

Delaying Payment and Consumer Behavior

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Abstract

Resource constraint at the time of purchase decisions is one important factor that impose restriction on consumer behavior. Past research has found that a higher available resource reduces the resource depletion people experience by spending. Consequently, a unit of spending from that resource is relatively perceived to be smaller. The present research proposes that delaying payment leads consumers to have a perception of greater available resources at the time of purchase. It also reduces the vividness with which people sense their decisions' consequences, and thus the extent to which the cost of a purchase can control consumer behavior. Therefore, spending becomes easier, costs are perceived to be relatively smaller, and consumers feel less risk at the time of their decisions. Consistent with this possibility, six studies show that delaying payment leads consumers to spend more, take more risk, and change their preferences. These results show that, in contrast to the standard economic approach to deferred payment that compensates for the time value of money by applying an interest rate, delaying payment by itself can provide benefits for businesses. The findings have practical implications for managers interested in predicting or influencing consumers' purchasing behavior.

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This thesis is only a beginning of my journey.

Dedication

I would like to dedicate this dissertation to my wife Saeedeh and my daughter Narges without whom none of this would have been possible. They have always been a constant source of support and encouragement during my educational endeavors (or crazy ideas) for so long.

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Chapter 1

Introduction

Typically, buyers are free to consume a product at the moment they pay for it. However, today, with developments in banking and financial systems, buyers are able to possess products or use services before paying. In these situations, at the time buyers make decisions about whether to purchase, how much to spend, and which product alternatives to choose, they do not need to think about their actual ability to pay, that is, about money availability and allocation. This phenomenon raises the question of whether consumers behave differently when payment is delayed. Does delaying payment affect their amount of spending? Does it change their risk-taking behavior? Does delaying payment affect consumers' preferences and choices?

Money is a limited resource, and this constraint imposes restrictions on consumer behavior. Research shows that the amount of available resources at the time of purchase decisions is an important factor in determining consumer behavior. Greater available resource at the time of purchase has been found to increase the propensity to spend (Soman & Cheema, 2002), result in more spending (Morewedge, Holtzman, & Epley, 2007), and enhance buyer impulsivity (Krishnamurthy & Prokopec, 2009). When consumers need to pay at the time of purchase, the amount of available resources becomes a major determinant of their behavior. In these situations, consumers have to care about their regular spending commitment, how to allocate money for the purchase, and are more likely to think about the opportunity cost of their

purchases. This enhanced concern about resource constraints, consequently imposes restrictions on consumers' spending and makes them cautious in purchasing decisions.

Considerable prior research has been devoted to the effects of some special payment modes on consumers' spending behavior, with the emphasis on credit-card payment as opposed to cash. This line of research has consistently demonstrated that payment modes such as credit cards, relative to paying by cash, facilitate spending (Feinberg, 1986; Mishra, Mishra, & Nayakankuppam, 2006; Monger & Feinberg, 1997; Prelec & Loewenstein, 1998; Raghurir & Srivastava, 2008a; Runnemmark, Hedman, & Xiao, 2015; Soman, 2001). However, such studies focused only on some instruments of payment such as debit and credit cards, and only measured the amount and the probability of spending.

The present research, regardless of specific payment modes, contributes to this body of work by considering how time of payment (i.e., immediate vs. delayed) influences consumer behavior. We propose and find that time of payment influences not only consumers' spending level, but also their risk-taking behavior and preferences. We hypothesize that delaying payment causes people to have the perception of greater available resources as they contemplate purchase. This perception makes spending easier and reduces the subjective cost of a purchase. Delaying payment also gives consumers more control over the cost of their decisions and hence reduces the perceived risk they feel when contemplating a purchase. Thus, the extent to which costs can control consumer behavior is reduced, and they become more optimistic, less conservative in their preferences and more likely to take risks.

In six experiments, we find that delaying payment leads consumers to spend more (Studies 1 & 2), become more risk tolerant (Study 3), and change their preferences (Studies 4 and 5). Study 1 shows that delaying payment leads consumers to exceed their budget by more in purchasing a product they like. Study 2 provides further evidence for this effect and shows that having an option of delayed payment causes consumers to consider a greater product price range. Study 3 investigates the effect of delayed payment on consumers' risk-taking, and shows that in a betting task, participants bet more on a gambling game and were more optimistic about winning when the payment for their bet was delayed, especially when the level of risk was high. Studies 4 and 5 provide more evidence for this effect and demonstrate that in a choice between two alternatives when there are trade-offs between desirability and risk, delaying payment changes people's preferences toward a desirable, more-tempting but riskier option. Finally, study 6 shows that the resources availability at the time of purchase is an important contributor in consumer preferences related to delayed payment option.

The remainder of this paper is organized as follows. First, we review the literature relevant to the psychology of money and payment, and how temporal distance to an event or action affects people's decision making. Then, using this information, we build our argument for the effect of payment time on consumer behavior and formulate our hypotheses. Next, we report on six experiments that examine these hypotheses. Finally, we conclude with a general discussion of the results and various theoretical and practical implication of this research, and suggest avenues for future research.

Chapter 2

Theoretical Background

Payment, the act of exchanging money for a product or service, is an important part of every transaction. Typically, payment happens at the moment of transaction, and buyers are free to consume a product or service at the moment of paying. However, today, with development in banking and financial systems, buyers are able to possess products or use services before paying. This research assesses the effect of payment time on consumer behavior. This section reviews the literature streams that provide theoretical development and support for this work: the psychology of money and payment, and the research on the effect of temporal distance on people's decision making.

2.1 Psychology of Money and Payment

2.1.1 Subjective value of money

Although money is a representative for the values that products or services return, the value of money itself is subjective (Buechel & Morewedge, 2014). Consumers value an identical monetary outcome or price differently depending on the presentation format, monetary forms, and the contexts in which they evaluate it (Raghubir, 2006). One of the most important factors heavily influencing the subjective value of a monetary outcome is the reference point to which it is compared. People are very insensitive to the absolute value of money and evaluate it relative to reference points (Kahneman & Tversky, 1979). Thus, a

change from a reference point of small magnitude will be perceived as more influential than an identical change from a reference point of large magnitude. For example, a \$10 loss from \$20 is perceived to be much bigger than a \$10 loss from \$1020 (R. Thaler, 1985), or saving \$5 on a \$125 product is perceived as less valuable than saving the same amount on a \$15 product (Tversky & Kahneman, 1981). Therefore, the subjective value of a given monetary loss or gain depends on the reference points to which it is compared at the time of judgment (Buechel & Morewedge, 2014; Morewedge et al., 2007). These reference points are constructed at the time of evaluation and determined by the context in which a monetary gain or loss is evaluated (Lichtenstein & Bearden, 1989; Raghurir, 2006). For example, the subjective value of receiving a \$5 prize would be different in the context of purchasing a chocolate bar rather than a dinner at a restaurant. People will be influenced by the comparison standards that happen to be cognitively accessible or salient depending on the context in which the evaluation is made (Kahneman & Tversky, 1984; Kahneman & Miller, 1986; Kassam, Morewedge, Gilbert, & Wilson, 2011; Stewart, Chater, & Brown, 2006). For example, Adaval and Wyer (2011) demonstrate that exposing consumers to extreme prices, with or without their conscious awareness, influences their willingness to pay for both related and unrelated products. The standards people use in evaluation, of course, also depend on their knowledge of and familiarity with products (Hsee & Zhang, 2010; Morewedge, Kassam, Hsee, & Caruso, 2009), which could moderate the effect of contextually salient standards.

One of the important contextual factors that can act as a comparison standard is a budget (the available financial resource) (Buechel & Morewedge, 2014). The amount of available resource at the time of decision can shape individuals' evaluations and influence how their spending is perceived and experienced. Soman and Cheema (2002) demonstrate that the size of credit limit (i.e., the availability of credit in the future) influences consumer propensity to spend. By manipulating the size of credit limit while controlling for liquidity, they found that a higher credit limit results in a higher propensity to spend. This result is interesting because credit is a resource that has not yet been realized and hence does not physically exist (Soman & Cheema, 2002). Similarly, Morewedge et al. (2007) show that the size of the resource account available at the time of judgement changes consumers' perception of resource depletion and in turn influences the subjective cost of their consuming the resource (i.e., money, calories or time). For example, they provide evidence that the cost of consuming a resource subjectively seems less when people consider a large than a small resource resulting in higher consumption of that resource. In one of their study, they demonstrate that implicitly making buyers to think about the larger resources they have (e.g., by asking about their savings or checking accounts) leads buyers to spend 36% more than those whose reminded of their small resources (e.g., by asking about the money in their wallets). In the same vein, it has been shown that dividing an aggregate quantity of a resource (e.g., money, food) into smaller portions increases the subjective cost of consuming that resource and consequently results in lower rates of consumption (Cheema & Soman, 2008). In one of their studies, Cheema and Soman (2008) show that in a gambling game partitioning an aggregate resource

into smaller parts decreases the bets participants place from that resource. Likewise, research shows that spending feels more painful when it exhausts a budget relative to spending when resources remain in the budget (Soster, Gershoff, & Bearden, 2014), and as consumers get close to budget exhaustion or feel deficit in their financial position, they become conservative in their preferences (Mishra, Mishra, & Nayakankuppam, 2010; Sharma & Alter, 2012). Findings also suggest that shorter framing of a budget (e.g., a weekly vs. a monthly frame) leads consumers to think more about expenditures and opportunity costs which results in more conservative decisions (Spiller, 2011).

In addition to the perception of available resources, another factor that influences the subjective cost of spending is the description of expenses. For example, when the cost of a donation to charities is described as the cost incurred per day rather than per months, people are more likely to donate even though the physical payment remains aggregated (Gourville, 1998). Therefore, as Morewedge et al. (2007) have explained, the perceived resource depletion can be modeled as a ratio of the amount of expense to the resource available for spending. Thus, altering the numerator or denominator of this fraction can affect the perceived resource depletion, changing the subjective cost of consuming a resource. Research suggests that this perception of resource depletion has two effects on spending behavior: when larger resources are available, people are 1) more likely to spend from that resource, and 2) they do spend more of it.

The other factor identified as influencing consumers' valuation of money is emotions related to spending (Raghubir, 2006). For example, consumers tend to feel guilty about

spending on luxuries or indulgent purchases. Thus, when the psychological cost of a purchase is less pronounced, the feelings of guilt are less salient, and consumers are more likely to spend on indulgent items (Kivetz & Simonson, 2002). However, these negative feelings about spending depend on individuals' characteristics. People naturally vary in the extent they focus on the gain rather than the loss side when thinking about a purchase, and this difference in focus will in turn influence the intensity of their emotions. Spendthrifts tend to focus on the gain side of a purchase and overlook the loss side, including actual and opportunity costs. As a result, they end up spending more money. On the other hand, tightwads tend to focus on the losses involved and as a result end up refusing to purchase or spending less (S. I. Rick, Cryder, & Loewenstein, 2008). However, although this difference is in part related to individual differences, the context in which a purchase decision is made can also change the intensity and direction of people's focus on the gain and loss sides of a purchase. For example, Rick et al. (2008) asked participants to imagine that they could choose to receive a free DVD box set from Amazon.com if they were willing to pay for \$5 shipping costs. Spendthrifts were significantly more likely than tightwads to pay the \$5; however, when the shipping cost was described as "a small fee", making the amount seem insignificant and reducing the subjective cost, tightwads were almost as equally likely as spendthrifts to pay the fee.

The way payment is made is one factor that can influence both the perception of resource depletion and emotions at the time of purchase. The following section reviews relevant research on the psychology of payment.

2.1.2 Different payment modes and spending behaviors

Considerable prior research has been devoted to the effect of different modes of payment on consumers' spending behavior, with the emphasis on credit card payment (or other card payments) as opposed to cash. This line of research has consistently demonstrated that people spend more for the identical items when paying with credit cards even when the liquidity constraint is controlled (Hirschman, 1979; Feinberg, 1986; Prelec & Simester, 2001; Soman, 2001). This is the so-called credit-card premium. However, different underlying reasons have been identified for this finding, such as classical conditioning (Feinberg, 1986), changing the reference price (Monger & Feinberg, 1997), reducing the pain of payment (Prelec & Loewenstein, 1998), less recalling of past expenses (Soman, 2001), processing fluency (Mishra et al., 2006), and different representation of money (Raghubir & Srivastava, 2008b; Runnemark et al., 2015).

Hirschman (1979) was the first to take into account the mode of payment in investigations of purchasing behavior and showed that the possession of a credit card leads to higher levels of purchasing. Later, Feinberg (1986) reported that priming participants with even a credit card logo not only increases the magnitude but also the probability and speed of spending. He contended that credit cards, through repeated association with product purchasing, act as conditioning stimuli for spending (classical conditioning). However, this explanation was later criticized for various reasons (Shimp & Moody, 2000). Subsequently, Monger and Feinberg (1997) demonstrated that credit cards can influence consumers' spending through raising the reference price (i.e., consumers' estimation of a fair price for a product) as well as

the reservation price (i.e., the maximum amount one is willing to pay). Prelec and Loewenstein (1998) later proposed the idea of “pain of payment” (i.e., the negative feeling of parting with money). They argue that when consumers make a purchase, they experience both the pleasure of consumption and the pain of payment. Therefore, the extent to which pain of payment is sensed can affect the consumers’ spending behavior (Prelec & Loewenstein, 1998). They also defined the concept of coupling as the degree to which thoughts of payment are brought to mind by consumption and vice versa. Thus, because a mode of payment such as credit cards tend to temporally decouple payment and consumption, it attenuates the pain of payment and augments consumers’ spending. In other words, the vividness with which people see that money goes out of their pocket determine the pain of paying. So, for the same price, payments with different saliences in the payment process result in relatively different difficulties in giving up money. Building on the concept of pain of payment, Soman (2001) examined how the effects of the historic usage of payment mechanisms influence future purchase decisions. He speculates that, given the inverse relationship between past expenses and future spending due to depleting available budget, the payment mechanism used to incur past expenses changes the strength of that relationship by influencing the recall of past spending and negative impressions associated with it. Therefore, payment with credit cards is lower in the salience and vividness of giving up money than payment by cash (which immediately reduces the budget) or paying with check (which needs users to write down the amount paid), and, hence, credit-card use increases willingness to pay. In summary, Soman (2001) states that payment with credit cards leads to

higher levels of spending because it results: 1) in a lower memory trace of past expenses, and 2) in delayed depletion of wealth. However, it should be noted that in some contexts distinguishing between pain of payment and pleasure of consumption is not easy. For example, in cases such as when people buying a gift for someone they love, the paying could be pleasurable.

Another feature of payment that has been found to influence consumers' spending behavior is the form of payment mode. Soman (2003) labelled this difference in the salience of payment related to physical form as payment transparency. He then experimentally demonstrated that photocopy cards and prepaid laundry cards, due to their lower degree of payment transparency, result in higher spending. He attributed this effect to lower pain of payment. Raghurir and Srivastava (2008b), similarly, referred to the difference in the physical appearance of monetary instruments as payment forms. They argued that payment forms other than cash may look like monopoly money (i.e., play money), and consequently makes spending easier. By conducting a number of studies to examine differences in spending when the payment mode differed only in form, they showed that people using gift cards instead of cash tend to spend more, and attributed this increase in spending to the reduced transparency of payment (i.e., less vividness of resource depletion). Research also found that less familiar forms of money such as token, vouchers, and gift cards may be valued less than cash (Soman, 2003; Raghurir & Srivastava, 2008b; Shah, Eisenkraft, Bettman, & Chartrand, 2015). In the same vein, Runnemark et al., (2015) compared spending with debit-cards versus cash, controlling for potential confounders such as cash-on-hand

constraints, spending type, price familiarity, and consumption habits. Their results suggest that the form of money affects spending, and that debit-card payments, which are less transparent than cash, make spending easier. These observations have been confirmed in people who spend gambling money (M. Griffiths, 1993; M. Griffiths, 1999; M. Griffiths, Parke, Wood, & Parke, 2005; M. D. Griffiths & Parke, 2002). Researchers argue that it is very likely that virtual representations of money, such as chips, tokens or electronic money, have less subjective value than their equivalent cash.

Reviewing prior research shows that two features of payment mechanisms that distinguish them from paying with cash influence consumer spending behavior: The form of payment (i.e., the difference in physical appearance), and the degree of coupling between payment and consumption (Prelec & Loewenstein, 1998; R. H. Thaler, 1999; Raghurir & Srivastava, 2008a). These features not only reduce the vividness and transparency with which people sense resource depletion, but also decrease the negative feelings associated with parting with money. However, earlier researchers have focused only on certain instruments of payment (e.g., credit cards as opposed to cash payment), and have generally considered primarily the effect of payment mechanisms on spending behavior. They remain almost silent about the role of payment time in consumer preferences and risk-taking behavior. In contrast, in this present research, regardless of any payment mechanism, we are looking at the effect of payment time on consumers' behavior. We argue that time of payment is a factor that can affect the perception of available resources at the time of judgement, and in turn, consumers' perception of resource depletion. This change in perception of resource depletion influences

the subjective cost of consuming a resource, and subsequently affects consumers' spending behavior, evaluations and preferences.

2.2 Temporal Distance and Evaluation

The effect of delay between the decision about (i.e., commitment to) an event or action and its occurrence has been the focus of a broad range of research. In cases of delaying payment, the event of payment, along with its outcome (i.e., resource depletion) is delayed. In the following, we review the literature related to the effect of temporal distance on decision making.

2.2.1 Temporal Discounting

The temporal distance between the moment when a decision is made and when its outcome is realized is an important factor that changes decision-making profoundly. An immediate prize is, typically, more attractive than the same prize paid out in the future. This phenomenon, known as temporal discounting, was first introduced by Samuelson (1937) as the discounted utility model (DU). According to that original model, the present utility of an outcome decreases exponentially as the outcome is increasingly delayed, and the discount rate is assumed to be constant (Frederick, Loewenstein, & O'donoghue, 2002). Although the DU model was accepted as a descriptively accurate representation of actual behavior, empirical research on intertemporal choice has documented a number of DU anomalies in the observed behavior of people. For example, in contrast to DU, it was observed that discount rates are not constant, but decline as a time delay increases (R. Thaler, 1981), which is referred to as

hyperbolic discounting. Moreover, it has been shown that, even for a given temporal delay, discount rates vary across different types of outcomes. For example, small amounts are discounted more than large amounts (R. Thaler, 1981), or discount rates for gains and losses may differ in such a way that gains are discounted more than losses (i.e., sign effect). For example, it has frequently been shown that a significant percentage of participants prefer an immediate loss to a delayed one (Benzion, Rapoport, & Yagil, 1989; G. Loewenstein, 1987; MacKeigan, Larson, Draugalis, Bootman, & Burns, 1993) . The insights gained from these observed inadequacies of the DU model have led to the proposal of some alternative models (Frederick et al., 2002). For instance, some researchers modified the discount function with decreasing discount rates and introduced hyperbolic discount functions. Hyperbolic discounting implies that, as the temporal delay increases, a delayed outcome decays at a slower rate, which means people are more patient with respect to the distant future but act impatiently in the near future. Others added a new term such as the utility of anticipation to the utility function (G. Loewenstein, 1987). The argument is that people experience pleasure or pain not only from a current outcome but also from anticipating a future one (Frederick et al., 2002). Thus, if dreading a future bad outcome adds an extra disutility to its immediate disutility, in a choice between an immediate and delayed loss, people prefer to incur the loss immediately (Berns et al., 2006). Still others consider the influence of visceral factors and the extent of the emotions experienced at the moment of decision as a reason for differences between decisions with immediate versus delayed consequences (Laibson, 2001; G. Loewenstein, 1996). They argue that the proximity of an outcome is one of the cues that can

activate a disproportionate effect on behavior. People, hence, respond intensely to immediate costs and benefits, and visceral emotions have strong momentary influences on immediate behavior (Frederick et al., 2002).

A number of other confounding factors also have been identified that play a role in discounting of the future. For example, delaying an outcome, even when its occurrence is certain, unavoidably associates some uncertainty to the outcome. In other words, even if people are assured that a delayed outcome is going to happen, delaying by itself associates some subjective uncertainty to it (Frederick et al., 2002). Highhouse et al. (2002), for example, show that decision makers tend to discount future outcomes even when the certainty of the future outcomes is assured, and this subjective uncertainty is more acknowledged for loss than gain, in a way that delayed certain threats are perceived as less probable than delayed certain opportunities. Likewise, Shelley (1994) showed that, given the inherent uncertainty of the future, uncertainties are more pronounced for future losses than future gains. Other factors like inflation and the characteristics of capital market (i.e., interest rates) have also been discussed as possible reasons that influence the degree of discounting, especially for monetary outcomes. However, it seems that people generally neglect capital markets and inflation, and instead base their decisions on other considerations (Frederick et al., 2002).

The literature on temporal discounting reflects the interplay of variety of psychological motives involved in this phenomenon, although the essential consideration in each situation may be different. This line of research also focuses more on the effect of temporal distance

on the value or utility of an outcome or consequence. As mentioned earlier, delaying payment involves temporal delay of two things: one is the event of payment and the other is the outcome of payment (i.e., resource depletion). Therefore, to assess the effect of delaying an action or event on behavior we need to review other theories.

2.2.2 Decision Making about Delayed Events and Actions

The main premise of temporal discounting is that people tend to discount the value of an outcome as temporal distance to the outcome increases. However, research on the effect of delay between the decision about an event and its occurrence has examined more fundamental changes that it might cause in people's decision making, such as changes in mental representations of an event or action, the degree of optimism, and emotions.

2.2.2.1 Temporal distance and mental representation

Trope and Liberman (2003) showed that temporal distance systematically changes people's mental representations of future events or actions. In their construal level theory (2010), they distinguish between low-level and high-level construals of events or actions. Low-level construals are contextualized representations that are rich in details, incidental aspects, and practical concerns. Whereas high-level construals are relatively decontextualized representations that missed the concrete details and contain more information relating to essential and central aspects. They propose that people tend to think about a temporally close action in low level terms—having more concrete details and practical concerns, and in terms of how they are going to do the action. In contrast, they tend to think about a temporally

distant action in high level terms—having less concrete details, and in terms of why they are going to do the action (Liberman & Trope, 2003). For example, when we imagine going to an event or doing an action in the distant future, we do not imagine every detail of the event or action, just its essential features. The problem with omitting inessential features from imagining temporally distant actions and events is that such features can significantly influence our subsequent evaluation, and preferences. Trope and Liberman (2007; 2010) argue that this tendency of individuals to use higher-level construals to represent more-distant events evolved as a generalized heuristic. Typically, concrete details and information on peripheral aspects of distant events is initially unavailable or even unreliable but often become available as one gets closer in time to the events. This lack of knowledge, hence, forces people to use more essential, high-level terms to represent distant events or actions (Eyal, Liberman, & Trope, 2009; Liberman & Trope, 2003). Moreover, people usually postpone considering the means they are going to use or other peripheral details until they get close in time to events or actions. One can thus think about a future action or event in terms of high-level and essential aspects, and only later start thinking in terms of the means required, and details of the action or event (Liberman & Trope, 2003). Trope and Liberman (2010) postulate two related criteria for distinguishing between high-level and low-level features of an item or an event. The first criterion is centrality, which means that changing high-level features has more influence on the essence of an object than does changing low-level features. For instance, an event such as a lecture would change more when the topic and the lecturer are changed than when the location of the lecture is changed, implying that the

topic of the lecture and the lecturer are higher-level features than the location. The second criterion is subordination, which reflects that the concept of low-level features depends on high-level features more than the reverse. For instance, in the case of the lecture mentioned above, location would become important only if the topic or lecturer are interesting. In this sense, information about location is subordinated to information about the lecturer or topic. Considering these two criteria, the process whereby increasing the temporal distance directs people to mentally portray an event at a higher level of construal is better understood. This understanding occurs because high-level construals are more likely to stay constant as people get farther from an event (Trope & Liberman, 2010). As for payment, we believe that compared to immediate payment, delayed payment would lead people to decontextualized thinking about the payment. They, consequently, less attend to concrete and practical aspects of payment, such as how to pay and the opportunity costs. Thus, the effects of immediate constraints on people's financial resources would be attenuated.

2.2.2.2 Temporal Distance and Optimism

Many of our decisions involve outcomes that take place in the future, and prediction about future form the basis of many of our decisions. These predictions are often unrealistic and, in many situations, very optimistic and overconfident (Gilovich, Kerr, & Medvec, 1993; Nisan, 1972). Empirical evidence shows that people tend to overestimate the occurrence of positive events and outcomes and underestimate the occurrence of negative ones (Dunning, 2007). Gilovich et al. (1993), in a series of studies, showed that people expect higher performance for distant than near future tasks. For instance, students predict to do better on their exams at

the beginning of the term than on the day of the exam, and to better perform a number of tasks when they are in the distant future rather than in the near future (Gilovich et al., 1993). They called this phenomenon cold feet and explained that people feel more accountable for the near future than the distant future. This higher accountability for near-future tasks, in turn, increases the salience of difficult aspects of the tasks (Gilovich et al., 1993). In the same vein, research on individuals' overconfidence in prediction shows that people tend to base their predictions on abstract models that overlook the effect of contextual factors (Dunning, Griffin, Milojkovic, & Ross, 1990; Griffin & Ross, 1991). Buehler, Griffin and Ross (1994) showed that people tend to underestimate the time needed to complete tasks, a phenomenon that has been called planning fallacy (Kahneman & Tversky, 1977). Buehler et al. (1994) suggest that this underestimation of task completion time results from people failing to take into account factors unrelated to the task and past experiences in estimating completion time. Since people are more likely to neglect potential obstacles and competing demands for their time when predicting about the distant future, this optimistic prediction may be more pronounced in people's planning for the distant rather than near future (Buehler, Griffin, & Peetz, 2010; Peetz, Buehler, & Wilson, 2010). Therefore, one main reason for change in decisions that are based on future estimation comes from the powerful influence of context and situational details that are usually overlooked. This deterministic role of contextual factors is a central insight in research on social psychology and implies that how events are perceived depends profoundly on the details and context of that situation (Dunning, 2007). Research also shows that people are optimistic in their prediction about future with respect to

the goals they have. Buehler and Peetz (2009) provided evidence that people tend to underestimate their future expenditures and this tendency stems from their saving goals. This prediction error might lead people to commit to purchases they cannot afford in the future (Peetz & Buehler, 2009). In the same way, Berman et al. (2016) show that people expect to have more slack resource in the future because they underweight the expected raise in expenses relative to the expected raise in incomes. This perception of having more resources in the future has been shown to lead people to discount future expenditure from that resource (Zauberman & Lynch Jr, 2005). The present research, likewise, predict that delaying payment lead people to have the perception of greater available resources at the time of decision. This perception is speculated to come in part from their perceived ability to come up with sufficient resources in the future. The other aspect of future events, one that often is mispredicted at the moment of decisions, is emotions. In the next section, we review the literature on how temporal distance affects emotions and the consequences for behavior.

2.2.2.3 Temporal Distance and Emotions

Although people frequently experience the influence of emotion on their behavior, they cannot accurately anticipate how similar emotional states in the future will impact them. They mispredict the intensity of their emotional reactions to future events, and fail to anticipate how emotionally arousing situations will affect their reactions and preferences (Dunning, 2007). There is a distinction between affects experienced at the very moment of deciding to do an action in the future—referred to as anticipatory emotions, and affects that are expected to be experienced in the future as a result of doing an action or making a

decision –referred to as anticipated emotions (G. F. Loewenstein, Weber, Hsee, & Welch, 2001). Because anticipatory and anticipated emotions influence people’s preferences and evaluation through different psychological mechanisms, the distinction between them is important. However, they influence each other directly or indirectly, and in practice it would be difficult to tease their roles apart (G. Loewenstein & Lerner, 2003; S. Rick & Loewenstein, 2008).

Anticipatory emotions are the incidental emotions people experience at the very moment they are making a decision (G. F. Loewenstein et al., 2001; Carter, 2014). These emotions typically play an unconscious role in people’s preferences and evaluation, and people may not realize how influential they might be (Bechara, Damasio, Tranel, & Damasio, 1997; Andrade & Ariely, 2009). Damasio (1994) argues that an emotional reaction to future outcomes depends on the vividness with which those outcomes are described and mentally represented. Likewise, Loewenstein et al. (2001) suggest that the strength of anticipatory emotions depends not only on different individuals’ ability with mental imagery, but also on the way a consequence is described. Along the same line, Slovic, Fischhoff, and Lichtenstein (1980) propose that the extent to which potential losses cause worry and concern determines people’s willingness to insure against them. For example, people’s willingness to purchase airline travel insurance was higher for a policy covering death from a highly imaginable event such as "terrorist acts" than for one covering death from "all possible causes", even though the latter implicitly includes terrorist acts in addition to other causes but without

automatically conveying fear-provoking mental images (Johnson, Hershey, Meszaros, & Kunreuther, 1993).

One of the most important determinants of anticipatory emotions is the time between a decision and its consequences (G. F. Loewenstein et al., 2001). Gilbert and Wilson (2007) reviewed research on how temporal distance to an event affects the anticipatory emotions that it creates in the present. For example, imagining eating an ice cream in the future can elicit hedonic reactions in the present (Gilbert & Wilson, 2007). Research shows that people tend to use the affects they feel while they are imagining a future event to predict how they will feel when they experience that event. However, compared to an immediate event or action, imagining delayed events or actions are unrepresentative, essentialized, abbreviated, and decontextualized (Gilbert & Wilson, 2007). Therefore, the anticipatory emotion created by a delayed event differs from that created by an immediate event (Wilson & Gilbert, 2003). In other words, since the temporal location of an event influences the way people mentally represent that event, representations of future events tend to evoke less-intense affects than do representations of present events (Kassam, Gilbert, Boston, & Wilson, 2008; G. Loewenstein, 1996; McClure, Laibson, Loewenstein, & Cohen, 2004). Since people tend to use the affects they feel when imagining a future action as a clue to how they will feel when they do that action in the future (Gilbert & Wilson, 2007), their behavior toward future actions would differ to their behavior toward immediate actions (Kassam et al., 2008). For example, people do not express so much fear about telling a joke in front of a class if the event is a week away, but closer to the event they do. However, they take this less intense

fear as an indicator of the feelings they expect to experience when doing this action. In one study performed by Welch (1999) students were given the opportunity to tell a joke in front of a class in the following week in exchange for receiving \$1. Just before the appointment, all students were given a chance to change their minds. Although none of the students who initially declined the offer changed their minds, a substantial portion of those who initially agreed to tell a joke refused to do it. This result shows that increasing the intensity of anticipatory emotions before the moment of the action brings about different reactions and behaviors. This observed behavior is consistent with the idea of Cottle and Klineberg (1974) that for delayed or uncertain consequences of decisions, people only care to the extent that imagining such consequences evokes an immediate effect.

Anticipated emotions, on the other hand, are not actually emotions. They are cognitions and predictions of what the feelings associated with the consequence of a decision will be like. These are the emotions people expect to experience as a result of doing an action or making a decision. Anticipated emotions play a conscious role in people's preferences and evaluations (G. F. Loewenstein et al., 2001; Carter, 2014). For example, people decide whether and how to spend money based on how they anticipate the different choices will make them feel (Mellers, Schwartz, & Ritov, 1999; Shiv & Huber, 2000). Anticipated emotions have been the subject of several studies in the literature on judgment and decision making, and include disappointment and regret. Disappointment is expected when the consequence of a decision turns out to be worse than expected, whereas regret is expected when the preferred option turns out to be worse than the rejected options (Van Dijk,

Zeelenberg, & Van der Pligt, 2003). These anticipated emotions influence people's present decision through deliberative thinking. Thus, if people consider that the future outcome of a decision might end up being worse than what they expected, they would employ strategies to avoid disappointment, such as lowering their expectation. For example, subjects in one study (Pyszczynski, 1982) were asked to predict how likely they would be to win in a game of chance. Half the subjects were assigned to a game with a trivial prize (50 cent), and the other half were assigned to the same game with a higher prize (\$5). Although the objective chance of winning was the same for all subjects, subjects who expect the higher prize rated their likelihood to win as lower than those who expect the trivial prize. In another study (Van Dijk et al., 2003), participants took an intelligence test, and before receiving feedback, were asked to estimate their performance in the test. Participants who expected to receive feedback immediately estimated a lower performance than those who expected to receive feedback in two weeks. Here also, the greater threatening consequences due to the closeness of receiving feedback, lead people to lower their expectations in order to protect themselves against disappointment (Van Dijk et al., 2003). Hence, the time between a decision and realization of its consequences has been introduced as one of the important determinants of anticipated emotions such as disappointment and regret (Van Dijk et al., 2003).

According to this literature, therefore, delaying payment may reduce the intensity of both anticipatory and anticipated emotions associated with payment. Consequently, people at the time of a purchase decision feel less-intense emotions, such as guilt about paying, or care less about its outcome, when payment is expected to be in the distant future.

2.3 Self-control and Temporal distance

Although the literature on the effect of temporal distance on decision making has been identified various aspects of it, the common premise of this line of research is that people tend to care less about the future. This lack of concern about the future plays an important role in situations involving self-control. Self-control is the ability to resist impulses in order to achieve longer-term goals. Thus, self-control situations involve a choice between two competing goals: a primary, long-term goal such as saving and health, and a secondary, short-term goal or temptation, such as smoking (Ariely & Wertenbroch, 2002; Trope & Fishbach, 2000). Self-control issues are most likely to affect decisions when choices and their consequences are temporally separated (R. H. Thaler & Sunstein, 1999). At one extreme are decisions that involve immediate benefits but delayed costs such as smoking. These situations typically result in over consumption. At the other extreme are decisions that involve immediate costs but delayed benefits, such as exercising or dieting, and usually result in under-commitment. In most of these situations, the main reason for self-control issues is that we tend to underestimate the effect of a future consequence. Loewenstein (1996) calls this phenomenon the “hot-cold empathy gap”. When we are in a cold state because of the temporal distance to an action or consequence, we do not appreciate how much our behavior will be changed under the influence of that action or consequence. Consequently, our behavior reflects ignorance about the possible effects of the context on our preferences (R. H. Thaler & Sunstein, 1999). Delaying payment also provides a situation in which benefits and costs of a purchase are separated. Therefore, when a purchase decision involve temptation,

the overspending or preference for more-tempting options when payment is delayed could be explained by the similar psychological motives that underlie people's behavior in situations like smoking. In other words, delaying payment decreases the extent to which the cost of a purchase could control buyers' impulsive behavior. This idea can explain the reported evidence by Thomas et al. (2011) that using credit cards for payment increases the amount of unhealthy food purchases. In the same vein, research also shows that having mental budgets helps with self-control and reduces the consumption of indulgent products (Krishnamurthy & Prokopec, 2009).

Chapter 3 The Present Work

Money is a limited resource needed by consumers for everyday transactions. Therefore, the allocation of money resources is an important decision when spending on one item means not spending for another. This money constraint imposes restrictions on consumer behavior, and the extent to which they feel this constraint shape their spending behavior, risk-taking and preferences. Every spending depletes consumers' available resources by a certain amount, but the more available resources consumers have, the smaller the proportional influence of each unit of spending on consumers' resources. For example, spending \$50 from \$100 is perceived to be bigger than spending \$50 from \$1000. The perceived resource depletion can then be modeled as a ratio of the absolute amount of expense to the resource available for spending (Morewedge et al., 2007). Thus, altering the values of the numerator or denominator of this fraction can affect the perceived resource depletion, changing the subjective cost of spending each unit of that resource. Prior research provides evidence that the perception of available resources at the time of purchase decisions influences consumer behavior. For example, Morewedge et al. (2007) demonstrate that implicitly making buyers think about their larger resources (e.g., their savings or checking accounts) leads them to spend 36% more than buyers who have been reminded of their smaller resources (e.g., the money in their wallets). A higher credit limit (i.e., the availability of credit in the future) is also found to increase consumers' propensity to spend, even though a credit limit is a resource that has not yet been realized and hence does not physically exist (Soman & Cheema, 2002). Findings also suggest that dividing the aggregate quantity of a resource (e.g.,

money, food) into smaller portions increases the subjective cost of consuming that resource, consequently resulting in lower rates of consumption (Cheema & Soman, 2008). In the same vein, spending feels more painful when it exhausts a budget relative to spending when resources remain in the budget (Soster, Gershoff, & Bearden, 2014). The time framing of a budget (e.g., weekly vs. monthly) is also found to change the perception of resource constraint. People whose budget is framed as weekly as opposed to monthly have been found to think more about expenditures and opportunity costs, subjectively perceive an identical cost as higher (Spiller, 2011), and have a lower willingness to pay for an identical product (Morewedge et al., 2007). In addition to the perception of available resources, the subjective cost of spending can also be influenced by changes to the description of expenses (i.e., the numerator in the ratio of expenses to available resources). For example, when the cost of a donation to charities is described as the cost incurred per day rather than per month, people are more likely to donate even though the physical payment remains aggregated (Gourville, 1998). These studies all indicate that any circumstance that influences the perceived resource depletion and in turn the perceived cost of spending will affect consumers' purchase behavior.

The present research, regardless of any specific payment mode, explores the effect of payment time on consumer behavior. We consider time of payment as a factor that will affect consumers' perception of available resource. We suggest that delaying payment not only attenuates the influence of immediate constraints in consumers' financial resources on their behavior, but also gives them an ability to manage their resources and come up with

sufficient resources. These effects in turn influence their amounts of spending, risk-taking, and preferences. More specifically, we argue that when payment is delayed, two reasons lead people to have the perception of greater available resources. First, when payment is delayed, people do not need to think about how to pay at the time of purchase, and their immediate financial situation becomes less influential in their decisions. The financial situation of consumers at the time of judgment is an important contextual factor in purchase decisions. Financial resources are limited, and people always have immediate financial commitments such as paying bills, and for rent and necessities, which make them cautious about spending. By delaying payment, consumers are less likely to think about the concrete aspects of payment such as how to pay and the opportunity costs of a purchase. Thus, the constraints on consumers' resources at the moment of a purchase decision become less influential in their behavior. The second underlying reason for perceiving greater available resource when payment is delayed is that consumers have extra grace period to manage their resources and come up with sufficient resources (e.g., by saving). This ability gives consumers more control over their budget and results in a perception of greater available resources. In support of this idea, research shows that people are optimistic about saving money in the future, and tend to underestimate their future expenditures (Peetz & Buehler, 2009). Put together delaying payment not only attenuates the effect of immediate constraints on resources but also give consumers time to come up with more resources. Therefore, when payment is delayed consumers have the perception of greater available resource. The first consequence of this effect of delaying payment is that consumers who feel less constrained and have more

resource will spend more. This higher consumers' spending can be seen in two forms: affording to buy higher-priced products because of greater available resource, and willing to pay more for a product because of the lower cost of spending from their resources. Therefore, we propose the following hypothesis:

Hypothesis 1: *People will spend more when payment is delayed than when it is immediate.*

The second consequence of delaying payment is seen in consumers' risk-taking behavior. Generally speaking, decision makers are risk-averse. However, the degree to which people are risk averse will be influenced by how they perceive the risk or threat at the time of a decision. One of the important determinants of risk-taking behavior is how vividly people perceive the costs and consequences of their decisions (Damasio & Sutherland, 1994; Loewenstein, Weber, Hsee, & Welch, 2001). In other words, the extent to which potential losses cause concern determines people's willingness to insure against loss (Slovic et al., 1980). Delaying payment subjectively reduces the perceived risk of a decision in two ways. First, since the resource balances may serve as reference points against which consumers evaluate costs, the perception of greater available resources changes consumers' valuation of cost. In other words, when payment is delayed, an identical cost is perceived to be subjectively less than when payment is immediate. Thus, delaying payment causes the cost of a decision to be perceived as less risky. Second, delaying payment gives people a grace period before being responsible for the cost of their decisions. This respite gives people time to gain more control over their decisions' consequences (e.g., saving and coming up with money) and hence reduces the severity of consequences (i.e., costs). Research shows that

threats judged to be controllable by personal actions provoke less fear and dread (Peters & Slovic, 1996; Weinstein, 1989). This controllability of the consequence of a decision has been found to reduce the perceived risk people experience at the point of decisions, and been introduced as a primary determinant of risk perception (Slovic et al., 1980; Weinstein, 1980; Weinstein, 1989; Helweg-Larsen & Shepperd, 2001; Klein & Helweg-Larsen, 2002). When people systematically underestimate risks to themselves, they tend to be optimistic such that they view themselves as less likely to experience a possible negative event (Costa-Font, Mossialos, & Rudisill, 2009; Weinstein, 1989; Weinstein, Marcus, & Moser, 2005). For example, Highhouse et al. (2002) show that, when delayed, even certain threats are perceived as less probable, and decision makers feel they have more control over them. Consequently, people are more optimistic when the outcomes of their decisions are delayed (Highhouse et al., 2002; Shelley, 1994). With the same logic, smokers continue smoking because they fail to appreciate the possible future risks. Research shows that smokers underestimate their risks of cancer or heart disease and believe that the possible risks can be controlled by later exercise or vitamins (Weinstein et al., 2005).

Considering all these arguments, we suggest that delaying payment would reduce the subjective cost of a purchase and lead people to feel more in control over the consequence of their decisions, causing consumers to experience less risk as they contemplate purchase. This effect of delayed payment subsequently leads people to be more optimistic and less conservative in their decisions. However, since time of payment will influence consumers behavior through decreasing the degree of risk or threat people feel at the time of decisions,

we expect the effect of payment time on risk-taking behavior to be more pronounced in situations that involve risks. In other words, if a situation is not threatening by itself, there is less room for payment time to influence consumers, and the effect of payment time on their risk-taking behavior is reduced. Therefore, we propose the following hypothesis:

Hypothesis 2: *Delaying payment results in more optimistic and less risk-averse behavior, especially when the level of risk is high.*

The lower perceived risk due to delaying payment can also change consumers' preferences. Delaying payment creates situations in which the benefit of a decision is immediate but the cost of it is delayed. This delay for the reasons discussed above, reduces the vividness with which people see the costs, and subsequently results in lower perceived risk. In these situations, costs are less effective in controlling consumer behavior (e.g., impulse purchasing). In other words, delaying payment decreases the extent to which the cost of a decision can lead people to protect themselves against possible losses. Therefore, in a choice between two alternatives, when there are trade-offs between desirability and risk, delaying payment can increase the chance of choosing the desirable, more tempting but riskier option.

In support of these hypotheses, it has been shown that in a gambling game partitioning an earmarked money into smaller parts increases the subjective cost of consuming that resource and decreases the bets participants funded from that resource (Cheema & Soman, 2008). In another study, people show more conservative behavior for spending that exhausts a budget than for spending when resources remain in the budget (Soster et al., 2014). The lower

available resource at the time of judgment was also found to change consumers' product preferences in a conservative direction (Huffman & Barenstein, 2005; Mishra et al., 2010; Sharma & Alter, 2012). Research also shows that people tend to be risk seekers when they gamble with small amounts of money rather than large (Markowitz, 1952; Weber & Chapman, 2005). For example, people might prefer to take a 10% chance of \$10 over \$1 for sure, but for the same choice at a greater stake, they would choose \$100 for sure over a 10% chance of \$1000. Note that, in both cases, people are offered a choice between 10 times the risk in exchange for 10 times the money, but their risk-taking behavior differs in both conditions. In fact, when the consequence of the gamble is more threatening, people become more risk-averse and conservative. When picking a 10% chance of \$10 over \$1 for sure, people do not care if they take the gamble and lose. They are only losing \$1, which is no big deal. However, giving up \$100 for sure in exchange for a 10% chance of \$1000 is not easy. The amount of risk that people feel in the latter case is much higher than that in the former. Similarly, we expect that delaying payment would reduce the risk people feel at the time of a decision and makes people less risk-averse.

The present research differs from prior research in two ways. First, we are interested in the effects of expected time of payment on consumer behavior, regardless of any specific payment modes. Second, while prior research has generally been devoted only to the effect of payment mechanisms on spending behavior, the present research is also concerned with the effect of payment time on consumers' preferences and risk-taking behavior. In addition, the present work extends the growing body of literature that consider how the amount of

available resource influence consumer behavior by showing that payment time is an important determinant that activates different resource accounts at the time of purchase.

Chapter 4

Study 1- Overbudget

This study tests the effect of payment time on people's spending behavior. The argument is that delaying payment results in less perceived constraint on the available resource at the time of decision and gives consumers time to manage their financial resources and come up with more resources. Having the perception of greater available resources in turn results in higher spending. To test this prediction, we asked participants to consider a purchase situation, and manipulated payment time to be immediate versus delayed. We also manipulated the purchase status by asking participants to imagine a purchase that was already made (i.e., made-purchase) or one that they are considering making (i.e., considered-purchase). The idea was to check whether people's predictions about their behavior would vary depending on their imagining an action to be something they had done, or are considering doing. The other factor included in this study is the self-other discrepancy (i.e., social distance) in participants' evaluations. As mentioned in the theory, two reasons contributes to why delaying payment causes people to have the perception of greater resources: 1) it attenuates the role of immediate resource constraints in consumer decisions, 2) it gives consumers time to manage their finance and come up with more resources. However, it would be difficult to tease the effects of their contribution apart. Since research shows that when people predict others' behavior they tend to think in a decontextualized manner (Idson & Mischel, 2001; Liviatan, Trope, & Liberman, 2008), we have considered

the self /other discrepancy so as to have a sense of the isolated effect on behavior of overlooking the immediate resource constraints. We speculate that when people predict others' spending behavior, the constraints in their own immediate context become less influential, and subsequently they predict that others will spend more than they themselves would.

4.1 Methodology

We posted a web-based questionnaire on Mechanical Turk. 470 participants were recruited from North America in exchange for a monetary compensation. They were randomly assigned to one of eight conditions of a 2 (purchase status: made vs. considered) by 2 (considered person: self vs. other) by 2 (payment time: immediate vs. delayed) in a between-subjects design. We manipulated the purchase status by asking participants to imagine a purchase that was already made (i.e., made-purchase) or the one that they considered to do (i.e., considered-purchase). The payment time was manipulated to be either immediate or delayed (in 6 months). Self-other factor was also manipulated, by having participants imagine either themselves or someone else as the focal character in the scenario and asking them to report their expectation either about their own or others' behavior. The purchase scenarios used in this study are presented below. The text for the version where someone else is the focal character of the scenario is presented in parentheses, and the text for the delayed payment conditions appears in brackets.

The considered-purchase scenario: *Imagine that you (a person is) are considering buying a TV. In the store, you (he/she) see a very nice TV that you (he/she) really like, but its*

price is over your (his/her) budget. You (the person) like the TV so much that you (he/she) wish to buy it. [According to the store's payment policy-buy now, pay later-you do not need to pay at the time of purchase, you will pay 6 months later without any interest.] What is the maximum you (he/she) would go over your (his/her) budget to buy it?

The made-purchase scenario: *Imagine that you (a person was) were considering buying a TV. In the store, you (he/she) saw a very nice TV that you (he/she) really liked, but its price was over your (his/her) budget. You (the person) liked the TV so much that you (he/she) ended up buying it. [According to the store's payment policy-buy now, pay later-you did not need to pay at the time of purchase, you (the person) will pay 6 months later without any interest.] What is the maximum you (he/she) would have gone over your (his/her) budget?*

In order to control for the effect of different reference prices that people might have in mind, no specific price was mentioned in the scenario. Participants were only told that the price of the product is over their budget, and the dependent variable is the amount they would go over their budget to buy the product (in percentage). After reporting the percentage of overbudget spending, in order to detect any participants who might only skim the instructions, all participants were asked to specify the described payment condition of their scenario, as an attention test. Finally, participants completed demographic questions.

4.2 Results and Discussion

470 participants completed the study, but only 425 responses were left in the study after removal of those who failed the attention test. The results are summarized in Table 1.

A $2 \times 2 \times 2$ (Purchase status \times self/other \times payment times) factorial analysis of variance was used to examine the effect of purchase status, self/other discrepancy, and payment time on consumers' overbudget spending. The dependent variable was log transformed in order to meet the assumption of homogeneity of variance (Table 1). Results indicate a significant main effect of payment time ($F(1,410) = 18.576, p < .001, \text{Cohen's } d = .42$). As hypothesized, people will spend more (i.e., go more over their budget) when payment is delayed ($M_{\text{delayed}} = 31.5\%$) rather than immediate ($M_{\text{immediate}} = 21.41\%$). There was also a significant main effect for the self/other discrepancy ($F(1,410) = 26.47, p < .001, \text{Cohen's } d = .5$). People predicted others ($M_{\text{others}} = 32.1\%$) would go over their budget more than they themselves would ($M_{\text{self}} = 21.43\%$). However, there was no significant main effect of purchase status ($F(1,410) = 2.29, p > .1$), and no interaction effect was found.

Table 1: Overbudget Spending for Immediate vs. Delayed Payment

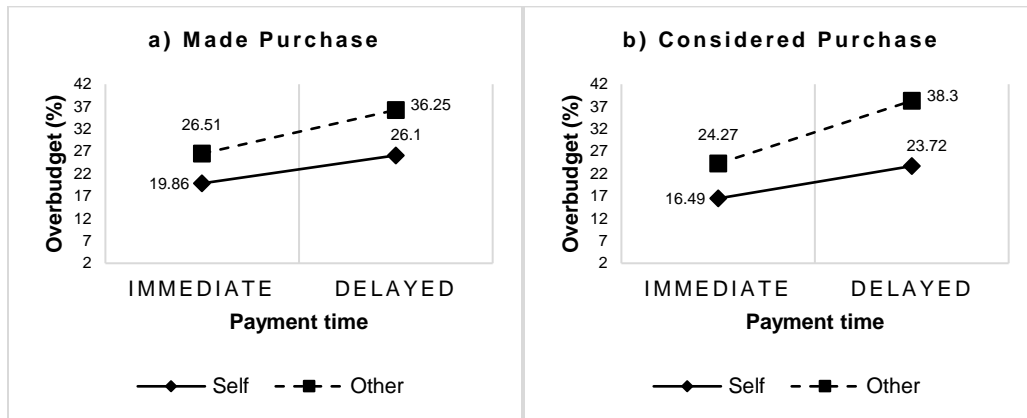
Self/Other	Purchase Status	% Overbudget Spending (SD)		Log (%Overbudget Spending) ¹ (SD)	
		Immediate payment	Delayed payment	Immediate payment	Delayed payment
Self	Made	19.8 (12.01)	26.1 (21.5)	1.24 (.24)	1.3 (.36)
	Considered	16.5 (11.3)	23.7 (18.1)	1.16 (.24)	1.27 (.33)
Other	Made	26.5 (16.5)	36.3 (21.8)	1.35 (.27)	1.48 (.27)
	Considered	24.2 (17.2)	38.3 (26.8)	1.27(.36)	1.49 (.32)

1. The data of % overbudget spending was transformed by a Log function

A pairwise comparison for the considered-purchase conditions shows that participants reported higher amounts of over budget for themselves when payment was delayed ($M_{\text{self-immediate}} = 16.5\%, M_{\text{self-delayed}} = 23.7\%, t = 2.48, P < .05$). Participants who predicted another person's spending behavior also showed higher overbudget spending under the delayed

payment condition ($M_{\text{other-immediate}}=16.5\%$, $M_{\text{other-delayed}}=23.7\%$, $t= 2.48$, $P<.05$). However, as Figure 1-b shows, the level of over budget spending has shifted up for others.

Figure 1: The Effect of Payment Time on Overbudget Spending



Analyzing the data for the made-purchase conditions revealed the same pattern of results (see Figure 1-a). Participants who considered themselves in a purchase that was already happened reported marginally higher percentages of overbudget under the delayed payment condition ($M_{\text{self-immediate}}=19.86\%$, $M_{\text{self-delayed}}=26.1\%$, $t= 1.9$, $P=.06$). The prediction of others' behavior also brought about the same pattern of results, although the level of over-budget spending has shifted up ($M_{\text{other-immediate}}=26.51\%$, $M_{\text{other-delayed}}=36.25\%$, $t= 2.52$, $P<.05$).

These results support our hypothesis 1 that delaying payment increases the amount of spending. As speculated in the theory section, when payment is delayed consumers would have the perception of a greater available resources at the time of purchase. We think that this perception is formed because of two reasons, even though it would be difficult to tease their contribution apart: the attenuated effect of immediate resource-constraints, and the ability to come up with higher resources. The result also shows that people predict others to

spend more than themselves. We think that the reason for this result is that when people predict others' behavior the constraints on their own resources has less effect on their prediction even under immediate payment condition. In other words, independent of the effect of payment time, when people predict others' spending they do not attend to the constraints on their own financial resources. That is why the measured response for others has shifted up (Figure 1). This finding provides evidence on how overlooking the immediate resource constraints by itself can influence people's spending behavior. In the same vein, when people think about paying in the future their immediate resource constraints become less influential in their decisions, although to lower extent.

Chapter 5

Study 2 - Price Range

In the previous study we found that when payment is delayed people exceed their budgets by more in purchasing a product they want. The present study was designed to provide further evidence for the effect of payment time on consumers' spending. The main objective is to determine how delaying payment affects the price range consumers consider acceptable for their purchases. When consumers have more resources available, spending from them is easier, hence, consumers tend to spend more. Therefore, assuming that delaying payment results in the perception of more available resource, we expect that delaying payment will lead consumers to consider buying products from a higher price range.

To test this prediction, we asked participants to consider purchasing a TV. As in the previous study, we consider a TV as a stimulus, because it is a product relevant to almost everyone and has a wide range of prices. The payment time was manipulated both between and within groups. We asked participants to indicate the most likely range of prices from which they would consider purchasing a TV. The other factor that we considered was the self-other discrepancy (i.e., social distance) in their evaluation. Our expectation was that people tend to think about others in a decontextualized manner. Thus, they do not consider their own immediate resource constraints while judging others' spending, and as a consequence they predict that others will spend more than themselves.

5.1 Methodology

A web-based questionnaire was posted on Mechanical Turk, and 400 participants from North America completed this study in exchange for a monetary compensation. They were randomly assigned to one of four conditions of a 2 (considered person: self vs. other) by 2 (payment time: immediate vs. delayed) in a between-subjects design. The payment time was manipulated as immediate versus delayed by 6 months, both as between and within groups. The self-other factor was also manipulated (only between groups), by having participants imagine either themselves or someone else as the focal character in the scenario, then asking them to report their expectation about their own or others' behavior. The purchase scenario used in this study is presented below. The text for the version where someone else is the focal character of the scenario is presented in parentheses, and the text for the delayed payment conditions appears in brackets.

Purchase scenario: *Imagine you (someone else is) are considering buying a new TV. You (he/she) go to a store which has a wide variety of TVs. [This store has a deferred payment policy according to which you (he/she) can pay for your (his/her) purchase 6 months later without any interest]. What is the most likely price range you (he/she) would consider to buy a TV from this store?*

After indicating the most likely price range (i.e., minimum and maximum) they would consider in purchasing a TV, participants were asked to indicate the most likely price level at which they (or someone else) would buy a TV. Then, in all four conditions, participants were asked to consider the payment time contrary to what they considered first (i.e., the

manipulation of payment time within groups). They were then asked to indicate the price range and the most likely price level at which they (or someone else) would buy a TV under this new condition of payment. Subsequently, they explained how they came up with their price range under each payment condition. Next, they were asked to rate how familiar they are with the TV market (on a scale from 0=not at all familiar to 10=very familiar). Finally, participants completed demographic questions.

5.2 Results and Discussion

Out of 400 responses, 15 were not valid and were removed from the data, because they did not make sense (7 indicated their maximum price lower than minimum price, and 8 indicated their min and max prices in a range between \$0 to \$20). A series of 2×2 ANCOVA using scores measuring familiarity with the TV market and income levels as covariates¹ were conducted to examine the effect of self/other factor and payment time on the minimum, maximum, and most likely price. First, a 2×2 ANCOVA on the minimum price revealed a significant main effect of payment time ($F(1,379) = 4.41, p < .05$, Cohen's $d = .22$), indicating that people consider a higher minimum price for purchasing a TV when payment is delayed ($M_{\text{delayed}} = \$355.67$) compared to when it is immediate ($M_{\text{immediate}} = \$301.86$). There is also a significant main effect of self/other discrepancy ($F(1,379) = 4.04, p < .05$, Cohen's $d = .21$), showing that people predict that others ($M_{\text{others}} = \$354.5$) will consider a higher minimum price than they themselves would when purchasing a TV ($M_{\text{self}} = \$303.02$). However, there

¹ Both familiarity with market and income level were positively correlated with the dependent variables.

was no significant interaction between the self/other factor and payment time ($F(1,379) = 2.09, p=.15$). Furthermore, the results show a significant effect of both familiarity with the market ($F(1, 379) = 8.5, p<.01$) and income level ($F(1, 379) = 10.9, p<.01$) that were considered as covariates.

The same 2×2 analysis of covariance on the maximum price revealed the same pattern of results. There is a marginally significant main effect of payment time ($F(1,379) = 3.9, p=.05$, Cohen's $d = .2$), showing that delaying payment increased the maximum price participants consider for purchasing a TV ($M_{\text{delayed}} = \$927.9$) compared to immediate payment ($M_{\text{immediate}} = \$782.77$). There is also a significant main effect for self/other discrepancy ($M_{\text{self}} = \$745.246, M_{\text{others}} = \$965.41, F(1,379) = 8.9, p<.005$, Cohen's $d = .31$), and a significant effect of income-level considered as covariate ($F(1,379) = 14.2, p<.001$). Conducting the same 2×2 analysis of covariance this time on the most likely price revealed only a marginally significant main effect of payment time ($M_{\text{immediate}} = \$503, M_{\text{immediate}} = \$575.9, F(1,379) = 3.6, p=.059$, Cohen's $d = .19$). These results (Figure 2) support hypotheses 1, that delaying payment lead people to spend more. The results also show that people predict others will spend more (Figure 3).

Figure 2: The effect of payment time on the considered range of price for purchasing a

TV (between groups manipulation)

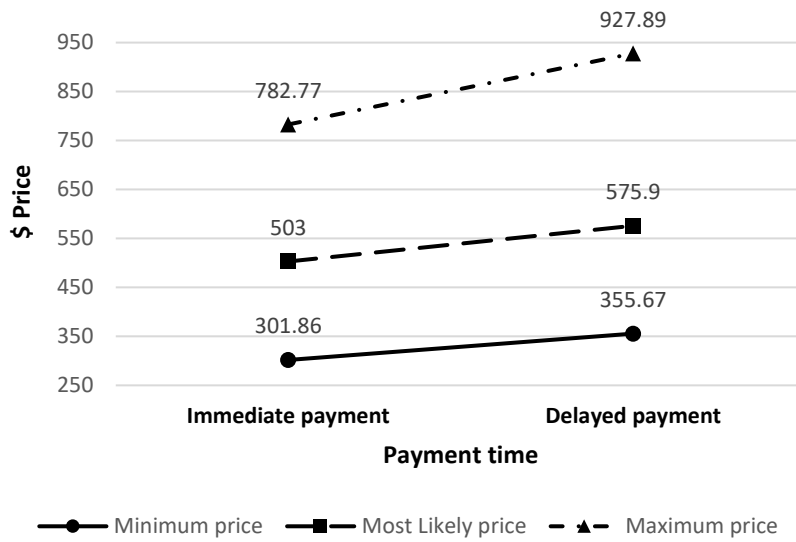
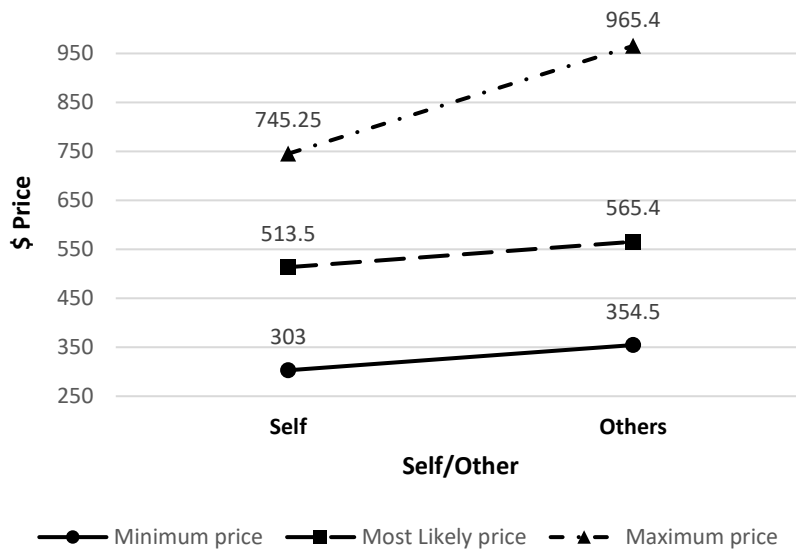


Figure 3: The Difference Between Predicting Considered Price Range for Self vs.

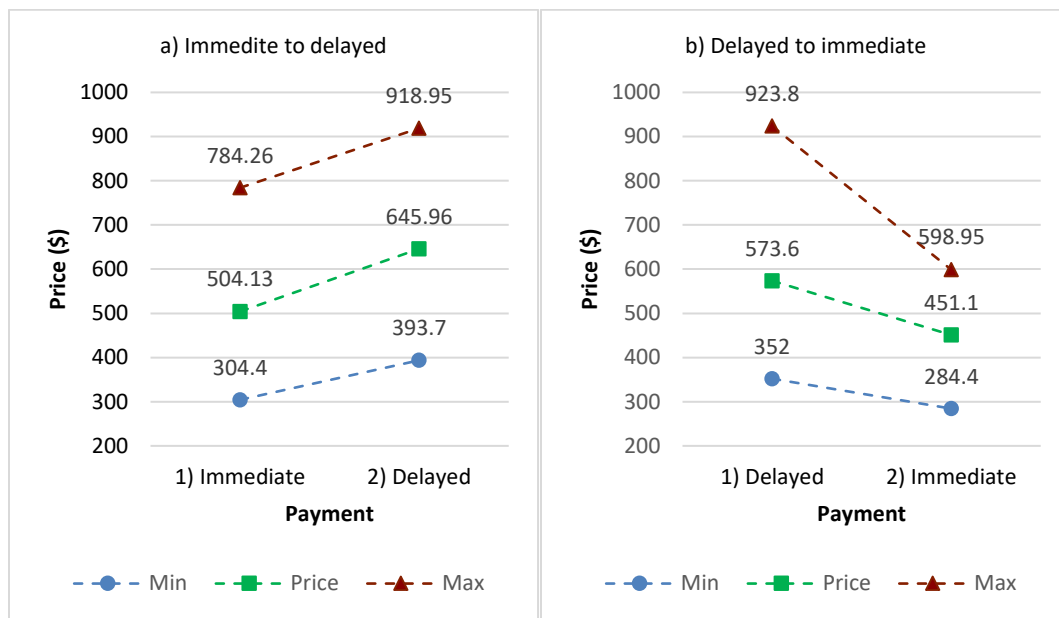
Others (between groups manipulation)



We also calculated a new dependent variable, range-wide, by subtracting maximum from minimum prices. Conducting the same analysis of covariance on this variable revealed a non-significant main effect of payment time, indicating that although delaying payment shifted up the price range people considered purchasing from, but the width of the price range did not change (Figure 2). However, there is a significant main effect for the self/other discrepancy ($M_{\text{self}} = 442$, $M_{\text{others}} = 610.9$, $F(1,379) = 8.9$, $p < .05$, Cohen's $d = .27$), suggesting that people predict others will purchase in a higher and wider price range (Figure 3).

A series of paired sample t tests were also conducted to examine the effect of payment time on the range of prices within groups. The results show that when payment time was changed from immediate to delayed participants significantly up shifted their initial range of price (Figure 4-a). In contrast, when payment time was changed from delayed to immediate, participants significantly down shifted their initial reported ranges of price (Figure 4-b). Looking at the reasons people specified for how they came up with their range of prices for purchasing a TV also shows that under delayed payment condition 59% of participants directly mentioned that delaying payment gives them more resource flexibility so that they can purchase in a higher price range. The rest of people stated other basis for their indicated price range, such as their knowledge of the market, the extent they can afford, or guessing.

Figure 4: The Effect of Payment Time on The Considered Range of Price for Purchasing A TV (within groups manipulation)



These results are consistent with the findings of the previous study on overbudget spending, and provide further evidence for hypothesis 1. The speculation is that delaying payment gives people a perception of greater available resources, so, they end up spending more. We attribute this perception to reduced effect of immediate resource constraints, and people's expectation to be able to come up with more resources. It is also important to note that the findings of this study show that delaying payment leads people to formulate higher reference prices. A reference price, referred to as consumers' personal estimate of a fair price for a product (Rosch, 1975), can act as a comparison standard for consumers making judgment about products' prices (Rajendran & Tellis, 1994). Therefore, delaying payment by shifting up one's personal reference prices relative to a market price would influence the

perceived cost of a purchase and make a higher price more likely to be acceptable for a given product. Furthermore, the data shows that people predict others will spend more than they themselves would. We argue that this effect arises because when people think about others, they do not consider their own immediate financial constraints; thus, this resource constraint has less effect on their predictions of others behavior. One alternative explanation for this behavior could be that participants who have lower incomes than the general public may predict that others have higher incomes and hence spend more. But this logic requires that people who have higher incomes to predict others to spend the same or lower than they themselves do. In contrast to this idea, a linear regression analysis shows a positive correlation between income-level and the minimum ($r=.18$, $p<.001$), maximum ($r=.19$, $p<.001$) and most likely price ($r=.22$, $p<.001$) people would consider in purchasing a TV. As seen in the analysis, in order to control for the effect of income-level on participants' indicated price ranges, income-level was considered as a covariate in the data analysis, and the result showed that there was still a significant main effect of self/other discrepancy and payment time. Nevertheless, it should be noted that participants were recruited through the Amazon Mechanical Turk service, and they are usually lower in income compared to the general public. Since one main reason that delaying payment results in higher spending, or that people predict others will spend more, is the attenuated influence of immediate resource constraints at the time of decision, these effects should be more pronounced in situations when people really have resource constraints in their immediate situation. Therefore, if

people for any reason, such as solid personal finances, do not sense any constraints on their immediate resources, we would expect these effects to be moderated.

The other variable considered in this study was familiarity with the product market. A linear regression analysis shows a small but positive correlation between participants' familiarity with the market and the minimum ($r=.14$, $p<.01$) and most likely price ($r=.103$, $p<.05$) they would consider in purchasing a TV. These relationships indicate that people who were more familiar with the TV market considered higher price ranges for purchasing a TV. This result might be because people who are less familiar with a product market tend to have an unrealistic lower price range in mind for that product. In the next studies, we will look at some other influences that delaying payment has on consumer behaviors, such as risk-taking and preferences.

Chapter 6

Study 3 - Bet

So far, our studies have investigated the effect of payment time on spending behavior. In this study we aim to examine the effect of payment time on spending that involves taking risks, in this case by betting. The study was designed to test the validity of our hypothesis that payment time can influence risk-taking behavior. Generally, decision makers are risk-averse especially in financial decision making. However, the degree to which people are risk averse depends on how they perceive the risk or threat at the time of decisions. As discussed in the theory section, we argue that delaying payment will reduce the amount of risk people sense at the time of a decision. More specifically, under delayed payment, people perceive less constraint on their budgets and feel more in control over the consequence of their decisions. These effects in turn reduce the degree of risk people feel at the time of decision and lead them to be more optimistic and less conservative. To test this prediction, we manipulated the time of paying bet in lotteries with different chances of winning (i.e., different levels of risk). We expect that delaying payment results in higher bets, especially when the risk of the lottery is high and the consequence is more threatening.

6.1 Methodology

We posted a web-based questionnaire on Mechanical Turk, and 250 participants from North America completed this study in exchange for a monetary compensation. Participants were randomly assigned to one of four conditions of a 2 (risk level: %25 vs. %75) by 2 (payment

time of bet: immediate vs. delayed) in a between-subjects design. Participants were told to consider participating in a gambling game in which they can bet any amount of money on the draw of a green marble from an urn with a known mixture of 100 green and red marbles. If they draw a green marble they will receive three times their bet immediately. If they draw a red marble they will lose their bet. We manipulated the level of risk by changing the combination of green and red marbles. At high level of risk participants were told that 25 out of the 100 marbles were green, and at low level of risk, they were told that 75 out of the 100 were green. We also manipulated the time of payment by changing the time of paying for their bets from immediate to six months later. Participants under all conditions were then asked to report the maximum they were willing to bet. They subsequently were asked to indicate how optimistic they were that they would win at this game, and how disappointed they would feel if they would lose (in two 11-point scales, respectively anchored from “not at all optimistic” to “extremely optimistic”, and “not at all disappointed” to “extremely disappointed”). Afterward, as an attention test, they were asked to specify what the scenarios’ description said about the time for receiving the prize and paying for the bet. Finally, participants answered demographic questions.

In order to examine the effect of different time delays for payment, and to consider a lottery with a medium level of risk (i.e., %50), we also designed a follow-up study. Participants in this study were randomly assigned to one of the five time-delays conditions for paying for the bet (immediate, two weeks, two months, six months, and one year). We used the same lottery scenario with %50 chance of winning (i.e., 50 out of 100 marbles were

green). In this follow-up study, 270 participants from the same population completed the study. Participants who took part in the first study were excluded from this study.

6.2 Results and Discussion

After removal of those who failed the attention test, 218 responses were left in the first study, and 243 in the follow-up study. Given that the bet responses were highly skewed, we first performed a log transformation on the data to control for outlier effects or violations of ANOVA assumptions and then submitted the data to a 2 (level of risks: low vs. high) \times 2 (payment time: immediate vs. delayed) ANOVA (Table 3). The analysis reveals a significant main effect of risk level ($F(1, 214) = 55.4, P < .001, \text{Cohen's } d = 1$), a main effect of payment time ($F(1,214) = 23.1, P < .001, \text{Cohen's } d = .67$), and a significant risk level \times payment time interaction ($F(1, 214) = 4.96, P < .05$). The main effect of risk level shows that the manipulation of risk was successful, and people bet more when the risk is lower (i.e., the chance of winning is higher). The main effect of payment time shows that delaying payment results in higher bets, which support our hypothesis 2 about the effect of payment time on risk-taking behavior (Figure 5). The interaction between level of risk and payment time indicates that the effect of payment time on the bet response is significant when the level of risk is high ($M_{\%25\text{-Immediate}} = .71, M_{\%25\text{-delayed}} = 1.32, t=5.13, p<.001$) but not when the level of risk is low ($(M_{\%75\text{-Immediate}} = 1.55, M_{\%75\text{-delayed}} = 1.77, t=1.7, p=.08)$).

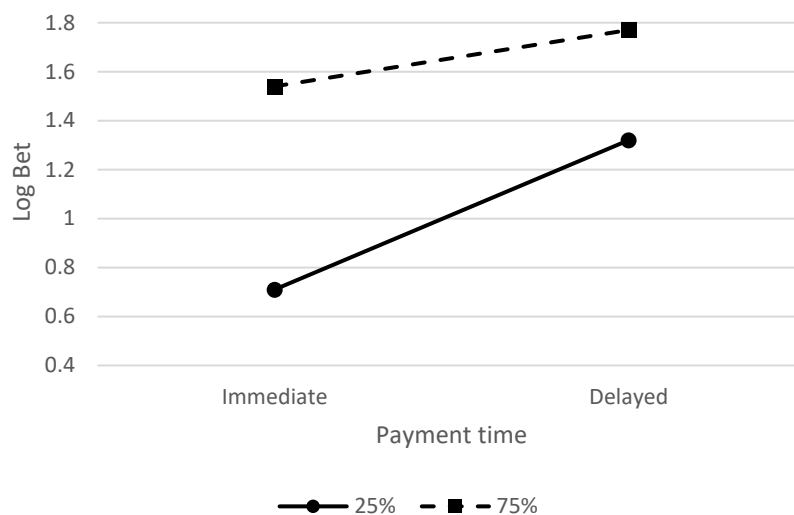
Table 2: Actual and Log-transformed Amount of Bet in Immediate vs. Delayed

Payment

Actual and Log-transformed Amount of Bet for Immediate vs. Delayed Payment

The chance of winning (Risk Level)	\$ Amount of Bet (SD)		Log of \$Bet (SD)	
	Immediate payment	Delayed payment	Immediate payment	Delayed payment
%25	7.55 (7.8)	82.1 (218.7)	.71 (.5)	1.32 (.66)
%75	114.9 (304.9)	322.04 (1041)	1.54 (.6)	1.77 (.71)

Figure 5: Effect of Payment Time on Betting (Log(\$bet)) for Different Level of Risk



Next, we conducted the same 2 (level of risks: low vs. high) × 2 (payment time: immediate vs. delayed) ANOVA on both the scale measuring optimism and the one measuring disappointment. The analysis for optimism revealed a significant main effect of risk level ($F(1, 214) = 216.6, P < .001, \text{Cohen's } d = 2$), a main effect of payment time ($F(1, 214) =$

10.16, $P < .01$, Cohen's $d = .43$), and a risk level \times payment time interaction ($F(1, 214) = 7.8$, $P < .01$). These results show that delayed payment is associated with higher optimism, and this effect of payment time on participants' optimism is significant when the level of risk is high (Figure 6). The same analysis for disappointment shows a non-significant main effect of payment time ($F < 1$), but a significant main effect of risk level ($F(1, 214) = 23.9$, $P < .01$, Cohen's $d = .66$), and a risk level \times payment time interaction ($F(1, 214) = 5.4$, $P < .05$). This pattern of results shows that even though people expect to experience greater disappointment if they lose when the chance of winning is high compared to when the chance of winning is low (i.e., risk level is low), this effect is less pronounced when payment is delayed (Figure 7).

Figure 6: Effects of Payment Time on The Level of Optimism in Betting

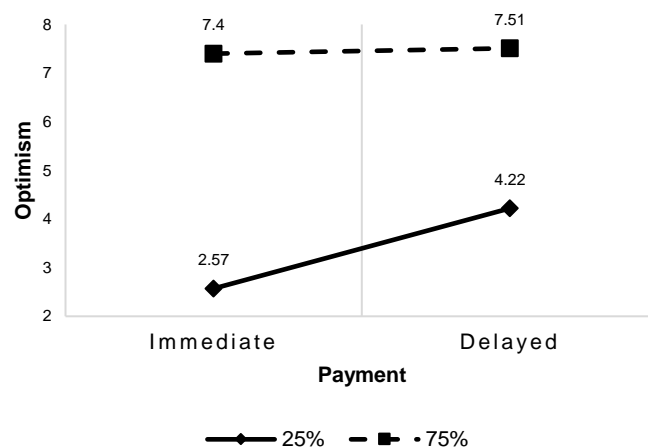
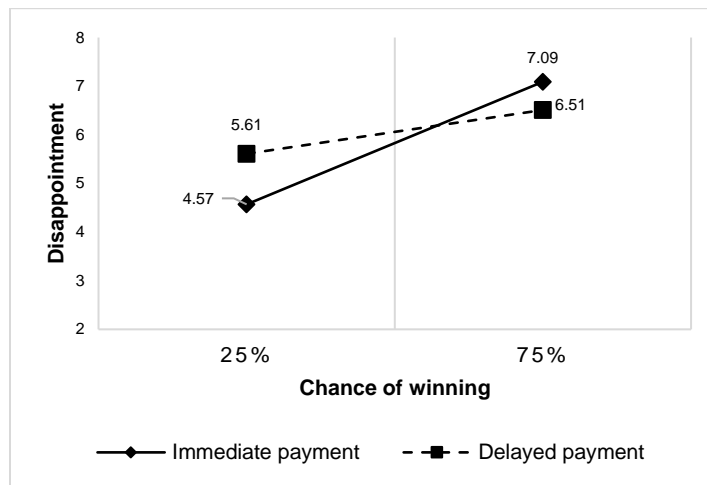


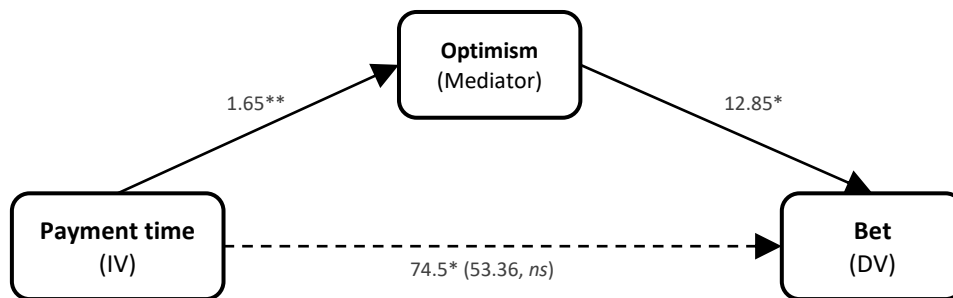
Figure 7: Effect of Payment Time on The Level of Disappointment in Betting



We also conducted a mediation analysis to test whether participants' optimism mediated the influence of payment time on the bets in the high risk-level condition (Figure 8). Following Preacher and Hayes (2008), we performed a bootstrapping mediation analysis using 5,000 samples. The bet responses were mediated by participants' level of optimism when the level of risk is high (0 was not included in the 95% confidence interval: [6.78, 51.68]). The total effect of payment time (immediate vs, delayed payment) on bet responses was significant ($B = 74.55$, $t = 2.38$, $p = .019$), whereas when we controlled for participants' optimism, the direct effect of payment time on bet responses become nonsignificant ($B = 53.36$, $t = 1.63$, $p = .11$). The gap between the total and direct effects was the indirect effect of payment time on bets through optimism, with a point estimate of 21.18 ($SE = 10.83$, 95% confidence interval [.0326, .9375]). However, it is important to note that this evidence is only

suggestive. The proposed mediator (i.e., optimism) was measured after the decision to bet, and so it could reflect posthoc explanations as well as actual perceptions.

Figure 8: Mediating Role of Optimism in The Effect of Payment Time on Amount of Bet

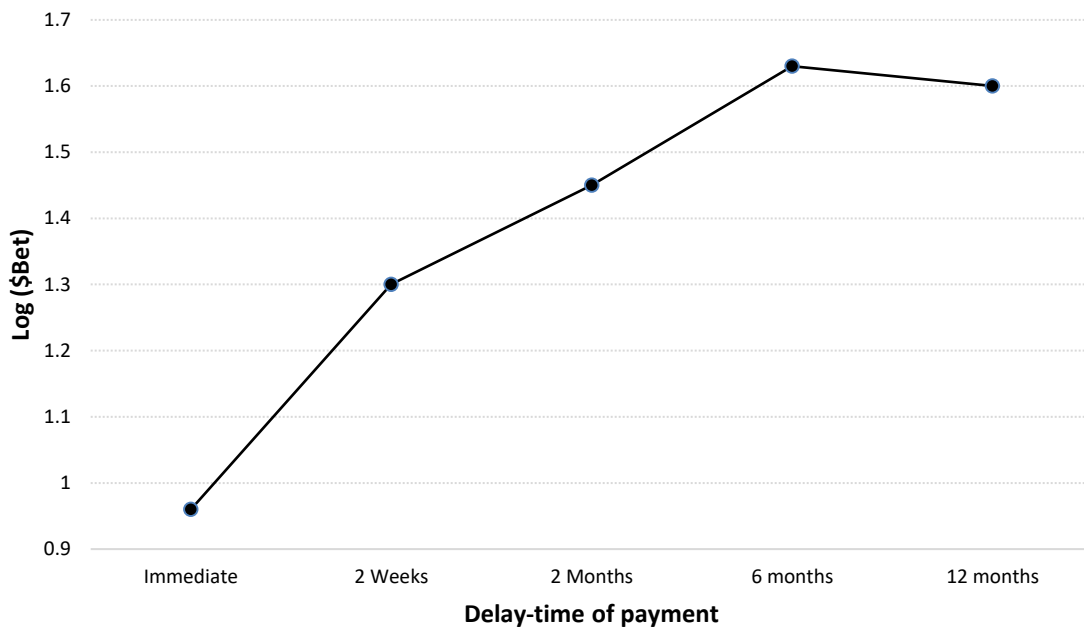


Note: Numbers represent standardized regression coefficients for the relationship between payment time and bet response, as mediated by participants' optimism. Numbers in parentheses represent the standardized regression coefficient between payment time and bet, controlling for participants' optimism. * $p < .05$, ** $p < .01$.

Next, we analyzed the data from the follow-up study for medium risk level (50%), to examine the effect of payment time on participants' behavior as a function of delay-time of payment. Given that the bet responses were highly skewed, we first performed a log transformation on the data to control for outlier effects. An analysis of variance indicated that payment time significantly affected participants' bet responses ($F(4, 236) = 6.28, P < .001$). A Tukey HSD test indicated that the effect of payment time on participants' bet responses becomes significant for time-delays equal to or greater than 2 months. Additionally, a trend analysis indicated that the increases in participants' bets is not linear, and the ascending pattern of responses with respect to time delay followed a quadratic model ($F(1,236) = 7.95, p < .01$). This pattern of participant behavior as a function of increasing delay-time of payment is consistent with the psychophysical nature of time. In other words, there is a relatively high

sensitivity to changes in objective delay-time of payment at the beginning, however, as delay-time increases, changes in the objective delay-times produce smaller corresponding changes in subjectively perceived delay (Figure 9).

Figure 9: The Pattern of The Effect of Payment Time on Participants' Bet Response as A Function of Delay-Time of Payment



This results support hypothesis 3 that delaying payment causes consumers to become less conservative and take more risks. As discussed one crucial factor that determines people's risk-taking behavior is the extent to which they perceive the risk of their decisions. Delaying payment first of all leads people to perceive greater available resources at the time of their decisions. It also gives people a sense of higher control over the consequences of their decisions (i.e., a possible consequence judged to be controllable by personal actions). Thus,

people feel less risk at the time of decisions, become more optimistic, and behave less cautiously. Another psychological phenomenon that may play a role in the effect of delaying payment on people's risk-taking behavior is the emotion people experience at the time of a purchase decision. People tend to use the affects they feel while they are imagining a future event as a cue for how they will feel when they experience them. However, compared to an immediate event, imagining of a delayed event is unrepresentative, essentialized, abbreviated, and decontextualized (Gilbert & Wilson, 2007). Therefore, imagining distant future event tends to evoke less-intense emotions than imagining near future event does (Kassam et al., 2008; G. Loewenstein, 1996; McClure et al., 2004). In the same vein, people at the time of a purchase decision may feel less-intense emotions, such as guilt about paying, when payment is expected to be in the distant future.

Chapter 7

Study 4 - Gamble Choice

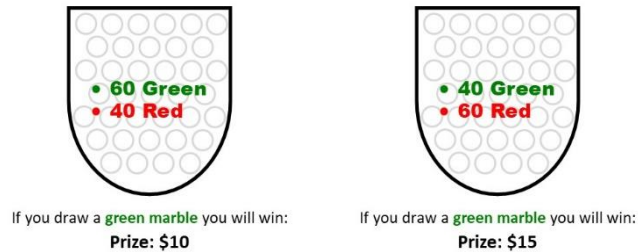
So far, it has been shown that delaying payment results in higher spending and more risk-taking behavior. The objective of this study is to show how people's preferences can be influenced by payment time. Delaying payment creates a situation wherein decisions and their consequences are temporally separated. This delay, for the reasons mentioned in the theory section, reduces the subjective cost of decisions and the vividness with which people sense their decisions' consequences. Thus, people perceive the consequence of their decisions as less harmful and, hence, do less to protect themselves against possible loss. Therefore, in a choice between two alternatives when there are trade-offs between desirability and risk, delaying payment can increase the chance of choosing the desirable, more-tempting but riskier option. To test this prediction, we manipulated the payment time of the entrance fee to a game that involves choosing between several pairs of lotteries with the same expected value but different risks and payoff. We expect that in a choice between two lotteries with the same expected value, delaying payment would change people's preferences in favor of a riskier option (with higher payoff) over a safer one (with lower payoff).

7.1 Methodology

In exchange for monetary compensation, 120 (74 male) subjects were recruited using Amazon Mechanical Turk. All were over the age of 18 and from North America. They were randomly assigned to one of two payment-time conditions (immediate vs delayed) in a

between-subjects design. All were asked to consider participating in a game of chance that consists of 12 rounds. Twelve pairs of lotteries with the same expected value were used, and in each round, they were given a choice between one of these pairs of lotteries. We used a List of 12 lotteries used by Ritov (1996). These 12 pairs of lotteries included four different pairs of winning probabilities (i.e., (%60, %40), (%70, %40), (%80, %50), and (%90, %50)), which were matched with three different pairs of monetary values, consequently generating the 12 pairs of lotteries (Table 4). So, we considered %60, %70, %80, and %90 as probabilities of winning in safe lotteries, and %40 and %50 as probabilities of winning in risky lotteries. The order of the pairs of lotteries was randomized, but all participants saw the same random order. Each pair of lotteries was presented in the form of two urns containing a mixture of 100 green and red marbles (Figure 10). Participants were told that in all lotteries, the outcome would be determined by a blind draw from the urn, and they would win the prize and receive it immediately if they drew a green marble. They were also told that the entrance fee to this game is \$25. The payment time of this entrance fee was manipulated to be immediate or 6 months delayed. After reading the instructions, participants were asked two questions regarding the time of payment as an attention test. They then saw each pair of lotteries one at a time and selected their preferred lottery in each pair. Finally, they completed demographic questions.

Figure 10: Presentation Format of Lotteries



7.2 Results and Discussion

After removal of those who failed the attention test, 109 responses were left in the study. For each pair of lotteries, Table 4 demonstrates the percentage of participants who chose the risky lottery in each payment condition. Although participants were overall risk averse (i.e., in both payment conditions the safer lotteries were chosen more often than the risky ones), the preference for risky lotteries was affected by payment time manipulation. In all pairs of lotteries, the percentage of participants preferring the risky option was higher when entrance fee payment was delayed. However, these differences were only significant in 4 pairs of lotteries (i.e., 2, 3, 5, and 10). We also looked at the number of risky choices out of 12 possible choices for each participant. The results show that the number of risky choices across the two payment conditions is significantly different. Participants on average, preferred the risky lottery in 2.7 out of 12 pairs when payment was immediate, compared to 4.2 out of 12 pairs when payment was delayed ($t=2.4$, $p < .05$). Thus, as expected delaying

payment lead participants to be less conservative and more likely to prefer the more-tempting riskier options.

Table 3: List of Lotteries and Results

No.	Lottery Pairs		Percentage of risky choice	
	(Probability of winning, \$Prize)		Immediate Payment n = 56	Delayed Payment n = 53
	Safe	Risky		
1	(.8, 15)	(.5, 24)	23.2	35.8
2	(.7, 7)	(.4, 12)	14.3	30.2*
3	(.6, 10)	(.4, 15)	14.3	32.1*
4	(.9, 8)	(.5, 15)	19.6	30.2
5	(.7, 9)	(.4, 16)	14.3	34*
6	(.6, 8)	(.4, 12)	21.4	28.3
7	(.8, 11)	(.5, 18)	28.6	41.5
8	(.9, 12)	(.5, 21)	25	37.7
9	(.6, 13)	(.4, 20)	26.8	39.6
10	(.7, 6)	(.4, 11)	19.6	39.6*
11	(.9, 7)	(.5, 13)	27	32.1
12	(.8, 18)	(.5, 29)	32.1	43.4

*p<.05

The results of this study provide more evidence supporting hypothesis 2 that when payment is delayed, people become less risk averse. The study also shows that delaying payment influences not only consumers' spending behavior, but also their preferences. These results are interesting because according to standard economic theory, delaying payment should not lead to any change in the behavior of the participants. In other words, since nothing had changed in relative terms, people's preferences under delayed payment condition should have been exactly the same as that to immediate payment. However, the subjective

cost of a decision and the risk people feel at the time of a decision play an important role in consumer behavior. This experiment has two limitations. First, we could not consider all possible levels of risk. Looking at the results shows that although in all pairs of lotteries delaying payment increased the preferences for the risky options, the difference is only significant for the pairs in which the risky option has 40% chance of winning. Thus, the difference between levels of risks should be sufficiently large to make the riskier option tempting enough so that taking risks seems worthwhile. Future studies can look at this effect across more levels of risk to find the thresholds where delaying payment is more influential. Another limitation is the magnitude of payoffs and the amount of payment. One important determinant of the risk people perceive in a decision is the magnitude of possible payoffs and the associated cost. When the cost is very large, delaying payment might not reduce the perceived risk enough to change people's behavior.

Chapter 8

Study 5 - Product Choice

One major objective of the study was to repeat the result of the previous study in a more market-related context and so provide further evidence for the effect of delaying payment on consumer preferences. In today's competitive market, it is usual that consumers are faced with a variety of products in the same category. For any product such as a coffee maker, TV, or microwave, there are lots of choices with different degrees of desirable features and varying degrees of reliability or risk. We want to see how payment time might affect consumer preferences in these contexts. In our discussion of theory, we hypothesized that delaying payment would decrease the risk associated with consumer decisions. Therefore, we expect that in a choice between two products from the same category, when there are trade-offs between desirability and risk (reliability), delaying payment would change consumer preference in favor of riskier option with higher desirability. In this study, we also considered a case of no payment (i.e., free). We regard the no-payment condition as an extreme case when the monetary cost associated with consumer decisions is zero, and expect to see more extreme change in the predicted behavior.

8.1 Methodology

A total of 185 participants (111 female) were recruited online through the Amazon Mechanical Turk service and took this survey in exchange for monetary compensation. All were over the age of 18 and from north America. Each was randomly assigned to one of three

conditions of payment (immediate, delayed, and free) in a between-subjects design. In the immediate payment condition, participants were asked to imagine that they are considering buying a coffee maker, and go to a store that has a variety of different ones. Their search in the store ends up with a choice between two coffee makers that have the same price (\$180). Under the delayed payment condition, participants were also told that the store has a deferred payment option according to which they can pay for their purchase 6 months later without any interest. We also added a third condition as a free choice to assess consumer behavior in the extreme case of no cost. Under this condition, participants were told that the store happens to have a special event that randomly selects some customers who can take their preferred coffee maker for free. This group members were told that they had been selected for this free choice. All participants were then asked to indicate which coffee maker they prefer. The description of the coffee makers was as below:

- **Coffee maker A:** an ordinary coffee maker that has been in the market for quite some time. It has been reviewed by 250 customers and received an overall rating of 4 (out of 5).
- **Coffee maker B:** a coffee maker with new features and functions that has recently come to the market. It has not received customer reviews yet.

As can be seen in the descriptions, we manipulated the desirability of the coffee makers by discussing novelty and new features, and their reliability by the customer reviews they received. In order to detect the participants who might only skim the instructions, all

participants were asked to specify the described payment condition of their scenario as an attention test. Finally, participants completed demographic questions.

8.2 Results and Discussion

After removal of those who failed the attention test, 174 responses were left. Table 5 demonstrates the percentage of participants under each condition who chose the risky but more-desirable coffee maker. Although participants preferences were overall in favor of the reliable option (i.e., in all three conditions the safer option was chosen more often than the risky one), preference for the desirable coffee maker was affected by the manipulation of payment ($\chi^2 = 11.99, p < .01$).

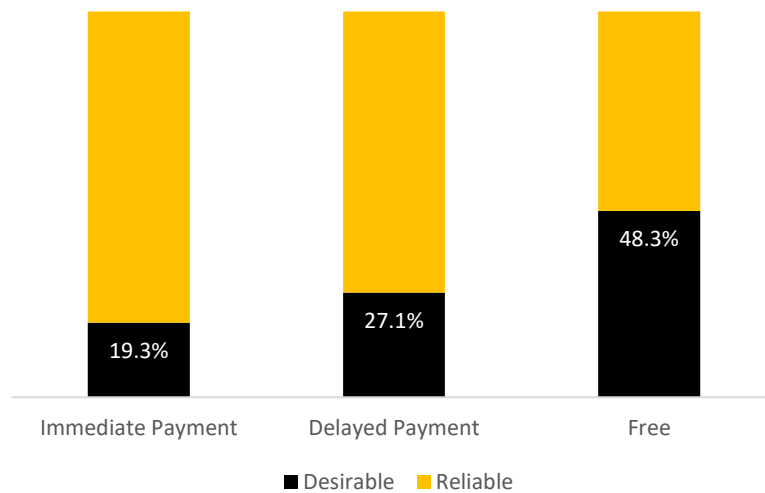
Table 4: Preference for More Desirable but Riskier Option Across Different Payment Conditions

Payment Condition	Number of Participants	Desirable Coffee Maker
Immediate payment	57	19.3%
Delayed payment	59	27.1%
Free	58	48.3%*

Using pairwise comparisons, we found that although delaying payment compared to immediate payment increased the proportion of participants who chose the more-desirable option, this difference is not significant ($\chi^2 = .99, p = .3$). But when there is no payment (i.e., free) the proportion of people who picked the desirable but riskier coffee maker was significantly greater than that in immediate payment ($\chi^2 = 10.771, p = .001$), and delayed payment conditions ($\chi^2 = 5.6, p = .018$). Therefore, the result of this study did not provide

sufficient support for our hypothesis that delaying payment makes people less conservative. However, the extreme case of no payment supports the idea that when the cost associated with people's choice is reduced, people are more likely to take risks and go with the more tempting option. These results are interesting because according to standard economic theory, since nothing had changed in relative terms, people's preferences under payment conditions should have been exactly the same as that to no-payment. However, the subjective cost of a decision and hence the risk people feel at the time of a decision play an important role in consumer behavior. One possible reason for the non-significant effect of delaying of payment could be that the price we set for this product was so high that delaying payment would not reduce the cost sufficiently to lead people toward the more tempting option.

Figure 11: The Preference for Reliable vs. Desirable Coffee Maker



This experiment has two limitations. First, as we mentioned, the magnitude of price with respect to the considered product could be one crucial factor that determine the extent to which delaying payment could be influential. Therefore, testing the effect of delaying payment across an acceptable range of prices could be informative. A second limitation is that the desirability of the coffee makers was manipulated in an abstract way. May be if the desirability across the choice options is described more concretely by mentioning the exact features of the alternatives, the change in participants' preferences would become more salient.

Chapter 9

Study 6 – Payment Time Preference

So far, the result of this research indicates that, under delayed payment conditions, consumers behave differently, such as higher spending, taking more risk, and changing their preferences. This study aimed to determine which payment time consumers prefer if they are given a choice between immediate and delayed payment. Prior researchers investigated consumers' preference for prepaying versus post-paying for some types of purchases. For example, it has been found that consumers prefer to prepay rather than post-pay for hedonic purchases such as vacations but prefer to post pay for durable purchases such as washer dryers (Patrick & Park, 2006; Prelec & Loewenstein, 1998). They argue that for the consumptions that are short and hedonic, people prefer prepayment so as to enhance the pleasure of the consumption (Patrick & Park, 2006), because they do not like to have the psychological burden of upcoming payment while they are enjoying their purchase (Prelec & Loewenstein, 1998). Research also shows that in the case of prepayment, with the passage of time, consumers adapt to the cost of the purchase, thereby attenuating its sunk-cost impact on the pending consumption, and giving the illusion that the consumption is free (Gourville & Soman, 1998). However, for necessity purchases that are durable (i.e., they are used over a long period of time) and not inherently enjoyable, such as washer-dryer, consumers prefer post payment over prepayment (Prelec & Loewenstein, 1998). Now that we provide evidence on how delaying payment influences consumers behavior, the goal of this present study is to

find which payment option people prefer if they are given a choice between immediate and delayed payments.

9.1 Methodology

A total of 150 participants (67 female), recruited online through Amazon Mechanical Turk service, took this survey in exchange for monetary compensation. All participants were over the age of 18 and from North America. They were randomly assigned to one of three purchasing conditions. In the control condition, participants were asked to imagine that they are considering purchasing a TV and go to a store and find a TV they like. They also learn that the store has an option to delay payment for 6 months without any interest. They then were asked to indicate what payment option they prefer: immediate or delayed. In the other two conditions, participants were given the same scenario as that in the control condition. The only difference was that we manipulated the price of TVs they liked to be either below or above the budget they would consider spending. After indicating their preferences for immediate versus delayed payment, participants were asked to write down whatever went through their mind while they were deciding on their preferred payment option. They then rated the attractiveness of the option of delayed payment (using a 11-point scales ranging from 0=not at all attractive to 10= very attractive). Finally, they completed demographic questions.

9.2 Results and Discussion

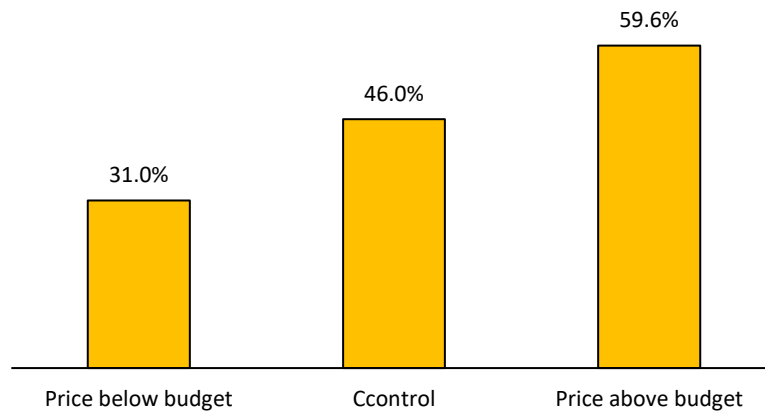
Table 6 demonstrates, the percentage of participants in each condition who chose the delayed payment option. A chi-square test of independence was performed to examine the relation

between purchase conditions and preference for delayed payment. The relation between these variables was significant, $\chi^2 (2, N = 150) = 8.085, p < .05$.

Table 5: The Preference for Delayed Payment (Percentage)

Conditions	Number of Participants	Preference for delayed payment %
Control Condition	50	46%
Price is below the budget (sufficient budget)	48	31%
Price is above the budget (shortage in budget)	52	59.6%

Figure 12: The Preference for Delayed Payment (%)



A pairwise comparisons showed that people’s preference for delayed payment is significantly higher when they have a budget-shortage (i.e., the price was above their budget) than when their budget is sufficient ($P_{\text{price-below}} = 31\%$, $P_{\text{price-above}} = 59.6\%$, $\chi^2 = 8.085$, $p < .005$). However, compared to control condition, the increase in preferences for delayed payment when the price was above the budget ($(P_{\text{control}} = 46\%$, $P_{\text{price-above-budget}} = 59.6\%$, $\chi^2 = 1.9$, $p = .17$), and the decreases in preferences for that when the price was below the budget

($P_{\text{control}} = 46\%$, $P_{\text{price-below-budget}} = 31\%$, $\chi^2 = 2.24$, $p = .13$) was not statistically significant. In order to examine the attractiveness of delaying payment, we also conducted an ANOVA on the scale measuring the attractiveness of delaying payment in the three conditions. The analysis revealed no statistically significant difference between three conditions ($M_{\text{control}} = 6.04$, $M_{\text{price-below}} = 5.52$, $M_{\text{price-above}} = 6.9$, $F(2,147) = 2.1$, $p = .12$).

The comments provided at the end of the survey show that most participants who preferred immediate payment mentioned that they do not like debt and prefer to get payment over with. On the other hand, the majority of participants who preferred the delayed payment were thinking they would have more flexibility to manage their resources (e.g., they could save and come up with more resource, or have more resources free for other purchases).

In the control condition, 60% of those who preferred delayed payment mentioned reasons related to more flexibility in their financial resources. The rest of the people who preferred delayed payment gave various reasons, such as the attractiveness of delaying payment with no interest, and being able to invest their money. On the other hand, 75% of those who preferred immediate payment in this condition argued that they do not like to worry about future payment and have debt, and they prefer to get payment over with. Some people who preferred immediate payment (about 10%) stated that they prefer delaying for big purchases, not small ones like buying a TV. The rest provided miscellaneous reasons.

In the second condition, in which the price was described to be below the participants' considered budget, about 50% of those who preferred delayed payment mentioned reasons related to flexibility in their resource. The rest provided various reasons for preferring

delayed payment, such as investing the money, and the attractiveness of delaying payment with no interest. In this condition, however, 85% of participants who preferred immediate payment stated that they do not like being in debt or questioned why they should delay payment if the price was below their budget limit.

In the third condition, in which the price was described to be over participants' budget limit, 80% of participants who preferred delayed payment explained that by delaying payment they have more flexibility to manage their financial resource. On the other hand, of those who preferred immediate payment in this condition, 62% mentioned reasons, such as not like to worry about future payments and debt, and preferring to get payments over with.

Generally speaking, in today's world where most of people live in debt, people prefer to pay immediately unless they cannot. In other words, they prefer delayed payment when it provides a benefit for them. Thus, if the amount of payment is small or they already have enough resources they prefer to pay immediately. Although consumers' preferences for payment time were not the focus of this research, the results nevertheless show that availability of resources is an important factor that helps determine consumers' preferences for payment time. Of course, other factors could also influence consumers' preference for payment time, such as the type of product or service and the size of the payment, which needs more investigation. As mentioned, prior research has looked at some factors, such as the type of purchase (hedonic vs. necessity) or the durability of products (Patrick & Park, 2006; Prelec & Loewenstein, 1998).

Chapter 10

General Discussion

10.1 Summary of findings and discussion

The money resource available for spending at the time of purchase is an important factor that can affect the propensity to spend, the amount of spending, and the perceived cost of a purchase. The present research has argued that delaying payment leads consumers to have a perception of greater available resources at the time of purchase. This perception, hence, facilitates spending, reduces the subjective cost of a purchase, and attenuates the risks people feel at the time of purchase. A total of six studies has shown how payment time (i.e., immediate vs. delayed) influences consumers' spending, risk taking, and preferences. First, studies 1 and 2 were able to show that, when payment is delayed, consumers spend more on purchasing a product. In particular, study 1 showed that delaying payment leads consumers to go further beyond their budget limit to buy a product they like. This study also demonstrated that people predict that others spend more than they themselves do. We speculate that this effect occurs because the immediate resource constraint is more active in people's thinking about their own behavior than when they are predicting others'. Study 2 further strengthened the findings of the previous study by identifying the price range in which consumers are most likely to pay for a product. The results of this study demonstrated that delaying payment causes consumers to consider a higher price range for purchasing a product they want. In this study, once again, participants' predictions about other consumers'

acceptable price range were higher than their own price range. Study 3 explored the effect of payment time on consumers' risk-taking behavior. The result of this study demonstrated that, in a gambling game, participants bet more and were more optimistic about winning under a delayed payment condition. This effect of payment on participants' betting was influential when the risk of betting was high (i.e., the chance of winning was low). This finding shows that since time of payment influences consumer behavior through reducing the degree of risk people feel at the time of decisions, when a situation is not threatening by itself there is less room for payment time to affect consumer behavior. Studies 4 and 5 provided further evidence for the effect of payment time on consumers' risk-taking behavior in a choice domain. In particular, study 4 shows that in a choice between two lotteries with the same expected value, when there are trade-offs between risks and pay offs, participants' preferences change in favor of the riskier one with a higher pay off. Study 5 examined this effect of payment time on consumer preferences in a more-marketing-related context. The study investigated choosing between two product alternatives with the same price when there are trade-offs between desirability and reliability. Although the results showed that delaying payment increased the preference for the more desirable but less-reliable product, this increase was not statistically significant and did not provide sufficient support for our hypothesis. This study, however, demonstrated that in a case of free choice (i.e., no payment) people's preferences significantly changed toward the desirable product. These results are interesting because according to standard economic theory, delaying payment should not change people behavior. In other words, since nothing had changed in relative terms,

people's preferences under delayed payment condition should have stayed the same as that under immediate payment. However, the subjective cost of a decision and hence the risk people feel at the time of a decision play an important role in consumer behavior. Finally, study 6 investigated consumers' preference between immediate and delayed payment. As expected, people's preference for delayed payment was shown to be significantly higher when they had a budget-shortage (i.e., the price was above their budget limit) than when their budget was sufficient (i.e., the price was below their budget limit). Although consumers' preferences for payment time were not the focus of this research, the results nevertheless show that the amount of resources at the time of purchase is an important factor in determining consumers' preferences for payment time. Of course, other factors may also influence consumers' preference for payment time, such as the type of product or service and the size of the payment, and need more investigation.

For these findings, some alternative explanations are possible. For instance, pain of payment has been defined as the negative feeling associated with parting with money (Prelec & Loewenstein, 1998). Prelec and Loewenstein (1998) argue that when consumers make a purchase, they experience both the pleasure of consumption and the pain of payment. Therefore, the extent to which pain of payment is sensed can affect consumers' spending behavior (Prelec & Loewenstein, 1998). So, for the same price, payments with different saliences in the payment process result in relatively different difficulties in giving up money. In other words, the vividness with which people see that money going out of their pockets determines the pain of paying. Although one may argue that delaying payment could reduce

the pain of payment, the underlying mechanisms differ. A method of payment can make parting with money easier through decreasing the transparency by which people see the money departing. Compared to paying with cash, where people vividly see money leave their hand, some payment methods reduce the transparency of this departure because of their forms or the way whereby payment is processed. More specifically, holding all else constant, payment methods can act like a feedback gauge that give people a signal of their changing financial status. Thus, the extent to which a method of payment reduces the transparency of the feedback makes payment easier. In contrast to this phenomenon, payment time make the payment easier through activating a greater resource account at the time of purchase.

According to this theory, having a higher amount of resources reduces the perceived resource depletion, and hence the perceived cost of spending from that resource. Thus, the psychological mechanisms behind the effect of payment time on consumer behavior are different than that explained by pain of payment. However, as research shows, contemplating an event in the distant future tends to evoke less-intense emotions than contemplating a near-future event does (Kassam et al., 2008; G. Loewenstein, 1996; McClure et al., 2004). In the same vein, people at the time of a purchase decision might feel less-intense emotions, such as pain of paying, when payment is expected to be in the distant future.

Another possible consideration that might be discussed is the attractiveness of delaying payment without interest. In today's market, businesses that are utilizing delayed payment generally compensate for the time value of money by applying an interest rate. Therefore, consumers expect to pay interest when payment is delayed. Consumers may then see

delaying payment without interest payment as an attractive option. Although this psychological motive may increase the propensity to spend or be the reason to prefer delayed over immediate payment, given that the attractiveness in this situation comes mainly from the fact that they do not need to pay interest, it cannot explain why people spend more when payment is delayed. Furthermore, in the explanations participants provided for their behavior in our studies, the majority of people referred to their ability to come up with greater resources later on under delayed payment condition.

10.2 Contribution

The present work extends the growing body of literature that considers how the amount of available resources influence consumer behavior, by showing that payment time is an important determinant that activates different resource accounts at the time of purchase. Prior research on the relationship between resource availability and consumer judgment and decision making shows that the amount of available resources at the time of judgment influences consumer spending and consideration of costs (Morewedge et al., 2007; Soman & Cheema, 2002; Spiller, 2011), consumers' satisfaction after purchase (Soster et al., 2014), and product preferences (Mishra et al., 2010; Sharma & Alter, 2012). The present research broadens this body of research by introducing payment time as a factor that activates different perceptions of resource availability at the time of purchase. The present research proposes that delaying payment has two effects: 1) attenuating the role of immediate resource constraints in consumers' decisions, 2) giving consumers time to manage their finance and

come up with more resources. These effects lead consumers to have the perception of greater available resources, and hence, influence their spending, risk taking, and preferences.

The second contribution is relevant to the psychology of payment methods. Literature on the effect of credit-cards on spending behavior shows that, compared to paying with cash, people spend more for identical items when paying with credit cards, even when the liquidity constraint is controlled (Hirschman, 1979; Feinberg, 1986; Prelec & Simester, 2001; Soman, 2001). Even though the researchers controlled for the liquidity constraint in cash and credit-card payment conditions, the observed overspending in the credit-card condition could in part occur because consumers have the perception of greater available resources under credit card payments. In other words, compared to paying with cash, credit cards - as they delay the time of actual payment - give the perception of higher available resource at the time of purchase. It should be noted that prior research on the effect of different payment modes on consumer behavior focused more on the emotional aspects of payment (i.e., pain of payment). In this line of research different payment mechanisms were distinguished from cash payment in two ways: The form of payment (i.e., the difference in physical appearance), and the degree of coupling between payment and consumption (e.g., time delay of payment) (Prelec & Loewenstein, 1998; R. H. Thaler, 1999; Raghurir & Srivastava, 2008b). The main idea in this research is that these features respectively reduce the transparency with which people sense resource depletion, and disassociate the pain of payment from a transaction, consequently result in higher spending. However, present research suggests a cognitive mechanism (i.e., perceived resource availability) by which lower perceived cost of spending and in turn higher amount of

spending arises. The present work also shows that in addition to spending behavior payment time can also influence consumers risk-taking behavior and preferences.

This dissertation also contributes to the research on future optimism and overconfidence. Empirical evidence shows that people tend to overestimate the occurrence of positive events and outcomes and underestimate the occurrence of negative ones (Dunning, 2007). This optimistic bias about the future has been shown to result in certain prediction errors, such as budget fallacy (Peetz & Buehler, 2009). It has been shown that people tend to underestimate their future expenditures, and this tendency stems from their saving goals (Peetz & Buehler, 2009). The present research, likewise, predicts that delaying payment can lead people to have the perception that they will have greater available resources in the future. This perception comes in part from people's optimism about their ability to save and come up with more resources in the future. Our findings also suggest that when payment is in the future, people are more optimistic about their decisions.

Finally, the present work extends existing research on some related topics such as temporal discounting (Zauberman & Lynch Jr, 2005). Zauberman and Lynch (2005) introduced the perceived resource slack as an underlying reason for temporal discounting of future investment from a resource. Berman et al., (2016) attribute this expectation about future spare money to people neglecting their future expense increase. The present work suggests that in the case of delaying payment which is like an in advance commitment to provide resource in the future, people's ability to manage their resources and come up with more resource is also an influential factor.

10.3 Implications

The results of this research suggest that delaying payment influences consumer spending, risk taking behavior, and preferences. These findings have several implications from the managerial and practical points of view. For example, businesses that are utilizing delayed payment generally have a standard economic approach to the application of deferred payment and compensate for the time value of money by applying an interest rate. However, this research shows that delaying payment by itself can provide benefits, such as increasing consumers' willingness to pay and their purchase intention (i.e., demand), which can both compensate the time value of money, and so negate the need for interest charge. Second, if consumers' risk-taking behavior is influenced by delayed payment, managers can use time of payment as a marketing strategy for promoting new products. Purchasing new products with novel features and functions is a risky decision, especially in an established market where existing products have gained popularity and credibility over time. Delayed payment through decreasing the risk people feel at the time of purchase may be a good way to promote such products.

10.4 Limitations and Future Research directions

The studies conducted in this research are limited in a number of ways. First, all purchase decisions were hypothetical, and not based on actual transactions. Although it is logical to assume that if delaying payment, through activating different resource accounts, is effective in hypothetical purchase decisions, it should be more so in the case of real purchase decision

where one's actual resources are depleted. But this generalization remains to be tested in future studies. Second, in all of our studies, participants were recruited through the Amazon Mechanical Turk service. Although respondents from MTurk are more demographically diverse than student samples, they are usually lower in income compared to the general public. Since one main reason that delaying payment results in higher spending is removing the immediate resource constraints at the time of purchase, this effect of payment time should be more pronounced for situations when people really have resource constraints in their immediate situation. Therefore, if people for any reason, such as solid personal finances, do not sense any constraints on their immediate resources, we would expect the effect of payment time to be moderated. Future research can explore this issue by testing the effect of payment time across a wider range of income levels or by manipulating the resource availability at the time of purchase (although the methodologically for this latter would not be easy). Third, in the current studies the scenarios and purchase decisions were limited for both the types of product used as stimuli and the sizes of payments. For example, we used a TV or coffee maker as the stimuli in four out of our six studies. So future research should explore the type of products or services (e.g., hedonic vs. necessities, or durable vs. nondurable), and the threshold for the size of payments for which delaying payment is more effective. Finally, while we have hypothesized that delaying payment through creating the perception of greater resources account leads consumers to perceive costs to be subjectively smaller, we have not measured this phenomenon directly. In fact, we just provided evidence that consumer behavior toward choices with the same cost was changed by delaying

payment. However, future testing that directly measures the subjective perception of the same cost across different payment times could be informative.

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Appendix A

Purchase Scenario, Study 2, Price Range

Imagine you (someone else is) are considering buying a new TV. You (he/she) go to a store which has a wide variety of TVs. [This store has a deferred payment policy according to which you (he/she) can pay for your (his/her) purchase 6 months later without any interest].

What is the most likely price range you (he/she) would consider to buy a TV from this store?

Min:

Max:

What is the most likely price level at which you (he/she) would buy a TV from this store?

Most likely price:

Now assume that the store has a deferred payment policy according to which you (the person) can pay for your (his/her) purchase 6 months later without any interest [the store does not have the deferred payment policy and you (he/she) should pay for your (his/her) purchase immediately]. What is the most likely price range you (he/she) would consider to buy a TV from this store?

Min:

Max:

Under this condition what is the most likely price level at which you (he/she) would buy a TV from this store?

Most likely price:

Appendix B

Betting Scenario, Study 3

High level of risk: Imagine yourself participating in a gambling game. you can bet any amount of money on a draw of a green marble from an urn with mixture of 100 green and red marbles. The urn contains **25** green and 75 red marbles. If you draw a green marble you will win 3 times your bet and receive it immediately. If you draw a red marble you will lose your bet. You need to pay your bet before playing the game [You do not need to pay your bet before playing the game, you will pay it 6 months later].

What is the maximum you are willing to bet?

Low level of risk: Imagine yourself participating in a gambling game. you can bet any amount of money on a draw of a green marble from an urn with mixture of 100 green and red marbles. The urn contains **75** green and 25 red marbles. If you draw a green marble you will win 3 times your bet and receive it immediately. If you draw a red marble you will lose your bet. You need to pay your bet before playing the game [You do not need to pay your bet before playing the game, you will pay it 6 months later].

What is the maximum you are willing to bet?

Appendix C

Lotteries Choice Instruction, Study 4

Instruction (Please read the instruction carefully)

Thank you for participating in this study.

In this experiment imagine yourself participating in a game of chance that consists of 12 rounds. In each round people will be given a choice between 2 lotteries, and they must indicate which of two lotteries they prefer to play. In all lotteries, the outcome will be determined by a blind draw from an urn that contains a mixture of 100 red and green marbles-people win a sum of money, and receive it immediately if they draw a green marble. The mixture of red and green marbles and the payoffs vary between each pair of lotteries. In total people will choose 12 lotteries to play and they can earn up to \$200.

The entrance fee to this game is \$25 which is needed to be paid before starting the game [which is not needed to be paid before starting the game, the payment will be six months later].

Imagine yourself participating in this game and indicate the lotteries you would choose to play.

Here is a sample of a pair of lotteries that you will see in each round:

Both Urns contain 100 marbles, but the number of green and red marbles vary between two lotteries



The prizes also vary between each pair of lotteries

Appendix D

Product Choice Scenarios, Study 5

Condition 1: Imagine that you are considering buying a coffee maker. You go to a store that has a variety of different coffee makers. Your search in the store ended up with a choice between two following coffee makers which have the same price (\$180). Which coffee maker do you choose?

Condition 2: Imagine that you are considering buying a coffee maker. You go to a store that has a variety of different coffee makers. Your search in the store ended up with a choice between two following coffee makers which have the same price (\$180). The store has a deferred payment policy which enables customers to pay for their purchase 6 months later (without any interest). Which coffee maker do you choose?

Condition 3: Imagine that you are considering buying a coffee maker. You go to a store that has a variety of different coffee makers. Your search in the store ended up with a choice between two following coffee makers which have the same price (\$180). This store happens to have a special event that randomly selects some customers who can take their preferred coffee maker for free. You are selected for this free choice. Which coffee maker do you choose?

- **Coffee maker A:** an ordinary coffee maker that has been in the market for quite some time. It has been reviewed by 250 customers and received an overall rating of 4 (out of 5).
- **Coffee maker B:** a coffee maker with new features and functions that has recently come to the market. It has not received customer reviews yet.

Appendix E

Payment Choice Scenario, Study 6

Condition 1 (control): Imagine you are considering buying a new TV. You go to a store and find a TV that you like. You also learn that the store has an option to delay the payment for 6 months without any interest. Which payment option would you prefer?

Condition 2: Imagine you are considering buying a new TV. You go to a store and find a TV that you like which has a price below the budget you considered to spend. You also learn that the store has an option to delay the payment for 6 months without any interest. Which payment option would you prefer?

Condition 3: Imagine you are considering buying a new TV. You go to a store and find a TV that you like which has a price above the budget you considered to spend. You also learn that the store has an option to delay the payment for 6 months without any interest. Which payment option would you prefer?