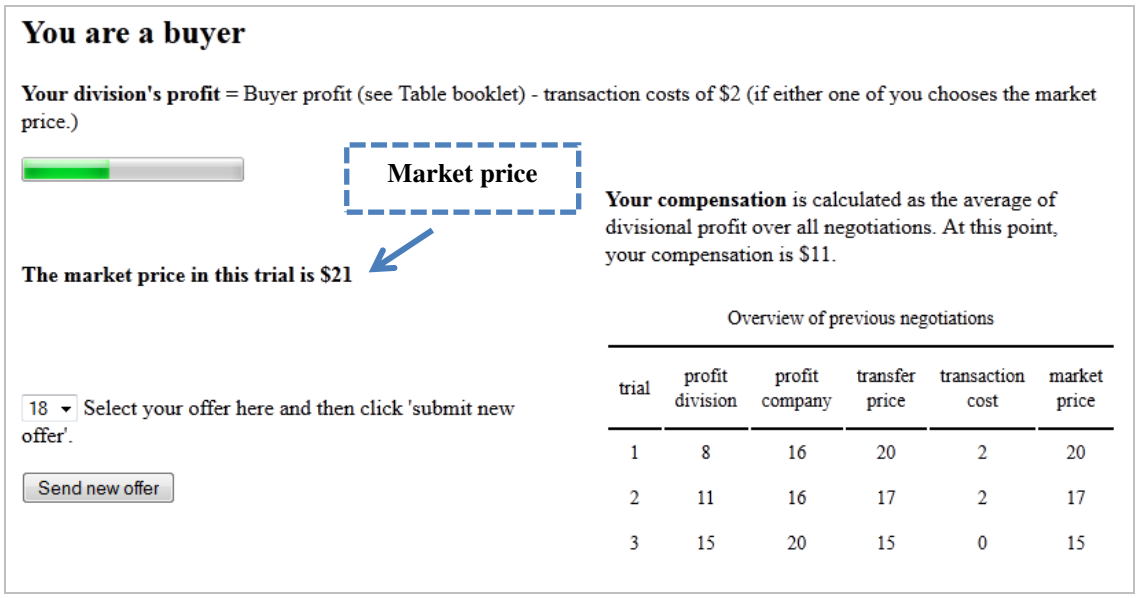
Screenshot 6.11.4



6.7.3.4 Round #4

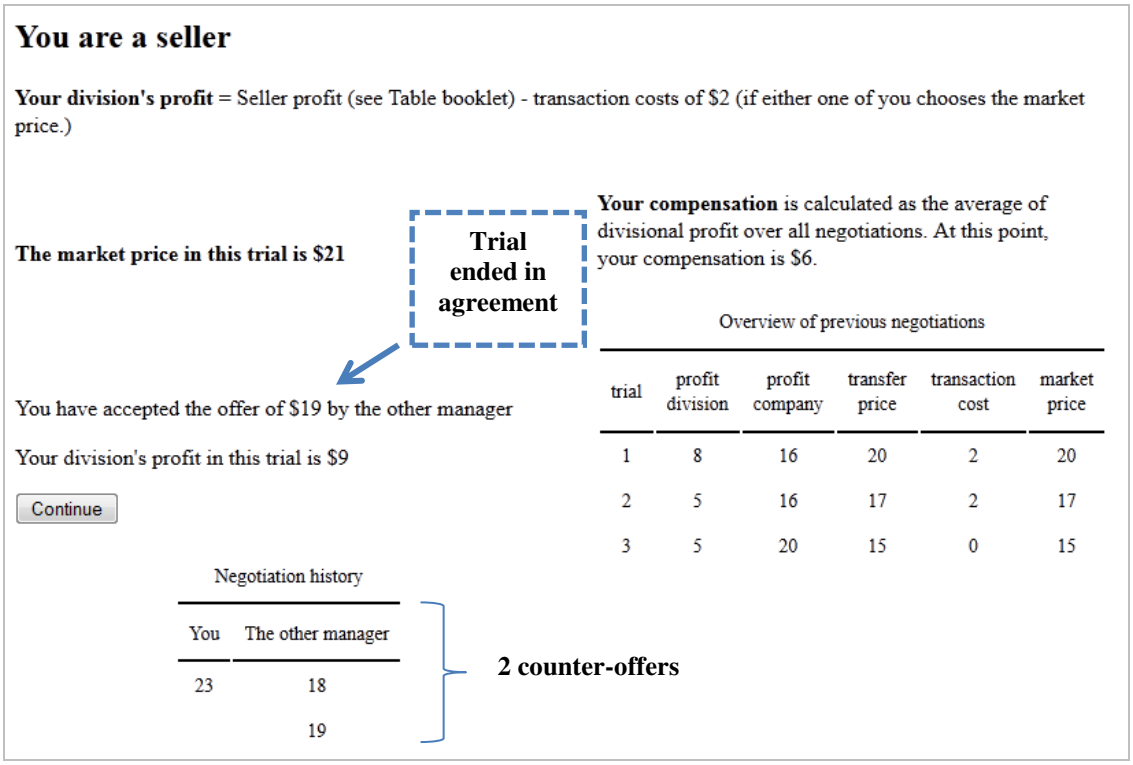
In round four, the buyer made the opening offer and the market price was $21 (see Screenshot 6.12.1).

Screenshot 6.12.1



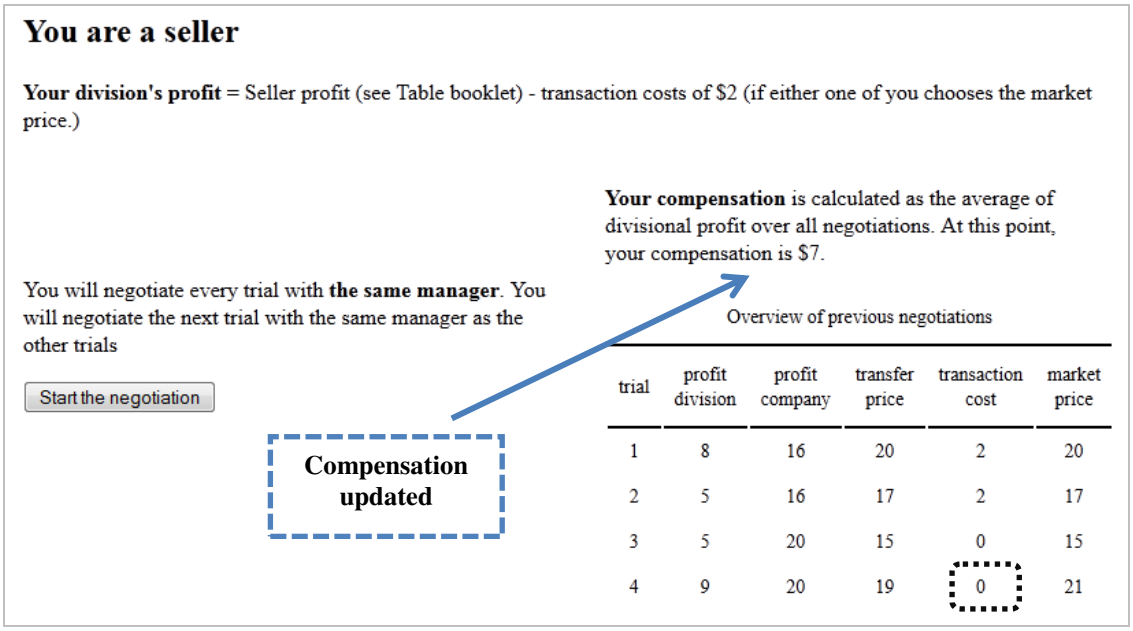
After two counter-offers (one by the buyer and another by the seller), the seller's offer of $19 was accepted by the buyer and the round ended in agreement (see Screenshot 6.12.2).

Screenshot 6.12.2



As the negotiation ended in agreement, no transaction cost was incurred (see Screenshot 6.12.3). As per previous rounds, the compensation that comprised the average of profits earned over all rounds was updated.[73]

Screenshot 6.12.3



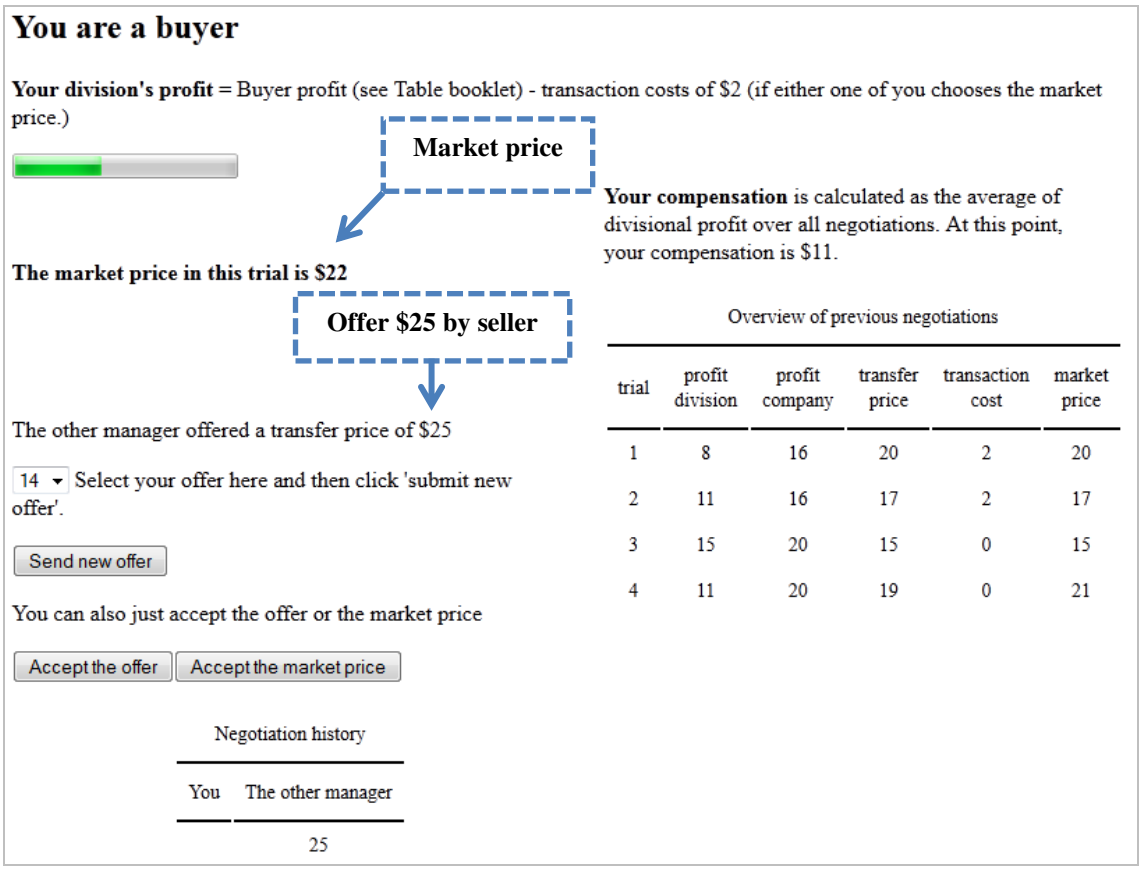
[73] The compensation was calculated as the average of division profit of all four rounds. That is, (8+5+5+9)/4 = $6.75. The amount was rounded to the nearer whole number ($7).

6.7.3.5 Round #5

In the fifth round, the seller made an opening offer of $25and the market price was $22.

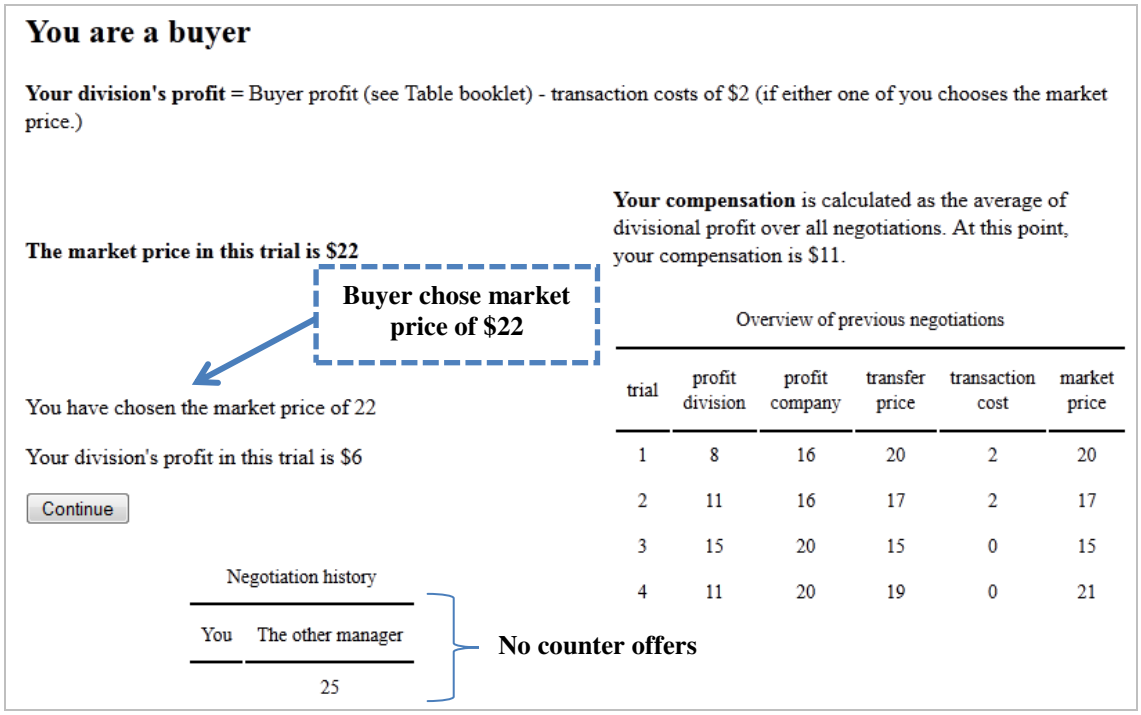
This was reflected in the buyer's screen (see Screenshot 6.13.1).

Screenshot 6.13.1



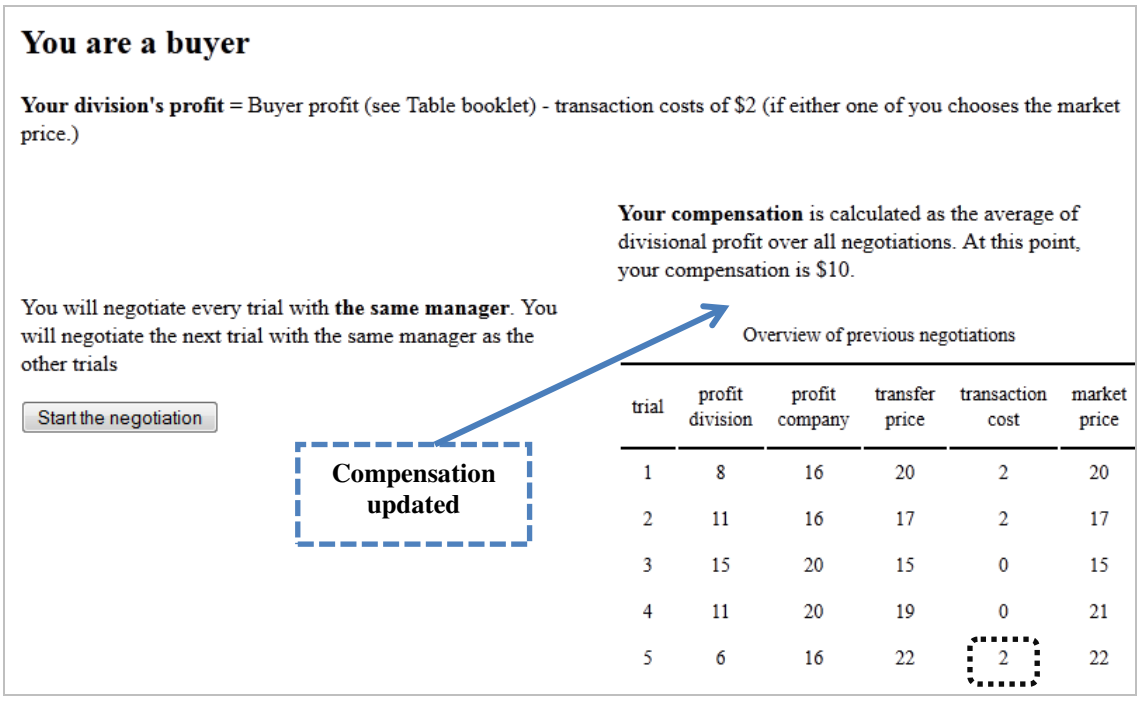
In this instance, the buyer went straight to the market by accepting the market price without negotiating with the seller (see Screenshot 6.13.2). This meant that no agreement was reached and a $2 transaction cost was incurred for both parties.

Screenshot 6.13.2



Accordingly, the transaction cost incurred was shown in the overview table and the compensation up to that point was updated (see Screenshot 6.13.3).

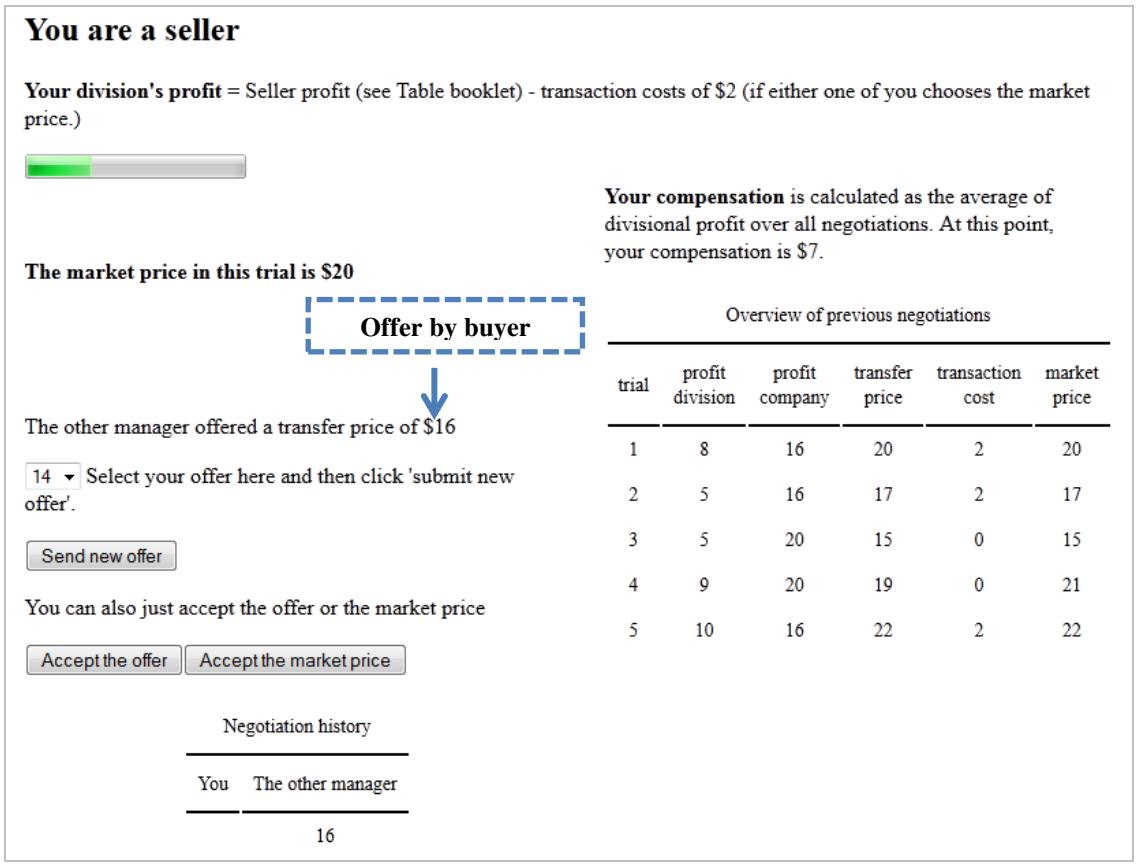
Screenshot 6.13.3



6.7.3.6 Round #6

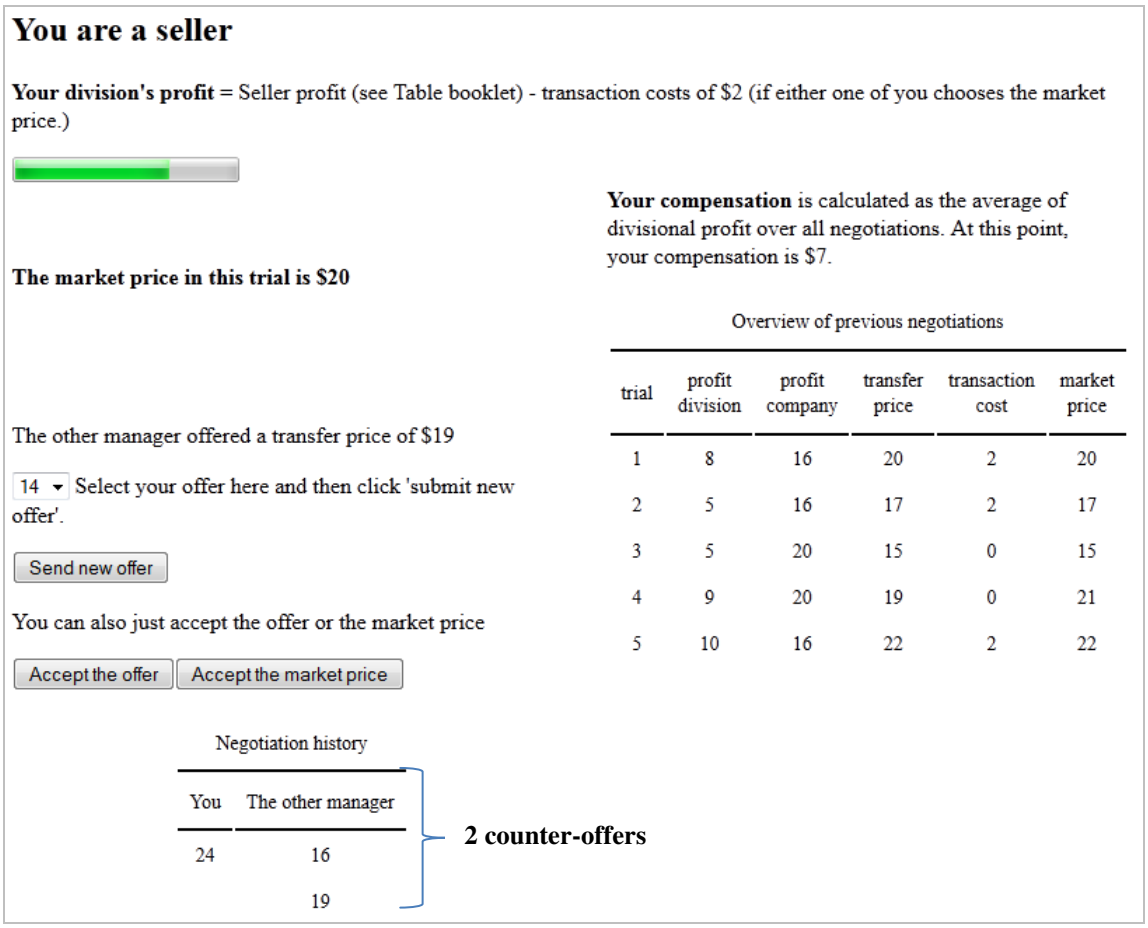
The buyer made the opening offer in round six. This was reflected in the seller's screen (see Screenshot 6.14.1).

Screenshot 6.14.1



In this example, the seller made a counter-offer of $24, and the buyer made another offer of $19 (see Screenshot 6.14.2).

Screenshot 6.14.2



You are a seller

Your division's profit = Seller profit (see Table booklet) - transaction costs of $2 (if either one of you chooses the market price.)

Your compensation is calculated as the average of divisional profit over all negotiations. At this point, your compensation is $7.

The market price in this trial is $20

Overview of previous negotiations

trial	profit division	profit company	transfer price	transaction cost	market price
1	8	16	20	2	20
2	5	16	17	2	17
3	5	20	15	0	15
4	9	20	19	0	21
5	10	16	22	2	22

The other manager offered a transfer price of $19

14 Select your offer here and then click 'submit new offer'.

Send new offer

You can also just accept the offer or the market price

Accept the offer | Accept the market price

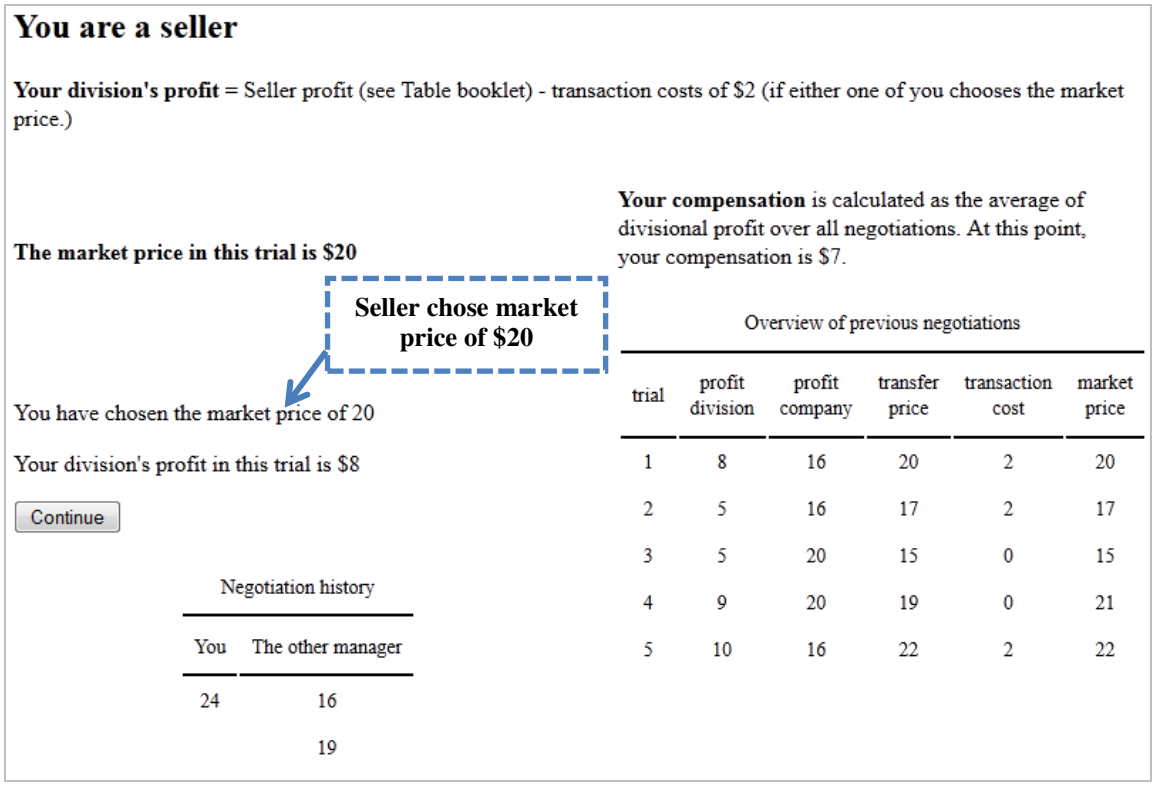
Negotiation history

You	The other manager
24	16
	19

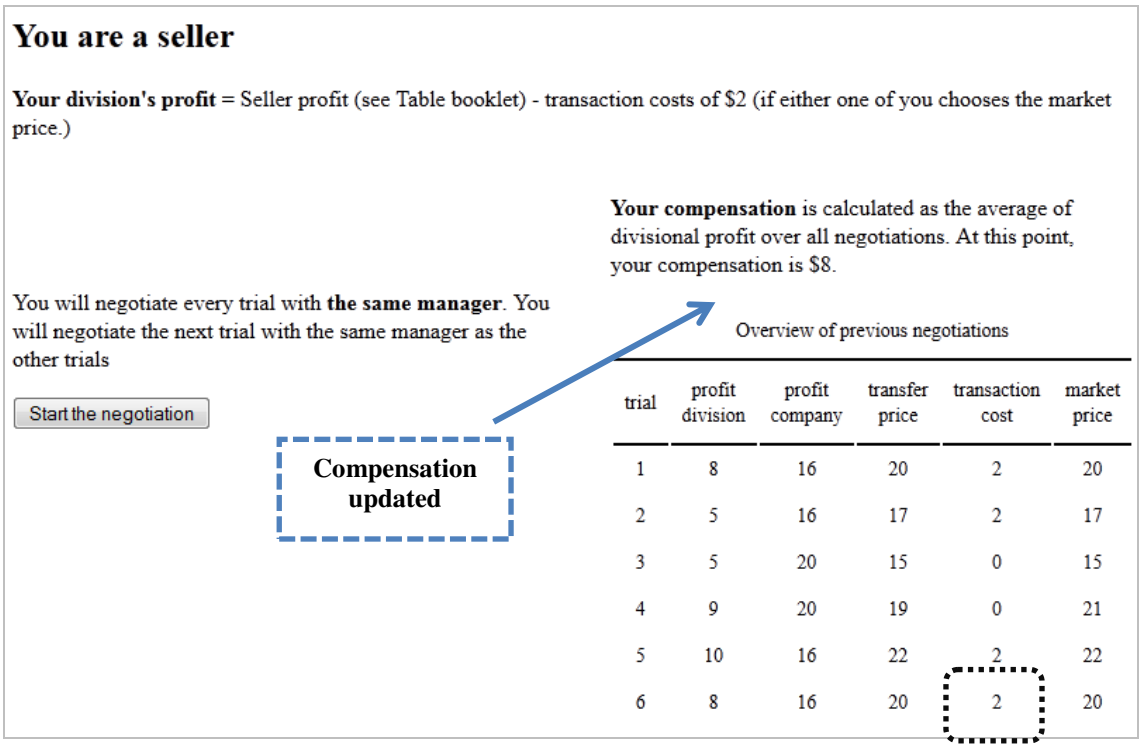
2 counter-offers

However, the seller in round six decided to end the negotiation by choosing the market price of $20 (see Screenshot 6.14.3). As such, no agreement was reached and a $2 transaction cost was incurred for both parties. The updates from round six are shown in Screenshot 6.14.4.

Screenshot 6.14.3



Screenshot 6.14.4



At the end of the 20 negotiation rounds, participants answered a series of questions covering to manipulation checks, demographics and perceptions.

6.7.4 Independent Variables

Two experimental factors were manipulated. *Negotiator Role* was manipulated by randomly assigning participants to the role of either a seller (Parts manager) or buyer (Assembly manager), and *Trust Reciprocity* was manipulated by randomly assigning participants to negotiate with either the same manager throughout the experiment, or to be rematched with a manager during each round of the experiment. As such, trust reciprocity had to be inferred by the participants. Both manipulations were randomly assigned by the computer program.

6.7.5 Dependent Variable

The negotiation resulted in a dyadic outcome. As such, several variables were captured during the experiment. These include the opening offer, the transfer price, how the negotiation ended (i.e. whether it was accepted, timer ran out, or went to the market price), as well as the market price for the rounds. For the purposes of analysis (in Chapter 7), rounds 1 to 5 were treated as trial-runs, rounds 6 to 16 were the actual negotiation session, and rounds 17 to 20 were excluded in order to eliminate learning and end-game effects (see Fisher et al. 2002a; Fisher et al. 2002b).[74]

To test hypothesis H4, the opening offers in negotiation rounds 6 to 16 were used as the dependent variable. The initial opening offer (for buyer and seller) was used because self-serving bias theory predicts that sellers view the market price (a higher price) to be the fairer transaction price, while buyers expect the equal profit-price to be a fairer price.[75]

[74] Feedback from participants of the second pre-test indicated that it took four to five rounds of negotiation in order to fully understand how the negotiation task worked. As such, rounds 1 to 5 were treated as trial-runs.

[75] The final transfer price was not used as it reflects either the agreed negotiated transfer price at the end of each round, or the external market price if successful negotiation was not achieved.

The final negotiated transfer price and adjusted final transfer price were used to test H5. The adjusted final transfer price takes into consideration the market price as the market price differed between each round of negotiation. This adjustment was done to ensure that any fluctuations in the market price between each round would be controlled for.

6.7.6 Manipulation Checks

At the end of the experiment, participants were presented with manipulation check questions to determine if they understood the conditions they were assigned to. They had to identify (1) their role, (2) how their personal compensation was calculated, and (3) whether they negotiated with more than one manager (refer to Table 6.1).

Table 6.1 Manipulation Check Questions

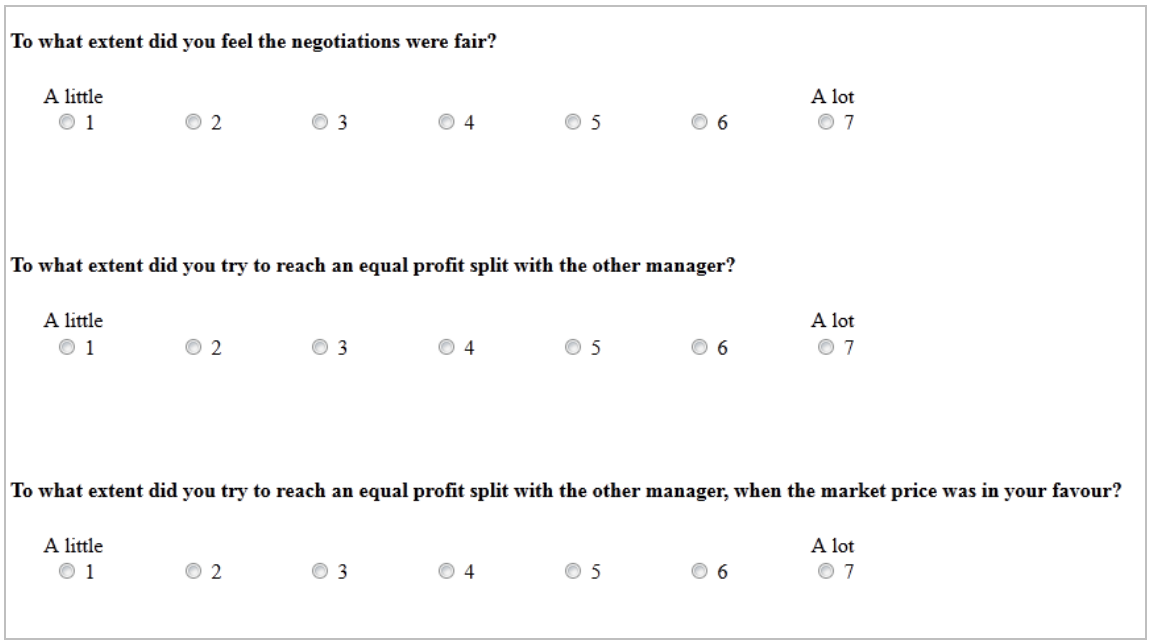
Manipulation Check Question
What role did you take during the negotiation? A. Buyer B. Seller
Your personal compensation depended on: A. Your division's profit only B. Your division's profit and the other division's profit, i.e. the company profit
Did you negotiate with more than one manager? A. Yes B. No

6.7.7 Exit questions, Scale and Demographic Questions

Exit questions and a scale were included to better understand the choices participants made and for use in further analysis of the data. These questions include participants' perceptions of the other manager, the negotiation process, and the fairness of the negotiations. They also provided their experience in similar tasks, their thoughts on the

negotiation task and their strategy during the negotiation tasks. A Likert-type scale of 1 (a little) to 7 (a lot) was mainly used for these questions (for example, see Screenshot 6.15). Another Likert type scale (also used in Study One) that measured participants' attitude and perceptions of fairness and trust reciprocity (adapted from Maas et al. 2012) was also presented. This scale varied from 1 (strongly disagree) to 5 (strongly agree) and consisted of nine questions.[76] At the end, participants were asked to enter demographic information and were paid based on their profits from the negotiation task. Refer to Appendix C 6.5 (p. 249) for list of questions asked.[77]

Screenshot 6.15



[76] For the purposes of this study, only the fairness component (question 1 to 5) was analysed.
[77] Unfortunately, results from these questions cannot be included in the analysis due to the collation of data which proved impossible to accurately extract and match.

CHAPTER 7

STUDY TWO

DATA ANALYSIS AND RESULTS

7.0 Introduction

This chapter presents the results of the data analysis and tests of hypotheses for Study Two. Section 7.1 discusses the variables of interest and the relevant descriptive statistics. Section 7.2 shows the distributive analysis while Section 7.3 presents the correlation matrices. A repeated measure Analysis of Variance (ANOVA) is employed to test the various hypotheses developed for Study Two. Results are presented in Sections 7.4. Additional analyses are shown in Section 7.5 and Section 7.6 discusses the sensitivity of the results to the inclusion of the fairness concerns variable (robustness test). A summary of the results is presented at the end of the chapter in Table 7.11.

7.1 Descriptive Statistics

Table 7.1 presents the descriptive statistics for the variables used in Study Two. These variables include negotiator role, trust reciprocity, fairness concerns, opening offer and final negotiated transfer price. Table 7.1 shows the theoretical and actual ranges for the main variables.

Similar to Study One, participants' perceptions of fairness (fairness concerns) were measured using a five-item Likert scale adapted from Maas et al. (2012) (see scale in Appendix C 6.5, p. 249, Questions 1 to 5). This scale varied from 1 (strongly disagree) to 5 (strongly agree). To test for construct validity, a factor analysis was conducted. Results (not reported) indicated that question 2 had low factor loading, and question 5 had low factor loading and high cross loading. As such, both questions were removed. The remaining three items (questions 1, 3 and 4) had a Cronbach's alpha coefficient (Cronbach 1951) of 0.74, suggesting satisfactory internal reliability for the scale (Nunnally 1967). The mean of the three-item fairness concern questions was used to split the participants into those with lower and higher fairness concerns respectively.[78]

[78] The analysis and outcome were essentially the same as in Study One.

Table 7.1

Descriptive Statistics (n = 64)

Rounds 6 to 16*

Variables	Mean	Standard Deviation	Theoretical Range	Actual Range
NR = Negotiator Role	-	-	0, 1	0, 1
TR = Trust Reciprocity	-	-	0, 1	0, 1
FC = Fairness Concerns	0.547	0.502	0, 1	0, 1
OF = Opening Offer ($)	19.497	2.288	14 to 26	14 to 26
ANTP = Adjusted Negotiated Transfer Price ($)	0.496	0.732	Not Applicable	-1.82 to 1.55
FNTP = Final Negotiated Transfer Price ($)	19.585	1.473	14 to 26	14 to 26

*Rounds 1 to 5 were treated as the trial-run session. Rounds 6 to 16 were the actual negotiation session. Rounds 17 to 20 were excluded in order to eliminate learning and end-game effects (see Fisher et al. 2002a; Fisher et al. 2002b).

Definition of Variables	Measures
NR	0 = "Seller" and 1 = "Buyer"
TR	0 = "Trust Reciprocity Present" and 1 = "Trust Reciprocity Absent"
FC	0 = "Low Fairness Concerns" and 1 = "High Fairness Concerns" rescaled based on the following questions: "Managers who act cooperatively should be rewarded", "Managers who act in the common interest should be rewarded", "Managers who act in the common interest should get a fair return" (Scaled from 1 = 'Strongly disagree' to 5 = 'Strongly agree').
OF	The first offer made by each participant from Rounds 6 to 16
ANTP	The difference between the final negotiated transfer price and market price from Rounds 6 to 16 [Note: The difference between the final negotiated transfer price and equal profit price ($20) was also tested. A paired samples t-test indicated that there is no difference when the negotiated transfer price was adjusted for either the market price or equal profit price for Rounds 6 to 16 (t = 0.481, p = 0.632).]
FNTP	The final negotiated transfer price from Rounds 6 to 16

7.2 Frequency Analysis

Participants were randomly assigned to the different conditions (seller or buyer; presence or absence of trust reciprocity).[79] The frequency of these independent variables in Table 7.2 shows that the final sample was moderately even in distribution, in terms of negotiator role and trust reciprocity.

Table 7.2

Summary of Frequency of Independent Variables

Negotiator Role

	Frequency	Percentage	Cumulative Percentage
Seller	33	51.6	51.6
Buyer	31	48.4	100
Total	64	100	

Trust Reciprocity

	Frequency	Percentage	Cumulative Percentage
Present	38	59.4	59.4
Absent	26	40.6	100
Total	64	100	

[79] Trust reciprocity had to be inferred by participants based on the conditions they were given (i.e. whether they were rematched with negotiating partners or not).

7.3 Correlation Matrix

Table 7.3 shows Pearson correlation (Panel A) and Spearman rho (Panel B) correlation matrices for the independent and dependent variables. In both Panels A and B, opening offer is significantly positively correlated with negotiator role and final negotiated transfer price.

Table 7.3 Correlation Matrix

Panel A: Zero-Order (Pearson) Correlation Matrix

Variables	Negotiator Role	Trust Reciprocity	Fairness Concerns	Opening Offers	Adjusted Negotiated Transfer Price	Final Negotiated Transfer Price
Negotiator Role	1.000					
Trust Reciprocity	0.026	1.000				
Fairness Concerns	0.066	-0.078	1.000			
Opening Offers	0.658**	-0.084	0.003	1.000		
Adjusted Negotiated Transfer Price	-0.027	-0.037	-0.040	0.268*	1.000	
Final Negotiated Transfer Price	-0.050	-0.125	-0.145	0.537**	0.413**	1.000

*significant at the 0.05 level (2-tailed); **significant at the 0.01 level (2-tailed)

Table 7.3

Panel B: Spearman Rho Correlation Matrix

Variables	Negotiator Role	Trust Reciprocity	Fairness Concerns	Opening Offers	Adjusted Negotiated Transfer Price	Final Negotiated Transfer Price
Negotiator Role	1.000					
Trust Reciprocity	0.026	1.000				
Fairness Concerns	0.066	-0.078	1.000			
Opening Offers	0.676**	-0.088	0.003	1.000		
Adjusted Negotiated Transfer Price	-0.010	-0.020	-0.020	0.307*	1.000	
Final Negotiated Transfer Price	-0.048	-0.132	-0.095	0.545**	0.450**	1.000

*significant at the 0.05 level (2-tailed); **significant at the 0.01 level (2-tailed)

7.4 Analysis

The experimental task consisted of negotiation between buyers and sellers over 20 rounds. Rounds 1 to 5 are treated as trial-runs so as to familiarise participants to the negotiation task. This is consistent with numerous accounting experimental studies where participants were given the opportunity to familiarize themselves with the experimental task (see Chong & Ferdiansah 2011; Chow 1983; Fisher et al. 2002a, 2006; Fisher et al. 2002b; Webb 2002). Round 6 is therefore considered the initial round of negotiation for this study.

Empirical findings from Prisoner Dilemma games (e.g. Axelrod 1990; Kryazhimskiy 2010) suggest that in a repeated interaction game among players, cooperative behaviour can be sustained or induced as long as there are future incentives available. However, if each player knows that the repeated interaction game is coming to an end (such as towards round 20 in this study), an end-game effect can occur. Thus, when a repeated interaction has a known-end, cooperative behaviour cannot be sustained. Instead, bad behaviour may occur like in a one-shot game. Rounds 17-20 were therefore excluded in order to eliminate learning and end game effects (see Fisher et. al. 2002a; Fisher et. al. 2002b) leaving data from rounds 6 to 16 to be used in the analysis.

7.4.1 Hypothesis H4

H4 predicted that all things being equal, sellers' opening offers would be higher than buyers in a multi-period setting. To test H4, the opening offer rather than the final negotiated transfer price of each buyer and seller dyad was used because: (a) the final negotiated price reflects the transfer price that both parties settled for at the end of the negotiation round (which would be the same for each negotiating dyad), or (b) the final price could have reflected the final settlement based on the external market price (which

is the same for both parties) that was the default option of the computer program if the negotiators did not reach agreement. Unlike prior studies based in a one-shot single-period setting, this study is based on actual negotiation between dyads in a multi-period setting. As such, the opening offer is used to identify potential self-serving biases between buyers and sellers.

Table 7.4 shows the results of a 2 (buyer or seller) by 2 (presence or absence of trust reciprocity) ANCOVA (R-squared = 0.446, F-value = 11.862, p = 0.000). The dependent variable is the mean of opening offers from rounds 6 to 16 and descriptive statistics are shown in Table 7.5.

Table 7.4

Analysis of Covariance (ANCOVA)

Dependent Variable – Mean *Opening Offers* from Rounds 6 to 16

Source	**df**	**MS**	**F-value**	***p*-value**
Negotiator's Role	1	140.098	45.228	0.000
Trust Reciprocity	1	3.620	1.169	0.284
Covariates:				
Fairness Concerns	1	0.813	0.262	0.610
Interaction:				
NR x TR	1	0.056	0.018	0.894
Error	59	3.098		

R-Squared = 0.446 (Adj. R-Squared = 0.408); F-value = 11.862; p = 0.000

In Table 7.4, fairness concerns is a covariate. Contrary to prior studies that found fairness concerns to be significant in a single-period setting, it is not significant in this multi-period setting (F-value = 0.262, p = 0.610, see Table 7.4).[80] This is arguably because fairness has been built into the negotiation process.

As shown in Table 7.5 the mean opening offers for sellers (21.13) is higher than that of buyers (17.67). This mean difference (main effect of negotiator role) between seller and buyer is statistically significant (F-value = 45.228, p = 0.000, see Table 7.4). Thus, H4 is supported. This result supports studies (Chang et al. 2008; Kachelmeier & Towry 2002; Luft & Libby 1997) that predicted the existence of a self-serving bias and extends it to a multi-period setting.

[80] A similar result is obtained when final negotiated transfer price (F-value = 1.590, p = 0.212, see Table 7.9 in Section 7.6.2) is the dependent variable.

Table 7.5

Mean ($), (Standard Deviation) and Cell Size between Negotiator's Role and Trust Reciprocity on Opening Offers from Rounds 6 to 16

Negotiator's Role	Trust Reciprocity Absent	Trust Reciprocity Present	Row Total
Sellers	20.44 (3.09) n = 18 Cell 1	22.08 (3.55) n = 13 Cell 2	21.13 (3.10) n = 31
Buyers	Cell 3 20.44 (2.99) n = 20	Cell 4 18.23 (3.09) n = 13	17.67 (3.01) n = 33
Column total	18.79 (3.39) n = 38	20.15 (3.55) n = 26	19.34 (3.50) n = 64

7.4.2 Hypothesis H5

H5 predicted that all things being equal and in the presence of trust reciprocity, the final negotiated transfer prices in the final rounds of negotiation will be lower than those in the initial rounds of negotiation. Similar to previous analysis, data from rounds 6 to 16 is tested. To test H5, the total sample (n=64) was dichotomized into the presence and absence of trust reciprocity. Two participants were further excluded from the analysis as they were not a dyad.[81] This resulted in a sample size of 62, consisting of 12 dyads and 19 dyads respectively.[82] As the sample size is relatively small, a non-parametric approach – Wilcoxon signed-rank test, was used (Wilcoxon 1945).

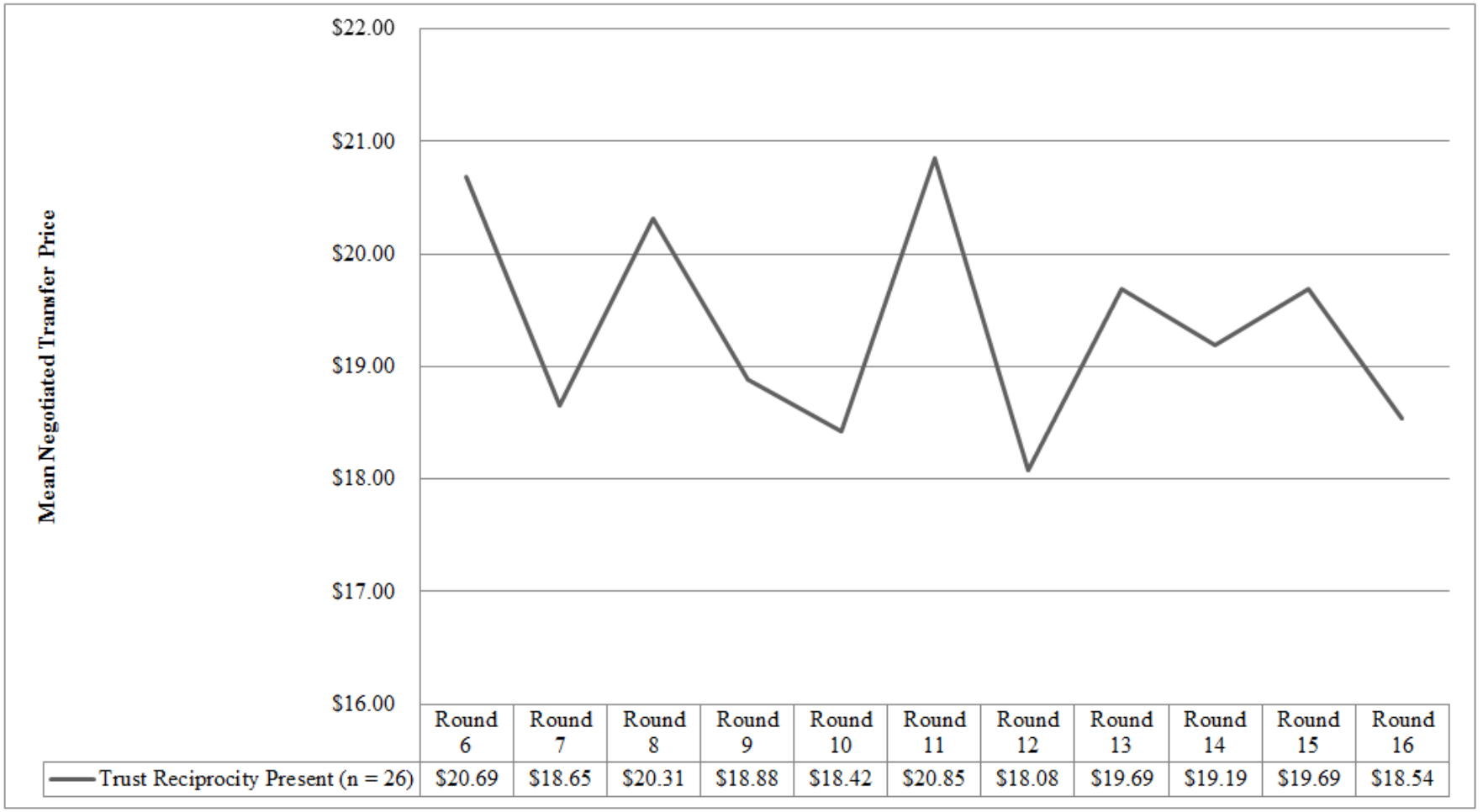
As the market price varied between negotiation rounds, a paired sample t-test was first conducted to test if mean market prices in round 6 ($20.05) and 16 ($19.79) influenced the final transfer price between buyers and sellers. Results indicate that the mean difference between the market price and final transfer price of round 6 and 16 was not significant ($t = 0.414$, $p = 0.680$). Hence, the market price is not initially controlled for in the analysis.

[81] Two participants (I.D. 103 and 106) were excluded from the analysis as their partner in the trust reciprocity *present* condition (i.e. fixed partners) failed the manipulation.

[82] The 19 dyads in the trust reciprocity absent condition cannot be adequately compared to the 12 dyads in the trust reciprocity present condition as participants were rematched with different partners each round in the absent condition. As such, they are not considered as dyads and are not analysed for this purpose.

Figure 7.1

The Effect of Trust Reciprocity on Transfer Prices (Trust Reciprocity *Present*, n = 12)



As shown in Figure 7.1, in the presence of trust reciprocity, the final negotiated transfer price made in the final round of negotiation (round 16: $18.50) is *lower* than the transfer price made in the initial round (round 6: $20.75). The results of the Wilcoxon test reveals that this difference is statistically significant (z = 1.841, p = 0.033, one-tailed), thus providing some support for H5.[83] Results also show that out of the 12 dyads, 8 had a lower transfer price in the final round of negotiation, 2 had a higher transfer price in the final round of negotiation, and 2 had the same transfer price in the initial and final rounds of negotiation. However when the same test was run on market adjusted final negotiated transfer prices the difference between round 6 and 16 was not statistically significant (z = 0.356, P = 0.361, one-tailed).

The univariate results above were combined in a repeated measure ANOVA with the different negotiation rounds as an 11-level within-subjects factor, and trust reciprocity as a between-subjects factor, to further analyse H5. The analysis in Table 7.6, Panel A shows that the main effect of trust reciprocity is not statistically significant (F-value = 1.341, p = 0.252). This is according to prediction as trust reciprocity has to be built over time. However, there is a significant interaction between trust reciprocity and the rounds of negotiation over rounds 6 to 16 (F-value = 3.773, p = 0.000). This result provides strong support for H5 in that trust reciprocity develops over time, after repeated interaction among negotiators.

[83] Results of the Wilcoxon test shows the absence of trust reciprocity condition is not significant (z = 1.263, p = 0.104, one-tailed).

Table 7.6 Transfer Prices Rounds 6 to 16

Panel A: Dependent Variable – Mean *Transfer Price* from Rounds 6 to 16

Source	df	MS	F-value	*p*-value
Between-subjects				
Trust Reciprocity	1	32.655	1.341	0.252
Within-subjects				
Round[84]	7.789	11.099	0.861	0.547
Covariates:				
Fairness Concerns	1	29.810	1.224	0.273
Interactions:				
Round x Fairness Concerns	7.789	16.252	1.260	0.264
Round x Trust Reciprocity	7.789	48.651	3.773	0.000

Panel B: Dependent Variable – Mean *Adjusted Transfer Price* from Rounds 6 to 16

Source	df	MS	F-value	*p*-value
Between-subjects				
Trust Reciprocity	1	0.317	0.051	0.822
Within-subjects				
Round	4.249	3.052	0.431	0.797
Covariates:				
Fairness Concerns	1	0.964	0.156	0.695
Interactions:				
Round x Fairness Concerns	4.249	3.624	0.512	0.738
Round x Trust Reciprocity	4.249	6.392	0.903	0.468

[84] *Round* is manipulated as a within-subjects factor with 11 levels (Rounds 6 to 16). Participants in all conditions completed these 11 rounds of negotiation in the actual negotiation session.

While results of the mean transfer price from rounds 6 to 16 provide strong support for H5, further analysis was done to test the robustness of the results. The mean transfer price was thus adjusted to take into consideration the effect of the market price of each round. As such, the mean adjusted transfer price (i.e. mean difference between transfer and market price of each round) was used to analyse H5. Similar to the above results, the main effect of trust reciprocity as shown in Table 7.6, Panel B is not significant (F-value = 0.051, p = 0.822). Contrary to results above, the within-subjects analysis using the mean adjusted transfer price is not significant. As such, H5 is not supported.

7.5 Additional Analyses

To further investigate the impact of trust reciprocity on selling managers' negotiated transfer pricing decisions, additional analysis on H4 was conducted.

7.5.1 Hypothesis H4

Additional analysis was conducted to examine if the self-serving bias theory persisted over multiple negotiation rounds. Table 7.7 displays negotiators' opening offers from rounds 6 to 16 as indicated by the Mann-Whitney test (Mann & Whitney 1947). Results reveal sellers consistently offer a higher price than buyers in each negotiation period (from rounds 6 to 16) and that the opening offers between buyers and sellers are statistically different in all 11 rounds of negotiation. The effect is also graphically depicted in Figure 7.2. This lends further support for H4.

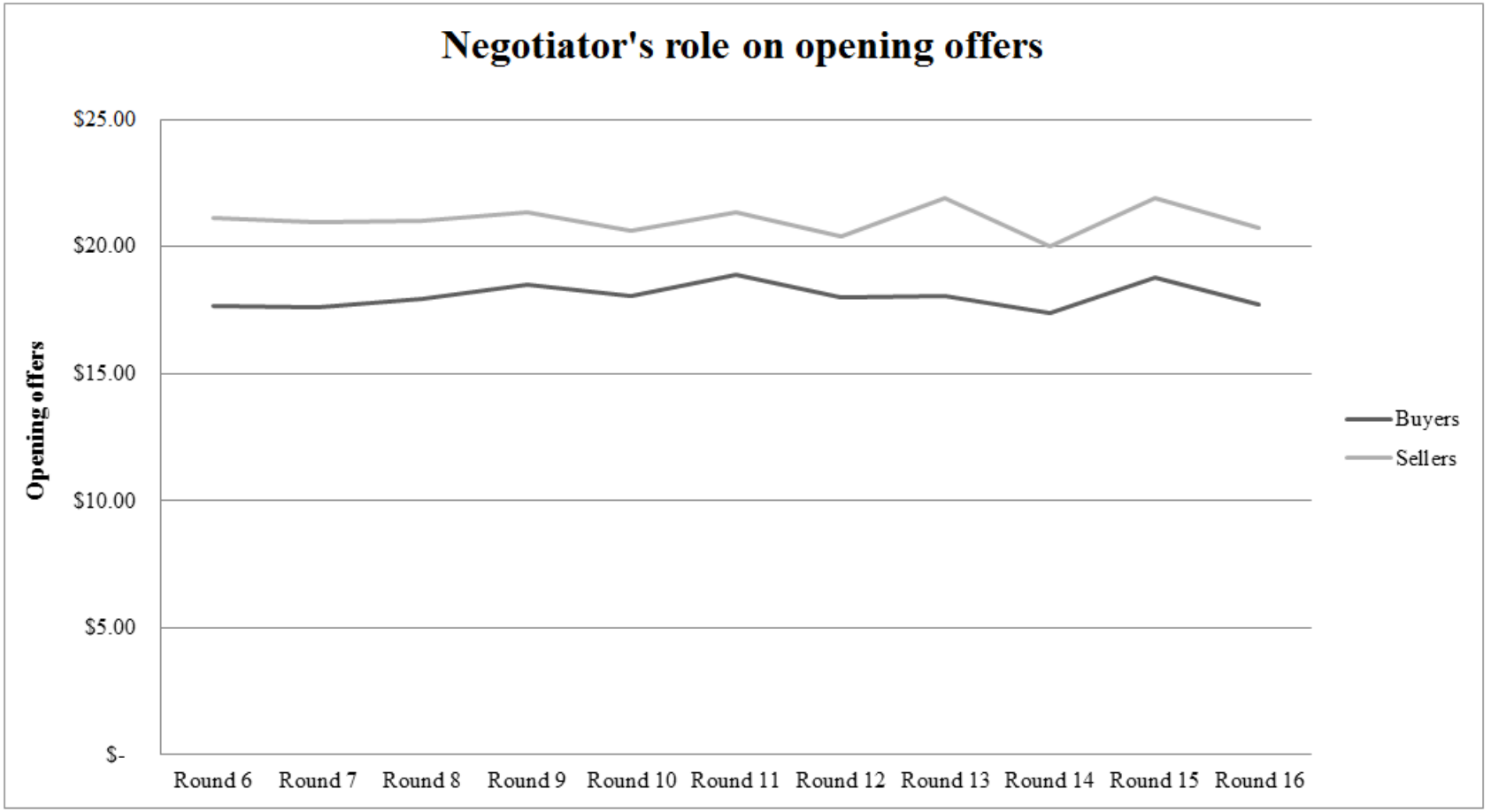
Table 7.7

Mean (Standard Deviation) of Opening Offers: Negotiator's Role and Negotiation Rounds

Negotiation round	Opening offers		Mann-Whitney U	p-value
	Buyer (n = 33)	Seller (n = 31)		
6	17.67 (3.02)	21.13 (3.10)	805.500	0.001
7	17.61 (2.70)	20.96 (3.22)	810.000	0.001
8	17.94 (3.06)	21.00 (3.86)	739.000	0.002
9	18.49 (3.47)	21.32 (3.23)	743.500	0.002
10	18.03 (3.10)	20.65 (3.74)	718.000	0.005
11	18.91 (3.02)	21.35 (3.15)	722.000	0.004
12	18.00 (3.23)	20.42 (3.43)	722.000	0.004
13	18.06 (2.84)	21.93 (3.24)	828.000	0.001
14	17.39 (3.77)	20.00 (3.63)	730.000	0.003
15	17.76 (3.14)	21.90 (3.69)	772.000	0.001
16	17.70 (3.35)	20.74 (3.83)	745.000	0.002

Figure 7.2

The Effect of Negotiator's Role on Opening Offers (n = 64)



7.6 Robustness Tests – Covariate: Fairness Concerns

The results reported so far in chapter come from analyses where fairness concerns were included as a covariate. This section reports the robustness of the results to the omission of this variable.

7.6.1 Hypothesis H4

7.6.1.1 Mean Opening Offers

The ANCOVA results shown in Table 7.4 include the impact of fairness concerns. Table 7.8 repeats the analysis without the covariate to test the effect of the main variables.

Table 7.8

Analysis of Covariance (ANCOVA) (Without Covariate: Fairness Concerns)

Dependent Variable: Mean *Opening Offers* from Rounds 6 to 16

Source	df	MS	F-value	*p*-value
Negotiator's Role	1	139.324	45.538	0.000
Trust Reciprocity	1	3.379	1.104	0.298
Interaction:				
NR x TR	1	0.013	0.004	0.948
Error	60	3.060		

R-Squared = 0.443 (Adj. R-Squared = 0.415); F-value = 15.925; p = 0.000

Table 7.8 show that the main effect of negotiator's role (mean difference between buyers and sellers) over negotiation rounds 6 to 16 is statistically significant (F-value = 45.539, p = 0.000). This is consistent with the primary result reported in Section 7.4.1.

7.6.1.2 Final Negotiated Transfer Price (With Covariate: Fairness Concerns)

Table 7.9

Dependent Variable – Mean *Transfer Price* from Rounds 6 to 16

Source	**df**	**MS**	**F-value**	***p*-value**
Negotiator's Role	1	0.066	0.030	0.863
Trust Reciprocity	1	2.500	1.131	0.292
Covariates:				
Fairness Concerns	1	3.515	1.590	0.212
Interaction:				
NR x TR	1	0.630	0.285	0.596
Error	59	2.211		

R-Squared = 0.046 (Adj. R-Squared = -0.019); F-value = 0.707; p = 0.590

Similar to the results in Section 7.4.1, the ANCOVA results in Table 7.9 indicate that when final negotiated transfer price is the dependent variable, the covariate – fairness concerns, is also not significant.

7.6.2 Hypothesis H5

7.6.2.1 Final Negotiated Transfer Price (Without Covariate)

Table 7.10

Transfer Price: Rounds 6 to 16 (Without Covariate)

Panel A: Dependent Variable: Mean *Transfer Price* from Rounds 6 to 16

Source	df	MS	F-value	*p*-value
Between-subjects				
Trust Reciprocity	1	30.451	1.246	0.269
Within-subjects				
Round	7.741	18.778	1.441	0.180
Interaction:				
Round x Trust Reciprocity	7.741	48.283	3.705	0.000

Panel B: Dependent Variable: Mean *Adjusted Transfer Price* from Rounds 6 to 16

Source	df	MS	F-value	*p*-value
Between-subjects				
Trust Reciprocity	1	0.278	0.046	0.832
Within-subjects				
Round	4.296	4.057	0.584	0.687
Interaction:				
Round x Trust Reciprocity	4.296	6.460	0.930	0.452

Results shown in Table 7.10, Panel A suggest that the main effect of trust reciprocity is not statistically significant (F-value = 1.246, p = 0.269) without the inclusion of fairness concerns as a control. The within-subjects results show a significant interaction between trust reciprocity and the negotiation over rounds 6 to 16 (F-value = 3.705, p = 0.000). This result is consistent with the main analysis in Section 7.4.2.

Table 7.10, Panel B uses the mean adjusted transfer price as the dependent variable. Similarly, results indicate that trust reciprocity is not significant (F-value = 0.046, p =

0.832) without the inclusion of fairness concerns as a covariate. Consistent with Section 7.4.2, the within-subjects interaction between trust reciprocity and negotiation rounds is also not significant (F-value = 0.930, p = 0.452).

The results of the hypothesis testing are summarized in Table 7.11.

Table 7.11 Summary of Hypotheses

Hypothesis	Hypothesis Statement	Extent of Support
H4	When a market price exists, sellers' opening offers are higher than those of buyers in a multi-period setting, *ceteris paribus*.	Supported
H5	Negotiated transfer prices in final rounds of negotiation will be lower than the negotiated transfer prices in initial rounds of negotiation in the presence of trust reciprocity, *ceteris paribus*.	Not Supported

CHAPTER 8

DISCUSSION AND CONCLUSION

8.0 Introduction

This chapter summarizes the main findings from the two experiments reported in this thesis and discusses the implications and potential for future research. Section 8.1 discusses the major findings of the two studies. Section 8.2 examines the contributions and implications of this thesis. Section 8.3 discusses the limitations of the studies and provides directions for future research.

8.1 Findings of the Thesis

8.1.1 Self-Serving Bias in Single-Period Setting

The first hypothesis (H1) proposes that seller's final negotiated transfer price will be higher than buyers where an external market exists. It was argued that the existence of self-serving biases cause sellers to always prefer a higher price while buyers always prefer a lower price (Chang et al. 2008; Kachelmeier & Towry 2002; Luft & Libby 1997). The results (mean difference = 39.76, F-value = 3.048, p = 0.042, one-tailed; see Table 5.4) support Hypothesis H1, showing that when different divisional managers negotiate transfer prices, selling managers' final prices are higher than those of buying managers.

Prior negotiated transfer pricing studies (Chang et al. 2008; Kachelmeier & Towry 2002; Luft & Libby 1997) support the prediction that when an external market exists, perceptions of what constitutes 'fair' price exhibits a self-serving bias. As such, selling managers consider the market price to be a fairer price while buying managers consider the equal profit price to be the fairer transaction price. The finding of H1 is consistent with prior studies that support the self-serving bias theory.

Additional analysis suggests that selling managers' reservation prices (the minimum acceptable transfer price) are significantly higher than the equal profit price in the experiment (mean difference = 32.76, paired sample t-test, t-value = -2.002, p = 0.025, one-tailed; Table 5.6, Panel A). This result confirms and expands prior findings of a self-serving bias which causes managers to prefer an outcome that is most favourable to them.

8.1.2 Impact of the Social Network Environment on Negotiated Transfer Pricing

Hypothesis H2 predicts that managers' final negotiated transfer prices will be lower in an environment that supports social networking activities than an environment that does not support social networking activities. It was hypothesised that managers would be more willing to transact at a lower negotiated transfer price when the environment was in favour of social networking and relationship building activities. Results reveal that the final negotiated transfer price is lower under a supportive than non-supportive social network environment (main difference = 27.06, F-value = 3.503, p = 0.032, one-tailed; Table 5.4 and Table 5.5), providing support for H2. Specifically, managers functioning in a supportive social network environment have lower final transfer prices than managers functioning in a non-supportive social network environment.

According to the premise set out in social capital and social exchange theories, there are plenty of benefits to being part of a social network. In order to gain membership to such networks, individuals need to be accepted in the social environment. They are then able to use their extensive networks to accumulate social capital which can lead to lower transaction costs and aid efficient allocation of resources. Being part of a social network thus encourages cooperative behaviours from which relationships are established through acts of reciprocity by negotiating parties. The argument for H2 therefore, is that an organisation that supports intra-firm social networking activities or creates an environment that supports social networks, can aid managers in establishing and accumulating social capital. This finding enhances the current literature on negotiated transfer pricing. It suggests that supportive organisational environments may reduce self-interested behaviours and encourage greater cooperation and cohesiveness among managers. Social psychology research (e.g. Adler & Kwon 2002; Tice et al. 1995) also shows that norms and rules encourage compliance to local rules and customs, and individuals will conform to such norms and rules of the environment in which they function in. In economics, studies such as Mas & Moretti (2009) also find the work environment to affect workers in terms of productivity and the tendency to exhibit free-riding behaviours. In the context of this thesis, the environment in which managers function can thus encourage cooperative negotiation strategies and reduce the need for intervention from senior management. The result of H2 supports the prediction that a supportive social network environment leads to lower final negotiated transfer prices as managers want to act by the norms of the environment and create cohesiveness and cooperativeness in their negotiation decisions. More importantly, this result points to an important social aspect of intra-company negotiations as managers are more willing to forgo profits in order to maintain cooperative and cohesive behaviours. The results provide further evidence on the findings of Kachelmeier & Towry (2002) and Chang et

al. (2008) that social factors impact upon behaviours and outcomes in transfer pricing negotiations.

8.1.3 Moderating Role of Incentive Compensation Schemes

The third hypothesis (H3) postulates that in a non-supportive social network environment, managers' negotiated transfer prices under a competitive compensation scheme will be higher than a cooperative compensation scheme. The analysis shows a significant (F-value = 3.969, p = 0.025, one-tailed; Table 5.4) two-way interaction, between the social network environment and compensation schemes, on final negotiated transfer prices. The results of the analysis in Table 5.5 reveal that the difference in final negotiated transfer prices between selling and buying managers under a competitive compensation scheme (mean difference = 50.15) is higher than those under a cooperative compensation scheme (mean difference = 29.31). Overall, the results show support for Hypothesis H3, pointing out that the relationship between compensation schemes and the final negotiated transfer price is moderated by the social network environment. Specifically, Figure 5.1 shows that the difference in final negotiated transfer prices between the compensation schemes in a non-supportive social network environment is greater than the difference in compensation schemes in a supportive social network environment. As such, managers who function in an organisational environment that does not support social networking activities have final negotiation outcomes that tend to be driven by the type of incentive scheme – competitive or cooperative.

This finding regarding compensation schemes add to the credibility of prior literature (e.g. Ackelsberg & Yukl 1979; Ravenscroft & Haka 1996) that finds individuals exhibit different behaviours under different compensation schemes. Explicitly, behaviours such

as cooperativeness, productivity and the willingness to share information vary based on whether divisional or company profits are emphasized. The result for H3 further expands this line of thinking by incorporating the social network environment, showing a greater effect when the environment is not supportive of bonding activities than when it is. This means that managers in non-supportive environments will have greater opportunities and tendencies to act self-interestedly, since these environments do not discourage such self-interested behaviours. The incentive thus exists for managers to widen the profit gap in negotiated transfer pricing decisions.

Further analyses on reservation prices (that is, the minimum acceptable transfer price by sellers) reveal that selling managers in the competitive compensation scheme had significantly higher reservation prices than those in the cooperative compensation scheme (mean difference = 72.42, F-value = 4.533, p = 0.019, one-tailed; Table 5.6, Panel B). This supports prior findings of competitive behaviours in competitive compensation schemes as opposed to cooperative compensation schemes. In addition, results of the analysis on price premiums (that is, the difference between the reservation price and final transfer price) show that price premiums of sellers are significantly lower under a competitive than cooperative compensation scheme (mean difference = 47.76, F-value = 4.461, p = 0.020, one tailed; Table 5.7, Panel B). This suggests that sellers who are part of a cooperative scheme are willing to give up a greater share of their profits than sellers in a competitive scheme. This finding further reinforces the argument that extrinsic motivators such as compensation schemes affect behaviour and outcome in transfer pricing negotiations. Such behaviours are further enhanced by the organisational environment which surrounds managers, making them more likely to widen the profit gap in a non-supportive social network environment.

8.1.4 Self-Serving Bias in a Multi-Period Setting

The fourth hypothesis (H4) of this thesis re-examines Hypothesis H1 by predicting that selling managers' opening offers will be higher than buying managers, where this effect is expected to occur in a multi-period setting. Results show that mean opening offers for selling managers are higher than those of buying managers (mean difference = 3.46, F-value = 45.228, p = 0.000; Table 7.4), supporting the prediction set out in H4. This means that over multiple periods, sellers continue to desire a higher price while buying managers desire a lower price. The result of H4 re-affirms Hypothesis H1 which predicts that a self-serving bias exists between negotiating buyers and sellers.

This result expands the findings of prior studies which are based on single-period settings (e.g. Chang et al. 2008; Kachelmeier & Towry 2002; Luft & Libby 1997), by showing that self-serving biases persist over multiple-periods. It shows that despite the number of times managers negotiate, selling managers, on average, start off the negotiation with a higher price. The results reaffirm prior negotiated transfer pricing literature and provide evidence that the self-serving bias effect persists over multiple-periods.

8.1.5 Effect of Trust Reciprocity

Hypothesis H5 posits that over multiple interactions, the presence of trust reciprocity will lead to lower final negotiated transfer prices. This is because trust reciprocity builds over time and through multiple interactions with a negotiating partner (Lewicki et al. 2006a). Results show that in the presence of trust reciprocity, the final negotiated transfer price in the final round of negotiation was significantly lower than the final negotiated transfer price in the initial round of negotiation (mean difference = 2.25, z = 1.841, p = 0.033, one-tailed; Figure 7.1). This suggests that as managers continually

negotiate with the same partner, trust reciprocity builds, thus leading to a fall in final negotiated transfer pricing outcomes over time. However, further decomposing of the results reveal that final transfer prices in the initial and final rounds were not statistically significantly different when the market adjusted transfer prices were used ($z = 0.356$, $P = 0.361$, one-tailed).

Results show that the main effect of trust reciprocity is not statistically significant in a between-subject analysis (F-value = 1.341, p = 0.252; Table 7.7, Panel A). Further analysis shows this to be also true when the mean adjusted transfer price was used (F-value = 0.051, p = 0.822; Table 7.7, Panel B). Although the observations did not fully support the prediction that trust reciprocity has to be built over time, it does encourage further testing to explain the insignificant results. Additional testing of H5 in a within-subject analysis shows a significant interaction between trust reciprocity and the number of rounds of negotiation (F-value = 3.773, p = 0.000; Table 7.7, Panel A). This finding shows that trust reciprocity does indeed develop over time and after repeated interactions among negotiators, supporting similar notions put forth in prior literature that social exchanges and relationships develop over time (e.g. Ballinger & Rockmann 2010; Inkpen & Tsang 2005; Mitchell et al. 2012; Rousseau et al. 1998).

The findings of H5 suggest that even though trust reciprocity did not lead to lower transfer prices in final round of negotiation, it can still build over time. It is possible that trust reciprocity (i.e. negotiating with the same partner throughout all rounds of negotiation in this experiment) may have only provided the *condition* that allows managers to build trust-reciprocal relationships in the negotiation. The bulk of the negotiation process and outcome still depended highly upon managers' inclinations. The inclusion of a competitive compensation scheme in this experiment may have been the

cause for the insignificant result in H5. The rationale for the inclusion of the competitive compensation scheme was that the effect of trust reciprocity could have been more apparent. If managers were willing to give up profits even when it was in their best interest to widen the profit gap, trust reciprocity would have been an effective mechanism for negotiation. However, the existence of the competitive compensation scheme in this experiment may have overridden the effects of trust reciprocity as managers preferred to undertake self-interested actions in negotiating transfer prices regardless of the reputation or cycle of mistrust (Zand 1972) that they may build over time.

8.2 Contributions of the Thesis

8.2.1 Theoretical Contributions

The results of this thesis make several significant theoretical contributions to the accounting literature. First, it provides insight into the impact of social factors, namely the social networking environment and trust reciprocity, on negotiated transfer pricing decisions. Specifically, findings of this thesis contribute to the accounting literature by investigating the impact of the social network environment on negotiated transfer pricing decisions. The results of this study extend prior research by showing how an organisation's social networking environment can also affect transfer pricing decisions. This result therefore adds to the list of factors which have been found to affect negotiated transfer pricing decision. These factors include incentive schemes (Chalos & Haka 1990; Ghosh 2000a, 2000b; Ghosh & Boldt 2006; Greenberg et al. 1994; Ravenscroft et al. 1993), mode of negotiation (Kachelmeier & Towry 2002) and time horizon (Chalos & Haka 1990; Eccles 1985; Ravenscroft et al. 1993). More specifically, the results of this thesis imply that an environment which supports social networking activities encourages managers to work cohesively and cooperatively. In addition, this

thesis explores the impact of trust reciprocity on the negotiated transfer price in a multi-period setting. This study finds that trust reciprocity can build over the number of negotiation rounds. This finding is consistent with the argument of trust building noted in management and negotiation literatures (see Butler 1991, 1999; Lewicki et al. 1999; Lewicki et al. 2006a).

Second, this thesis contributes to the negotiated transfer pricing literature by testing the application of the self-serving bias theory in both single-period and multi-period settings. The results of the two studies conducted in this thesis show how negotiator roles can influence choices at the onset of negotiations. More specifically, the research builds on Luft & Libby (1997) by extending the time frame into a multiple-period setting. Results from Study One support the existence of a self-serving bias in a single-period setting as originally proposed by Luft & Libby (1997) and supported in subsequent studies (Chang et al. 2008; Kachelmeier & Towry 2002). Study Two extends the self-serving bias theory with results supporting its existence over a multi-period setting. Importantly, results of this thesis suggest that regardless of the number of negotiation periods or interactions with partners, self-serving biases will persist.

Third, the findings of this thesis advance the literature by integrating social exchange theory into the negotiated transfer pricing literature. For example, Study One finds that managers behave according to the social network environment of the organisation, possibly due to the desire to maintain social relationships that can constitute their social capital. The results provide further empirical evidence towards social exchange theory that individuals weigh the costs and benefits of relationships before deciding whether to continue or terminate them (Blau 1964; Emerson 1976). In addition, the results of Study One show that compensation schemes have an impact that is dependent on the type of

organisational social networking environment. Study One finds the relationship between compensation schemes and the final negotiated transfer price to be moderated by the social network environment. The study shows that managers exhibit higher levels of self-interested behaviours under a competitive compensation scheme than a cooperative compensation scheme, when in an unsupportive social network environment. This implies that while incentive schemes motivate managers in different ways, the type of organisational environment may endorse self-interested behaviours in ways that reduce cooperation and cohesiveness among managers.

8.2.2 Practical Implications

The results of this thesis also have important practical implications. Top management of organisations need to consider affective reactions and attitudes of managers when building the organisational environment. These considerations may be promoted by cultivating an organisational culture which enhances and motivates employees to work in the best interest of the organisation, through cooperative and cohesive work cultures. While transfer pricing is a zero-sum outcome from the overall organisation's point of view, it can affect the attitudes and behaviours of employees in any organisation. As such, the organisation's culture should be designed to encourage cohesiveness, cooperativeness, trustworthiness and fairness, all of which may lead to loyalty in employees of all levels of management. Importantly, this will not only reduce high employee turnover, it can also promote shared outlook between employees, all of which save costs and increase loyalty and morale. Inculcating an organisational culture which promotes the building of cooperative and cohesive work relationships can allow for greater efficiency and effectiveness for organisations in the long run.

8.3 Limitations and Future Research

The two studies in this thesis have several limitations. This section discusses these limitations and suggests several opportunities for future research. First, both studies rely on an experimental method to examine the effects of social factors (the social network environment and trust reciprocity) on managers' negotiated transfer pricing decisions. The case materials in both studies reflect simplified abstractions of real world negotiation situations and may not have captured the various variables in real life negotiation practices. In addition, the use of students as surrogates is contentious and may be a potential limitation. Therefore, care should be taken in generalizing the findings from this thesis and future research may employ a field study to examine the variables used in this thesis.

Second, Study One utilizes a case-based questionnaire to examine the influence of the social network environment, negotiators' roles and incentive schemes on managers' preferences for negotiated transfer pricing. While this approach is similar to prior studies (Chang et al. 2008; Luft & Libby 1997), participants in Study One did not participate in an actual negotiation (face-to-face or via a computerized negotiation mechanism) nor face *actual* monetary compensation. Instead, participants were asked to make transfer pricing decisions based on an *expected* negotiation. Study Two employs a case-based computer negotiation technique to examine the influence of trust reciprocity and negotiator's role on managers' negotiated transfer pricing outcomes. Although participants engaged in an actual negotiation which provided actual monetary compensation based on decisions made, the computerized experiment may not have captured the essence of trust building and reciprocal relationships as participants acted anonymously. Furthermore, the building of trust and reciprocity might be better built and captured in face-to-face negotiations (Kachelmeier & Towry 2002). Future research

can employ face-to-face negotiation (e.g. Chalos & Haka 1990; Ravenscroft et al. 1993), and both computerized and face-to-face negotiations (Kachelmeier & Towry 2002).

Third, although Study Two provides the condition that facilitates the building of trust reciprocity, it failed to consider that trust reciprocity can be negative or positive as illustrated by Berg et al. (1995). Gouldner (1960) indicated that the norm of reciprocity resulted in people returning a beneficial behaviour with a beneficial response and a harmful behaviour with a harmful response. A limitation of Study Two is that the possibility of negative behaviour was not controlled for in the trust reciprocity experiment and thus, does not allow for clear identification of reasons for participants' behaviour over multiple periods. Future research can take into consideration the effect of negative trust reciprocal relationships in evaluating participants' responses in the experiment.

Finally, Study One is based on a single-period setting with a once-off final price despite real-world negotiations occurring repeatedly and over multiple rounds. Future research can shift the analysis to examine the effects of the social network environment on attitudes and transfer pricing outcomes over a multi-period setting. Future research can possibly utilize an actual face-to-face social experiment (similar to those frequently done in psychology studies) to better capture the social network environment in Study One.

Notwithstanding the aforementioned limitations, this thesis has developed and tested a theoretical model (see Figure 3.1) on negotiated transfer pricing decisions. Findings of this thesis have advanced existing knowledge of negotiated transfer pricing literature

(e.g. Chang et al. 2008; Ghosh 2000a, 2000b; Kachelmeier & Towry 2002; Luft & Libby 1997) by examining the effects of social factors such as the social networking environment and trust reciprocity, and an economic factor, the type of compensation scheme, on negotiated transfer pricing decisions.

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APPENDIX A

This appendix contains the experimental study case materials for

Study One

Table of Content

APPENDIX 4.1 Guan Xi Scale (used in pilot test)

Please respond to each of the following question by circling a number from 1 to 7.

		Strongly Disagree						**Strongly Agree**
1.	In business, it is important to maintain a good network of relationships.	1	2	3	4	5	6	7
2.	Doing business involves knowing the right people.	1	2	3	4	5	6	7
3.	Developing the right contacts helps in the smooth running of a business.	1	2	3	4	5	6	7
4.	One must always build and maintain social relationships with others in case their services are needed in the future.	1	2	3	4	5	6	7
5.	Being in the "inside" circle helps in obtaining preferential treatments.	1	2	3	4	5	6	7
6.	Returning favour for favour (reciprocity) is part of doing business.	1	2	3	4	5	6	7
7.	Social inclusion (e.g. invitation to sporting events, business breakfast, elite events etc.) is an important feature when we want business to succeed.	1	2	3	4	5	6	7
8.	Maintaining good relationships is the best way to enhance business.	1	2	3	4	5	6	7
9.	Frequent cooperation reduces problems in business relationships.	1	2	3	4	5	6	7

APPENDIX 4.2.1 Experiment Instrument (Condition 1)

PART A

Organisational Structure

XYZ is a medium size manufacturing company which has the following two operating divisions:

1. PARTS division which manufactures parts for use by ASSEMBLY division and also for sale to outside buyers, and

2. ASSEMBLY division which buys parts from the PARTS division and from outside sellers, and assembles them into *Final Product* for sale to outside customers.

Your Role

You are to assume the role of Manager P of the PARTS division of XYZ Company.

Your Workplace

At an executive meeting several years ago, senior management of XYZ called for ideas on how to increase work productivity. A manager suggested one way of increasing work productivity was to have good working relationships with other employees within the company.

Senior management disagreed with this view, declaring that the promotion of work relationships within the company was irrelevant to increasing productivity and that employees should concentrate on the work at hand instead of wasting time socialising. Senior management felt that they should be the ones setting the pace of the environment and took it upon themselves to implement a system of performance review that focused on meeting individual goals set by senior management.

A recent survey carried out in XYZ showed that most employees were unhappy and uncomfortable within the company. They did not feel valued and felt remote both within their own division and with colleagues in other divisions.

At the moment, you rarely interact with Manager A of the ASSEMBLY division.

Your Total Compensation

Your performance is assessed by senior management based on your division's performance and efficiency. Your total compensation consists of a fixed salary and a bonus. The bonus is tied to your division's profits.

APPENDIX 4.2.2 Experiment Instrument (Condition 2)

PART A

Organisational Structure

XYZ is a medium size manufacturing company which has the following two operating divisions:

1. PARTS division which manufactures parts for use by ASSEMBLY division and also for sale to outside buyers, and

2. ASSEMBLY division which buys parts from the PARTS division and from outside sellers, and assembles them into *Final Product* for sale to outside customers.

Your Role

You are to assume the role of Manager P of the PARTS division of XYZ Company.

Your Workplace

At an executive meeting several years ago, senior management of XYZ called for ideas on how to increase work productivity. A manager suggested one way of increasing work productivity was to have good working relationships with other employees within the company.

Senior management disagreed with this view, declaring that the promotion of work relationships within the company was irrelevant to increasing productivity and that employees should concentrate on the work at hand instead of wasting time socialising. Senior management felt that they should be the ones setting the pace of the environment and took it upon themselves to implement a system of performance review that focused on meeting individual goals set by senior management.

A recent survey carried out in XYZ showed that most employees were unhappy and uncomfortable within the company. They did not feel valued and felt remote both within their own division and with colleagues in other divisions.

At the moment, you rarely interact with Manager A of the ASSEMBLY division.

Your Total Compensation

Your performance is assessed by senior management based on your division's performance and efficiency. Your total compensation consists of a fixed salary and a bonus. The bonus is tied to overall company profits.

APPENDIX 4.2.3 Experiment Instrument (Condition 3)

PART A

Organisational Structure

XYZ is a medium size manufacturing company which has the following two operating divisions:

1. PARTS division which manufactures parts for use by ASSEMBLY division and also for sale to outside buyers, and

2. ASSEMBLY division which buys parts from the PARTS division and from outside sellers, and assembles them into *Final Product* for sale to outside customers.

Your Role

You are to assume the role of Manager P of the PARTS division of XYZ Company.

Your Workplace

At an executive meeting several years ago, senior management of XYZ called for ideas on how to increase work productivity. A manager suggested one way of increasing work productivity was to have good working relationships with other employees within the company.

Senior management agreed with this view and monthly get-togethers were arranged as an initiative to promote good working relationships within the company. Soon, firm wide social events were introduced every last Friday of the month and everyone was invited to mingle and discuss informally any issues they had. In addition, a few junior managers suggested having divisional sports teams which would help in actively promoting interaction between divisions. All these initiatives were taken well and subsequently implemented by senior management.

A recent survey carried out in XYZ showed that most employees were happy and comfortable within the company. They felt valued and had good working relations within their division and with colleagues in other divisions.

At the moment, you frequently interact with Manager A of the ASSEMBLY division.

Your Total Compensation

Your performance is assessed by senior management based on your division's performance and efficiency. Your total compensation consists of a fixed salary and a bonus. The bonus is tied to your division's profits.

APPENDIX 4.2.4 Experiment Instrument (Condition 4)

PART A

Organisational Structure

XYZ is a medium size manufacturing company which has the following two operating divisions:

1. PARTS division which manufactures parts for use by ASSEMBLY division and also for sale to outside buyers, and

2. ASSEMBLY division which buys parts from the PARTS division and from outside sellers, and assembles them into *Final Product* for sale to outside customers.

Your Role

You are to assume the role of Manager P of the PARTS division of XYZ Company.

Your Workplace

At an executive meeting several years ago, senior management of XYZ called for ideas on how to increase work productivity. A manager suggested one way of increasing work productivity was to have good working relationships with other employees within the company.

Senior management agreed with this view and monthly get-togethers were arranged as an initiative to promote good working relationships within the company. Soon, firm wide social events were introduced every last Friday of the month and everyone was invited to mingle and discuss informally any issues they had. In addition, a few junior managers suggested having divisional sports teams which would help in actively promoting interaction between divisions. All these initiatives were taken well and subsequently implemented by senior management.

A recent survey carried out in XYZ showed that most employees were happy and comfortable within the company. They felt valued and had good working relations within their division and with colleagues in other divisions.

At the moment, you frequently interact with Manager A of the ASSEMBLY division.

Your Total Compensation

Your performance is assessed by senior management based on your division's performance and efficiency. Your total compensation consists of a fixed salary and a bonus. The bonus is tied to overall company profits.

APPENDIX 4.2.5 Experiment Instrument (Condition 5)

PART A

Organisational Structure

XYZ is a medium size manufacturing company which has the following two operating divisions:

1. PARTS division which manufactures parts for use by ASSEMBLY division and also for sale to outside buyers, and

2. ASSEMBLY division which buys parts from the PARTS division and from outside sellers, and assembles them into *Final Product* for sale to outside customers.

Your Role

You are to assume the role of Manager A of the ASSEMBLY division of XYZ Company.

Your Workplace

At an executive meeting several years ago, senior management of XYZ called for ideas on how to increase work productivity. A manager suggested one way of increasing work productivity was to have good working relationships with other employees within the company.

Senior management disagreed with this view, declaring that the promotion of work relationships within the company was irrelevant to increasing productivity and that employees should concentrate on the work at hand instead of wasting time socialising. Senior management felt that they should be the ones setting the pace of the environment and took it upon themselves to implement a system of performance review that focused on meeting individual goals set by senior management.

A recent survey carried out in XYZ showed that most employees were unhappy and uncomfortable within the company. They did not feel valued and felt remote both within their own division and with colleagues in other divisions.

At the moment, you rarely interact with Manager P of the PARTS division.

Your Total Compensation

Your performance is assessed by senior management based on your division's performance and efficiency. Your total compensation consists of a fixed salary and a bonus. The bonus is tied to your division's profits.

APPENDIX 4.2.6 Experiment Instrument (Condition 6)

PART A

Organisational Structure

XYZ is a medium size manufacturing company which has the following two operating divisions:

1. PARTS division which manufactures parts for use by ASSEMBLY division and also for sale to outside buyers, and

2. ASSEMBLY division which buys parts from the PARTS division and from outside sellers, and assembles them into *Final Product* for sale to outside customers.

Your Role

You are to assume the role of Manager A of the ASSEMBLY division of XYZ Company.

Your Workplace

At an executive meeting several years ago, senior management of XYZ called for ideas on how to increase work productivity. A manager suggested one way of increasing work productivity was to have good working relationships with other employees within the company.

Senior management disagreed with this view, declaring that the promotion of work relationships within the company was irrelevant to increasing productivity and that employees should concentrate on the work at hand instead of wasting time socialising. Senior management felt that they should be the ones setting the pace of the environment and took it upon themselves to implement a system of performance review that focused on meeting individual goals set by senior management.

A recent survey carried out in XYZ showed that most employees were unhappy and uncomfortable within the company. They did not feel valued and felt remote both within their own division and with colleagues in other divisions.

At the moment, you rarely interact with Manager P of the PARTS division.

Your Total Compensation

Your performance is assessed by senior management based on your division's performance and efficiency. Your total compensation consists of a fixed salary and a bonus. The bonus is tied to overall company profits.

APPENDIX 4.2.7 Experiment Instrument (Condition 7)

PART A

Organisational Structure

XYZ is a medium size manufacturing company which has the following two operating divisions:

1. PARTS division which manufactures parts for use by ASSEMBLY division and also for sale to outside buyers, and

2. ASSEMBLY division which buys parts from the PARTS division and from outside sellers, and assembles them into *Final Product* for sale to outside customers.

Your Role

You are to assume the role of Manager A of the ASSEMBLY division of XYZ Company.

Your Workplace

At an executive meeting several years ago, senior management of XYZ called for ideas on how to increase work productivity. A manager suggested one way of increasing work productivity was to have good working relationships with other employees within the company.

Senior management agreed with this view and monthly get-togethers were arranged as an initiative to promote good working relationships within the company. Soon, firm wide social events were introduced every last Friday of the month and everyone was invited to mingle and discuss informally any issues they had. In addition, a few junior managers suggested having divisional sports teams which would help in actively promoting interaction between divisions. All these initiatives were taken well and subsequently implemented by senior management.

A recent survey carried out in XYZ showed that most employees were happy and comfortable within the company. They felt valued and had good working relations within their division and with colleagues in other divisions.

At the moment, you frequently interact with Manager P of the PARTS division.

Your Total Compensation

Your performance is assessed by senior management based on your division's performance and efficiency. Your total compensation consists of a fixed salary and a bonus. The bonus is tied to your division's profits.

APPENDIX 4.2.8 Experiment Instrument (Condition 8)

PART A

Organisational Structure

XYZ is a medium size manufacturing company which has the following two operating divisions:

1. PARTS division which manufactures parts for use by ASSEMBLY division and also for sale to outside buyers, and

2. ASSEMBLY division which buys parts from the PARTS division and from outside sellers, and assembles them into *Final Product* for sale to outside customers.

Your Role

You are to assume the role of Manager A of the ASSEMBLY division of XYZ Company.

Your Workplace

At an executive meeting several years ago, senior management of XYZ called for ideas on how to increase work productivity. A manager suggested one way of increasing work productivity was to have good working relationships with other employees within the company.

Senior management agreed with this view and monthly get-togethers were arranged as an initiative to promote good working relationships within the company. Soon, firm wide social events were introduced every last Friday of the month and everyone was invited to mingle and discuss informally any issues they had. In addition, a few junior managers suggested having divisional sports teams which would help in actively promoting interaction between divisions. All these initiatives were taken well and subsequently implemented by senior management.

A recent survey carried out in XYZ showed that most employees were happy and comfortable within the company. They felt valued and had good working relations within their division and with colleagues in other divisions.

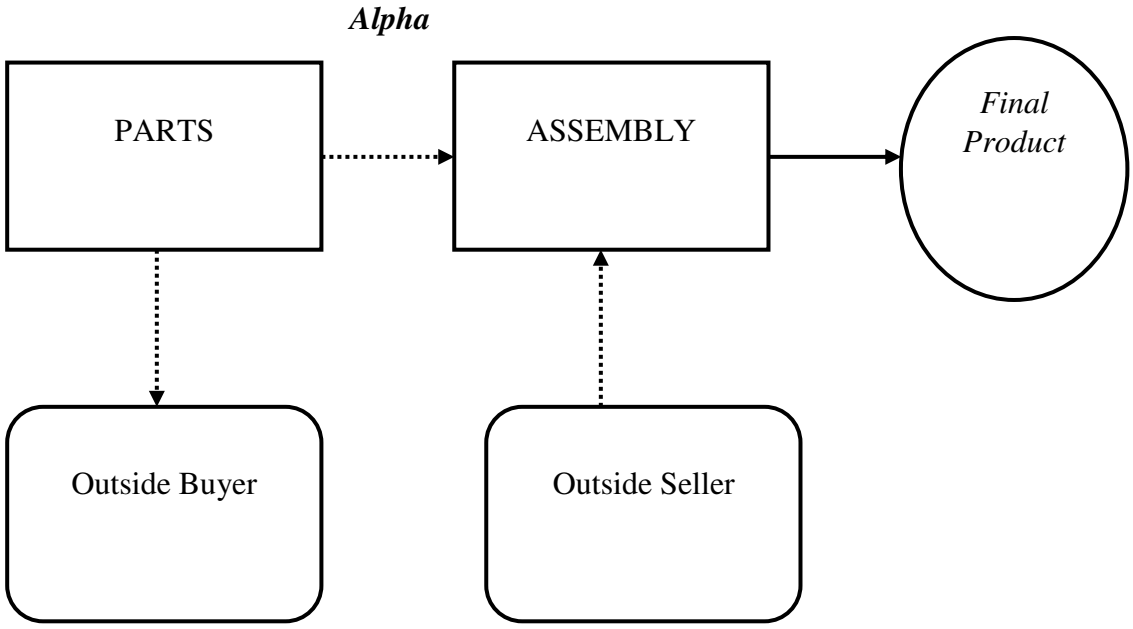
At the moment, you frequently interact with Manager P of the PARTS division.

Your Total Compensation

Your performance is assessed by senior management based on your division's performance and efficiency. Your total compensation consists of a fixed salary and a bonus. The bonus is tied to overall company profits.

APPENDIX 4.3 Experiment Instrument

This year, your division manufactured several batches of parts called *Alpha*. You can sell *Alpha* either to the ASSEMBLY division or to outside buyers (see diagram below).



The transfer price that you receive when you sell *Alpha* to ASSEMBLY is negotiated by you and Manager A, the manager of ASSEMBLY division. Both of you are free to consider whatever factors are appropriate in setting the price, and to choose a transfer price for *Alpha* that is satisfactory to both of you.

If you and Manager A cannot agree on a price, you can always sell to outside buyers and ASSEMBLY can buy from outside sellers. You will however each incur extra fixed costs when you trade with outsiders that you do not have when you trade internally.

Trading with outsiders:

PARTS	Price + fixed Marketing cost (collection expenses, advertising)
ASSEMBLY	Price + fixed Purchasing cost (quality testing, purchasing division costs)

You already know how much *Final Product* will sell for on the market, so once you and Manager A decide on the transfer price, both will know how much profit each division will make on this transfer. The table below shows the total profit from trading per part of *Alpha* and how this profit is divided at selected transfer prices, **in thousands of dollars**.

TABLE 1: Transfer Prices and Divisional Profits
Total Company Profit = PARTS + ASSEMBLY = $600,000

Transfer price ($) per part of *Alpha* (batch of 000s)	PARTS profit ($000)	ASSEMBLY profit ($000)
200	0	600
225	25	575
250	50	550
275	75	525
300	100	500
325	125	475
350	150	450
375	175	425
400	200	400
425	225	375
450	250	350
475	275	325
500	300	300
525	325	275
550	350	250
575	375	225
600	400	200
625	425	175
650	450	150
675	475	125
700	500	100
725	525	75
750	550	50
775	575	25
800	600	0

As you can see, in the absence of outside costs, the total company profit to be divided between the two divisions is $600,000. If the transfer price is agreed at $200 per part of *Alpha*, then all $600,000 goes to ASSEMBLY whereas at $800 per part of *Alpha*, all $600,000 goes to PARTS. At prices between $200 and $800 per part of *Alpha*, the profit is divided as shown in Table 1. The exact transfer price has no impact on total company profits of $600,000 but affects how it is split between the divisions.

From Table 1, you can also see that every $25 difference in transfer price changes divisional profits by $25,000. Therefore, a change in the transfer price will change division profits in $25,000 increments.

For example, if you negotiate (in dollars)

Transfer Price	**Your Division's (PARTS) Profit**	**ASSEMBLY Division's Profit**
475	275	325
500	300	300
525	325	275

If both of you cannot agree on a transfer price, both divisions will trade with outsiders at the current market price of $700 per part of *Alpha*. That is, PARTS will get $700 per part of *Alpha* selling to outsiders, and ASSEMBLY will pay $700 per part of *Alpha* buying from outsiders. If agreement had been reached at $700, then according to Table 1, the $600,000 profit would be split $500/$100. IN the absence of agreement, transacting with outside means outside costs will be incurred and profits will be reduced as follows:

PARTS Profit	$500,000 minus outside marketing costs
ASSEMBLY Profit	$100,000 minus outside purchasing costs

Failure to reach an agreement will thus result in overall company profits (and aggregate divisions' profits) being lower due to the outside costs incurred. PARTS and ASSEMBLY are about the same size in terms of invested capital and divisional profit, and the price of *Alpha* is important to both divisions. PARTS' production costs and ASSEMBLY's assembling costs for *Final Product* are approximately equal.

Think about the profit your division is likely to attain and the level of profit you can get Manager A to accept, given outside market opportunities. This should give some idea as to what price YOU would aim at in negotiating with Manager A.

APPENDIX 4.4.1 Question for participants in PARTS role

Based on the scenario, how **willing** are you to reach an agreement with Manager A on the transfer price?

1	2	3	4	5	6	7
Not Willing						Very Willing

Based on the scenario, how **likely** are you to reach an agreement with Manager A on the transfer price?

1	2	3	4	5	6	7
Not Likely						Very Likely

At the **beginning** of the negotiation, how much would you offer to sell *Alpha* to ASSEMBLY at?

$_____

What is the <u>lowest</u> price you would sell to ASSEMBLY at? (At offers below this price, you would prefer to sell to outsider buyers)

$_____

Assuming agreement is reached, what would you expect the final negotiated transfer price to be? (You may choose a price between $200 – $800 from the table)

$_____

What are the factors that most influenced your negotiated transfer pricing decision in this case study?

_____
_____
_____
_____
_____

APPENDIX 4.4.2 Question for participants in ASSEMBLY role

Based on the scenario, how **willing** are you to reach an agreement with Manager P on the transfer price?

1	2	3	4	5	6	7
Not Willing						Very Willing

Based on the scenario, how **likely** are you to reach an agreement with Manager P on the transfer price?

1	2	3	4	5	6	7
Not Likely						Very Likely

At the **beginning** of the negotiation, how much would you offer to buy *Alpha* from PARTS at?

$_____

What is the highest price you would buy from PARTS at? (At offers above this price, you would prefer to buy from outside sellers)

$_____

Assuming agreement is reached, what would you expect the final negotiated transfer price to be? (You may choose a price between $200 – $800 from the table)

$_____

What are the factors that most influenced your negotiated transfer pricing decision in this case study?

_____
_____
_____
_____
_____

APPENDIX 4.5 Demographic and Manipulation Checks

Please answer the following demographic questions:

1. Gender (circle one): A. Male B. Female

2. Age: _____

3. Degree (e.g. BCom, LLB): _____

4. Major (e.g. Accounting): _____

5. Do you have any working experience (circle one)?
   a. Yes [go to question 6 and 7]
   b. No [go to question 8]

6. How long have you worked? _____Years _____ Months

7. I am/was working (circle one):
   a. Full-time in an accounting related job
   b. Full-time in a non- accounting related job
   c. Part-time in an accounting related job
   d. Part-time in a non- accounting related job

8. I am a/an (circle one):
   a. Local student
   b. International student
      Please state your country of origin: _____

9. What percentage of your work experience has been in Australia? _____ %

10. How much experience have you had in transfer pricing or similar issues? (Circle a number from 1 to 7)

1	2	3	4	5	6	7
No Experience						Extensive Experience

Questions 11 to 15 relate to the case study you just completed. Please circle one answer only.

11. What role did you take when completing the experimental task?
    A. I was the PARTS manager
    B. I was the ASSEMBLY manager

12. To what extent did you feel you and the other manager (i.e. Manager A) were part of a team? (Circle a number from 1 to 7)

1	2	3	4	5	6	7
A little						A lot

13. Based on the business environment of XYZ, the company:
    A. Supports maintaining good relationship and/or relationship building within the company
    B. Does not support relationship building within the company

14. If agreement is not reached, there will be:
    A. No impact on company profits
    B. Lower company profits due to outside costs

15. Your bonus depends on:
    A. Divisions' profit levels
    B. Company profit level

APPENDIX 4.6 ***Fairness Concern and Trust Reciprocity*** **Scale**

PART B3

Please respond to each of the following question by circling a number from 1 to 5.

		Strongly Disagree				**Strongly Agree**
1.	Managers who act cooperatively should be rewarded	1	2	3	4	5
2.	Managers who do not act cooperatively should be punished	1	2	3	4	5
3.	Managers who act in the common interest should be rewarded	1	2	3	4	5
4.	Managers who act in the common interest should get a fair return	1	2	3	4	5
5.	If managers are fair with me, I would be fair in return	1	2	3	4	5
6.	If managers place their trust in me, I would repay them at personal cost	1	2	3	4	5
7.	I would reward those who expected me to be fair	1	2	3	4	5
8.	I would punish those who did not expect me to be fair	1	2	3	4	5
9.	I would not want to disappoint those who trust me	1	2	3	4	5

APPENDIX B

This appendix contains the results of an additional robustness test in Study One

Robustness – Covariate: Fairness Concerns Scale

Table B1

Analysis of Covariance (ANCOVA) (Fairness Concerns Scale)

Source	df	MS	F-value	*p*-value (one-tailed)
Negotiators' role (NR) H1	1	19576.468	2.972	0.044
Social network (SN) H2	1	23155.658	3.515	0.032
Compensation scheme (CS)	1	1840.623	0.279	0.300
Covariate:				
Fairness Concerns	1	18645.990	2.830	0.048
Subject Type	1	32917.864	4.997	0.014
Gender	1	10636.446	1.615	0.104
Interactions:				
NR x SN	1	116.048	0.018	0.448
NR x CS	1	439.681	0.067	0.399
SN x CS H3	1	22970.230	3.487	0.033
NR x SN x CS	1	873.349	0.133	0.359
Error	104	6588.035		

R-Squared = 0.216 (Adj. R-Squared = 0.141); F-value = 2.869; p = 0.003

The ANOVA results in Table B1 indicate that the main effect remains significant when the covariate – fairness concerns, is calculated based on participants' average score (as opposed using a dichotomous variable, 0 and 1).[85] This is consistent with the main results in Table 5.4.

Hypothesis H2

Table B1 suggests that the difference in final negotiated transfer prices between the social network environments is statistically significant (F-value = 3.515, p = 0.032, one-tailed) and is consistent with the primary result reported in Section 5.4.2.

[85] Even when all five fairness concerns questions are used, the results (not reported here) remain the same.

Hypothesis H3

The results presented in Table B1 shows that the two-way interaction between sellers and buyers under a competitive and cooperative compensation scheme is marginally significant (F-value = 3.487, p = 0.033, one-tailed). As such, it is consistent with the primary result reported in Section 5.4.3.

Table B2

Additional Analysis – Sellers' Reservation Price (Fairness Concerns Scale)

Analysis of Covariance (ANCOVA)

Source	**df**	**MS**	**F-value**	***p*-value (one-tailed)**
Social network (SN)	1	4935.074	0.331	0.284
Compensation scheme (CS)	1	63165.610	4.233	0.023
Covariates:				
Fairness Concerns	1	5776.293	0.387	0.269
Subject Type	1	10021.817	0.672	0.208
Gender	1	14505.123	0.972	0.165
Interaction:				
SN x CS	1	7411.154	0.497	0.242
Error	51			

R-Squared = 0.140 (Adj. R-Squared = 0.039); F-value = 1.388; p = 0.237

Table B2 indicates that the main effect of compensation schemes for sellers with fairness concerns as a covariate remains significant (F-value = 4.233, p = 0.023, one-tailed). As such, the use of average score for fairness concerns is consistent with the main result in Section 5.6.1.

Table B3

Additional Analysis – Sellers' Price Premium (Fairness Concerns Scale)

Analysis of Covariance (ANCOVA)

Source	**df**	**MS**	**F-value**	***p*-value (one-tailed)**
Social network (SN)	1	1229.856	0.129	0.361
Compensation scheme (CS)	1	42636.580	4.456	0.020
Covariates:				
Fairness Concerns	1	17848.108	1.865	0.089
Subject Type	1	6140.416	0.642	0.214
Gender	1	2729.986	0.285	0.298
Interaction:				
SN x CS	1	1774.196	0.185	0.335
Error	51			

R-Squared = 0.117 (Adj. R-Squared = 0.013); F-value = 1.125; p = 0.3361

As shown in Table B3, the main effect of compensation schemes on sellers' price premium remains statistically significant when the average score of fairness concerns is used. This is consistent with the main results in Section 5.6.2.

APPENDIX C

This appendix contains the experimental study case materials for

Study Two

APPENDIX 6.1

Transfer Prices and Divisional Profits

Total Company Profit = PARTS + ASSEMBLY = $6.00

Transfer price ($) per part of *Alpha*	PARTS profit ($)	ASSEMBLY profit ($)
2.00	0	6.00
2.25	0.25	5.75
2.50	0.50	5.50
2.75	0.75	5.25
3.00	1.00	5.00
3.25	1.25	4.75
3.50	1.50	4.50
3.75	1.75	4.25
4.00	2.00	4.00
4.25	2.25	3.75
4.50	2.50	3.50
4.75	2.75	3.25
5.00	3.00	3.00
5.25	3.25	2.75
5.50	3.50	2.50
5.75	3.75	2.25
6.00	4.00	2.00
6.25	4.25	1.75
6.50	4.50	1.50
6.75	4.75	1.25
7.00	5.00	1.00
7.25	5.25	0.75
7.50	5.50	0.50
7.75	5.75	0.25
8.00	6.00	0

APPENDIX 6.2

BUYER

INSTRUCTIONS

In this study, you will be asked to assume the role of a division manager where you will negotiate with another division manager in a transfer pricing decision.

Read the scenario in the booklet **carefully** and wait for the coordinator's instructions before proceeding with the negotiation task on the computer terminal in front of you. **DO NOT REFRESH** the page or browser at any point during the experiment.

Please be assured that your responses will be treated confidentially. The results of the study will be published in summary form and your responses will not be individually identifiable.

If at any time you are uncertain about what you should be doing, please raise your hand to attract the coordinator's attention.

Please do not write in this book.

Thank you for participating ☺

Ethics approval: RA/4/1/706

Organisational Structure

XYZ is a medium-sized manufacturing company which has the following two operating divisions:

1. PARTS division ("Seller") which manufactures a product called *Alpha* for use by ASSEMBLY division or for sale to outside buyers, and

2. ASSEMBLY division ("Buyer") which buys *Alpha* from the PARTS division or from outside sellers, and assembles them into *Final Product* for sale to outside customers.

Role

You are to assume the role of "**Buyer**", the Manager of the ASSEMBLY division of XYZ.

You can buy *Alpha* either from the "Seller", manager of the PARTS division, or from sellers outside of Company XYZ.

The transfer price that you pay is negotiated by you and the "Seller" (the manager of PARTS division). Both of you are free to consider whatever factors are appropriate in setting the price, and to choose a transfer price for *Alpha* that is satisfactory to both of you.

If you and the "Seller" cannot agree on a price, you can always buy from outside sellers. If you buy from outside sellers, you will pay a predetermined market price which is not negotiable. You will also incur a $2 transaction cost each time you decide to buy from outside sellers that you do not incur when you buy internally.

The table below shows the total profit from trading each unit of *Alpha* and how this profit is divided at all possible transfer prices between the both of you.

TABLE 1: Transfer Prices and Divisions' Profits

Transfer price ($) per part of *Alpha*	Seller's profit ($)	Buyer's profit ($)
14	4	16
15	5	15
16	6	14
17	7	13
18	8	12
19	9	11
20	10	10
21	11	9
22	12	8
23	13	7
24	14	6
25	15	5
26	16	4

Seller's profit + Buyer's profit = Total Company Profit ($20)

If agreement is reached (i.e. *Alpha* is traded internally), the total profit of $20 will be divided between the two divisions. For example, if agreement is reached at $22, the profit would be split $12/$8 between seller and buyer (see Table 1).

However, if both of you cannot agree on a transfer price, both of you will trade with outsiders at the market price in that period. You will both also incur outside transaction cost of $2 which will affect your profits.

For example, if both of you cannot come to an agreement and the market price for the period is $22, both your profits for that period will be as follows:

Seller's Profit	$12 – $2 transaction cost = $10
Buyer's Profit	$8 – $2 transaction cost = $6

Failure to reach an agreement will thus result in overall company profits (and total divisions' profits) being lower due to outside costs incurred.

If one of you chooses to transact with outsiders, the other will have no choice but to transact with outsiders. The market price will vary from $14 to $26 each period and the market price is independent between each period.

PARTS and ASSEMBLY are about the same size in terms of invested capital and divisional profit, and the price of *Alpha* is important to both divisions. PARTS' production costs and ASSEMBLY's assembling costs are approximately equal.

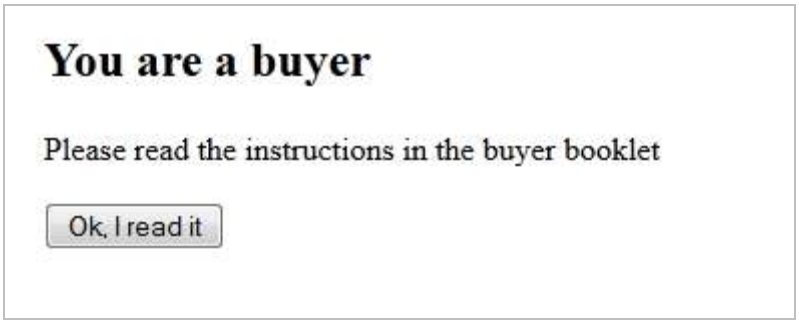
TASK

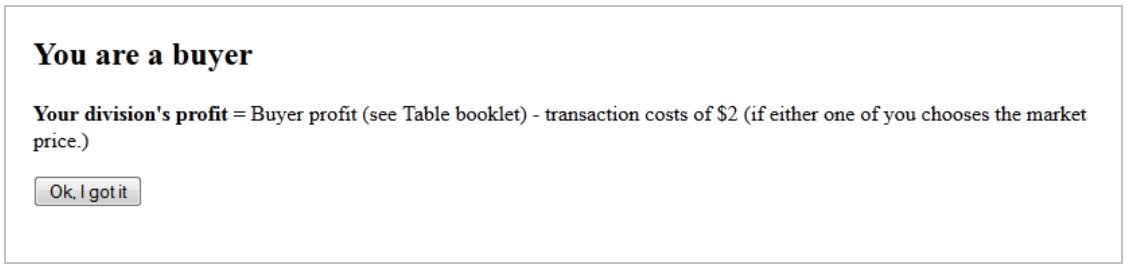
You will negotiate 20 trials during the course of this study. Each negotiation will take exactly 1 minute (60 seconds). There will be a timer on the screen that indicates the time you have left for each trial. If you do not reach agreement before the timer runs out, both you and the other manager will be forced to transact with the outside market and pay the market price. You will also incur a $2 transaction cost.

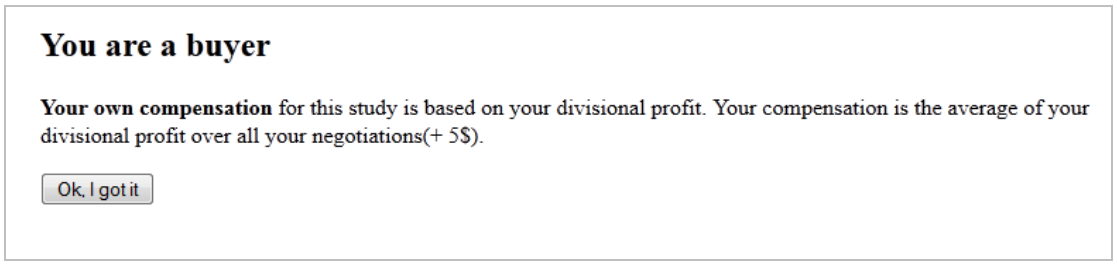
COMPUTER TASK

Please wait for instructions from the session coordinator for this computer task

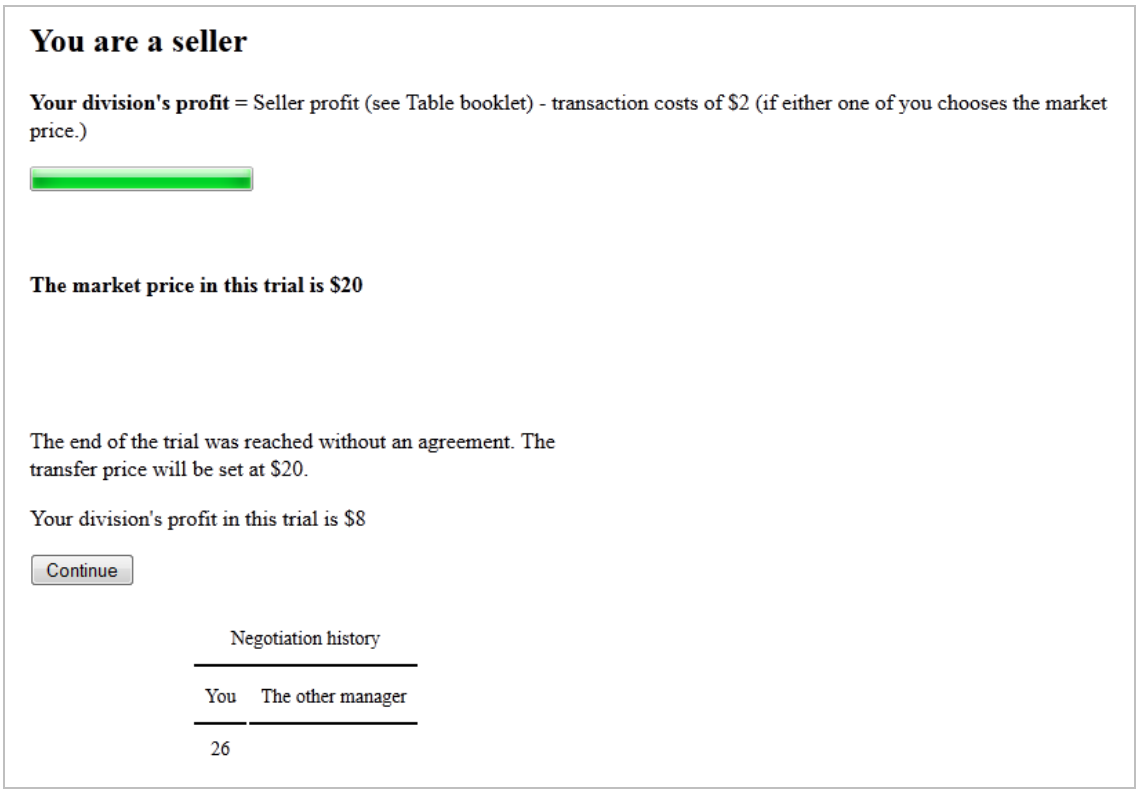
APPENDIX 6.3


You are a buyer
Please read the instructions in the buyer booklet
Ok, I read it


You are a buyer
Your division's profit = Buyer profit (see Table booklet) - transaction costs of $2 (if either one of you chooses the market price.)
Ok, I got it


You are a buyer
Your own compensation for this study is based on your divisional profit. Your compensation is the average of your divisional profit over all your negotiations(+ 5$).
Ok, I got it

APPENDIX 6.4



You are a seller

Your division's profit = Seller profit (see Table booklet) - transaction costs of $2 (if either one of you chooses the market price.)

The market price in this trial is $20

The end of the trial was reached without an agreement. The transfer price will be set at $20.

Your division's profit in this trial is $8

Continue

Negotiation history

You	The other manager
26	

APPENDIX 6.5

Please answer all questions.

16. What role did you take when completing the experimental task?
    A. I was the BUYER
    B. I was the SELLER

17. Your personal compensation depended on?
    A. Your division's profit only
    B. Your division's and the other division's profits, i.e. the company profit

18. Did you negotiate with more than one manager?
    A. Yes
    B. No

19. If agreement was not reached, there was:
    A. No impact on company profits
    B. Lower company profits due to outside costs

20. To what extent did you feel you and the other manager(s) were part of a team? (Circle a number from 1 to 7)

1	2	3	4	5	6	7
A little						A lot

21. To what extent did you trust the other manager(s)? (Circle a number from 1 to 7)

1	2	3	4	5	6	7
A little						A lot

22. To what extent did you feel the negotiations were fair? (Circle a number from 1 to 7)

1	2	3	4	5	6	7
A little						A lot

23. To what extent did you try to reach an equal profit split with the other manager? (Circle a number from 1 to 7)

1	2	3	4	5	6	7
A little						A lot

24. To what extent did you try to reach an equal profit split with the other manager, when the market price was in your favour? (Circle a number from 1 to 7)

1	2	3	4	5	6	7
A little						A lot

25. To what extent did you try to reach an equal profit split with the other manager, when the market price was in the other manager's favour? (Circle a number from 1 to 7)

1	2	3	4	5	6	7
A little						A lot

26. How much experience have you had in transfer pricing issues in a work environment?

1	2	3	4	5	6	7
No Experience						Extensive Experience

27. To what extent did you try to reach an agreement as quickly as possible? (Circle a number from 1 to 7)

1	2	3	4	5	6	7
A little						A lot

28. What do you think was the intention of the study? (Please write in the space below)

29. Shortly describe your strategy during the study. (Please write in the space below)

Please answer the following demographic questions:

1. Gender (circle one): A. Male B. Female

2. Age: _____

3. Degree (e.g. BCom, LLB): _____

4. Major (e.g. Accounting): _____

5. Do you have any working experience (circle one)?
   a. Yes [go to question 6 and 7]
   b. No [go to question 8]

6. How long have you worked? _____Years _____ Months

7. I am/was working (circle one):
   a. Full-time in an accounting related job
   b. Full-time in a non- accounting related job
   c. Part-time in an accounting related job
   d. Part-time in a non- accounting related job

8. I am a/an (circle one):
   a. Local student
   b. International student
      Please state your country of origin: _____

9. What percentage of your work experience has been in Australia? _____ %

Please respond to each of the following question by circling a number from 1 to 5.

		Strongly Disagree				**Strongly Agree**
1.	Managers who act cooperatively should be rewarded	1	2	3	4	5
2.	Managers who do not act cooperatively should be punished	1	2	3	4	5
3.	Managers who act in the common interest should be rewarded	1	2	3	4	5
4.	Managers who act in the common interest should get a fair return	1	2	3	4	5
5.	If managers are fair with me, I would be fair in return	1	2	3	4	5
6.	If managers place their trust in me, I would repay them at personal cost	1	2	3	4	5
7.	I would reward those who expected me to be fair	1	2	3	4	5
8.	I would punish those who did not expect me to be fair	1	2	3	4	5
9.	I would not want to disappoint those who trust me	1	2	3	4	5