

TRUST AS A STRATEGY FOR HANDLING UNCERTAINTY IN PRIVATE SAVINGS CHOICES

ANDERS CARLANDER



DEPARTMENT OF PSYCHOLOGY



UNIVERSITY OF
GOTHENBURG

Trust as a strategy for handling uncertainty in private savings choices

Anders Carlander

Department of Psychology



UNIVERSITY OF GOTHENBURG
DEPT OF PSYCHOLOGY

Sweden 2015

© Anders Carlander
Printed in Sweden
Ineko AB, 2015
ISSN: 1101-718X
ISBN: 978-91-628-9464-1
ISRN: GU/PSYK/AVH--318—SE
<http://hdl.handle.net/2077/38722>

DOCTORAL DISSERTATION IN PSYCHOLOGY 2015

Abstract

Carlander, A. (2015). *Trust as a strategy for handling uncertainty in private savings choices*.
Department of Psychology, University of Gothenburg, Sweden

This thesis examines trust in banks and financial expertise as a way of coping with the uncertainty involved in financial decision making. Trust is considered to be beneficial in general and uncertainty is assumed to induce adverse feelings that people will want to get rid of. The general aim was to investigate whether people will substitute assumed adverse psychological states with trust. Thus, topics such as trust, investor biases, financial literacy and customer satisfaction were investigated. Different groups of participants were included; undergraduate students, the general public, and bank customers. **Study I** showed that the propensity to invest in an actively managed fund was determined by beliefs in investor skills together with trust in financial institutions. In addition, self-reported financial knowledge and trust were found to be complementary in the choice of different investment products. Results from **Study II** showed that trust fully mediated the relationship between perceived quality of personal services and customer satisfaction. This indicates that satisfaction and thereby also loyalty may depend on trusted bank personnel. **Study III** investigated a savings choice scenario with real-time stock information. The results showed that trust in financial advisers increases the probability of delegating the savings choice to a financial adviser. Conversely, financial literacy increases the probability of choosing to invest individually in shares or in an index fund. In addition, the choice to delegate to a financial adviser reduced the participants' subjective uncertainty of the choice task. The results suggest that trust is a way of coping with uncertainty. In general, this thesis emphasizes the importance of trust in explaining behaviour in a financial context. In particular, trust seems to be a reason why people consistently invest in expensive financial products that rarely are beneficial to them. This may indicate that trust in banks and financial expertise rests upon an unwillingness to accept uncertainty that may lead to higher than warranted levels of interpersonal trust. This raises some ethical issues for future policy considerations.

Keywords: Trust; Uncertainty; Banks; Financial institutions; Customer satisfaction; Financial literacy; Coping

ISBN: 978-91-628-9464-1 ISSN: 1101-718X ISRN: GU/PSYK/AVH--318—SE

Anders Carlander, Department of Psychology, University of Gothenburg, P.O. Box 500, SE-405 30 Gothenburg, Phone: +46-31 786 1653, Email: anders.carlander@psy.gu.se

SWEDISH SUMMARY

Att kunna lita till andra människor är viktigt för sociala relationer, samarbete och för att samhällen skall fungera effektivt. Osäkerhet inför framtiden är ett naturligt inslag i livet som alla måste handskas med i och med att osäkerhet ofta resulterar i en känsla av obehag eller stress. Ett antagande, som dessutom har starkt stöd i forskningen, är därmed att människor helst undviker osäkerhet.

Ett område som präglas starkt av osäkerhet är ekonomi. Det är dessutom ytterst angeläget att studera då de flesta människor berörs av ekonomin, både lokalt och globalt. Det finns i synnerhet två områden som har varit högaktuella sedan finanskrisen 2008 och det är kostnader för finansiell rådgivning i förhållande till prestation samt privatkunders höga lojalitet till sin bank.

Ett grundantagande inom finasteori är att marknaden för värdepapper är effektivt rationell och att all tillgänglig information återspeglas i aktuellt pris. Det innebär i princip att aktiv kapitalförvaltning och finansiell rådgivning till privatkunder är verkningslös, då det rimligen inte kan resultera i ett ekonomiskt fördelaktigt informationsövertag. Syftet med avhandlingen var därför att undersöka varför många människor ändå verkar lita på banker och finansiella institutioner när den samlade forskningen visar att man inte borde göra det. Det finns anledning att tro att förtroendet är ett sätt att hantera upplevd osäkerhet. Människor väljer att lita till finansiell expertis istället för att acceptera osäkerhet och skapar på så vis en positiv illusion där framtiden upplevs som mindre osäker.

Avhandlingen består av tre delstudier. Studie 1 visar att benägenhet att välja en aktivt förvaltat fond påverkas av uppfattningen om professionella investerares skicklighet men även av förtroende för banker och finansiella institutioner. Studien inkluderade också tre andra sparalternativ; indexfond, aktier eller sparkonto som var påverkade i betydligt mindre utsträckning av både förtroende och uppfattning om investerares skicklighet. Ett intressant bifynd är att förtroende och självskattad finansiell kunskap verkar vara substitut till varandra. Valet av den aktivt förvaltade fonden var påverkad av förtroende i högre utsträckning men av finansiell kunskap i mindre utsträckning. Valet att handla aktier var påverkat av finansiell kunskap i hög utsträckning men inte alls av förtroende.

Resultaten från Studie 2 visar att graden av kundnöjdhet med sin bank som beror på personlig service förklaras till största delen av förtroende inför personalen. Det kan verka trivialt men resultaten tyder på att endast personlig service inte är tillräckligt utan kunderna måste också lita på personalen i fråga för att känna sig nöjda. De tillfrågade deltagarna i studien var emellertid relativt lojala mot sin bank då över 70 % av dem angav att de hade varit kund hos sin bank i över 10 år. Resultaten bör därför tolkas i skenet av att en lång relation skapar ett visst förtroende i sig som dessutom kan spilla över på andra uppfattningar om sin bank.

I likhet med Studie 1 visar Studie 3 att förtroende inför finansiella rådgivare ökar sannolikheten att finansiell rådgivning väljs, jämfört med att investera i aktier eller en indexfond. Finansiell kunskap, å andra sidan, ökar istället sannolikheten att aktier eller en indexfond väljs. Deltagarna i Studie 3 var även tillfrågade om upplevd osäkerhet inför att

välja mellan finansiell rådgivning, investera själv eller en indexfond och resultaten visade att de som valde finansiell rådgivning skattade osäkerheten i uppgiften som lägre.

Denna avhandling visar att förtroende påverkar flertalet finansiella beteenden. Förtroende krävs om man skall köpa en finansiell produkt med krav på avkastning där ansvaret överläts till någon annan. Förtroende krävs också i termer av att bankkunder måste lita på bankpersonalen för att känna sig nöjda, det räcker alltså inte med att bara erbjuda personlig service. Resultaten kan även tolkas som att förtroende är något som vi känner när vi vill rättfärdiga en redan köpt produkt, vilket i sin tur kan förklara ett högt förtroende då förtroende antas öka med tiden. Den här avhandlingens viktigaste bidrag är att föreslå förtroende som ett substitut för både upplevd osäkerhet och finansiell kunskap. Förtroende för banker och finansiell expertis är därmed utan tvekan ett viktigt område och framtida studier bör fokusera på orsak och verkan för att kunna visa att förtroende ökar som en respons på ökad osäkerhet.

Acknowledgement

First and foremost I extend my deepest gratitude to my supervisor, Lars-Olof Johansson. You took me under your wings and you have guided me through this landslide with your wisdom and warm-hearted manner. Thank you for putting up with me!

I am also very grateful for the valuable comments and insights provided by mastermind Anders Biel, my assistant supervisor.

I was fortunate to get a running start when I was admitted to the PhD programme after having worked with my “unofficial mentor” and co-author Tommy Gärling for a year. Without your relentless 24/7 support, dedication, and extensive knowledge, this would have been a lot harder.

Writing research papers can be quite solitary but I have been blessed with many co-authors to share the grief and joy of all that is academia. So, Daniel Peterson, I miss our talks about Houellebecq and Easton Ellis. Amelie Gamble, we managed to live it up in the corridor of death, didn't we? Martin Holmén, the solid rock that we have built the entire Centre for Finance upon. Jeanette “Jea” Carlsson Hauff, you are truly an inspiration.

This thesis was improved in so many ways thanks to Ali Kazemi, Martin Hedesström, Erik Mac Giolla, and Sven Hemlin. Thank you.

Thank you, Marcia Halvorsen, for shaping up my bad English and for asking me the right questions. I still don't have all the answers.

Thank you, Ann Backlund, and the rest of the administration for taking care of business.

Thanks to the many talented professors at Centre for Finance, for not letting me gallivanting around and believing that psychology is the answer.

Last but not least, I want to thank many of my colleagues at the department. I cannot address all of you by direct and indirect contribution since that would require a structural equation model from hell. But, Sofia Calderon, thanks for helping me set up the investment experiment in Study III when time really was of the essence. I also want to give a shout-out to my research group, SOC-JDM. Thanks for terrific seminars and valuable input.

Financial support for this research was obtained through grants to the Centre for Finance, School of Business, Economics, and Law at University of Gothenburg, Göteborg, Sweden, from the Foundation for Economic Research in Western Sweden (#B4333454/10) and the Swedish Agency for Innovation Systems (Vinnova) (#2010-02449).

Göteborg 2/5-15

Anders Carlander

List of Appended Papers

- I. Carlander, A., Peterson, D., Gamble, A., Gärling, T., Johansson, L.-O., & Holmen, M. (2013). Choices of savings options related to trust in banks' competence, benevolence and stability. *Journal of Financial Services Marketing*, 18(2), 121–136.
<http://dx.doi.org/10.1057/fsm.2013.9>
- II. Carlander, A., Gamble, A., Gärling, T., Carlsson Hauff, J., Johansson, L.-O., & Holmen, M. (2015). *Trust-mediated effects of personal services on satisfaction with banks*. Manuscript submitted for publication.
- III. Carlander, A., & Johansson, L.-O. (2015). *Trust as a strategy to cope with uncertainty in delegated portfolio management*. (Centre for Finance Working Paper). Gothenburg: School of Business, Economics and Law, University of Gothenburg.

Table of contents

Introduction	1
Literature review	
Origin and development of trust	2
Definition of trust	4
Preconditions for trust	5
Trust as an expression of risk	6
Trust and stress responses	8
The unpleasantness of uncertainty	8
Dealing with uncertainty	9
Measurement of trust	10
Components of trust	12
Trust in groups	14
The functional value of trust	16
Application of trust	17
Trust as a principal-agent problem	18
Trust from a financial savings perspective	19
Summary of the empirical papers	
Aim	19
Study I	20
Study II	20
Study III	21
General discussion	
Main findings	23
Additional findings	24
Critique and limitations	25
Directions for future research	26
Concluding remarks	27
References	28
Appendix	39

Introduction

Trust is a fundamental aspect of practically every human endeavour. One notable reason for its use is that, for someone who chooses to trust, trust has the power to transform uncertainty into certainty. Consider, for instance, the following scenario: A recently hired colleague at work is in a difficult financial situation and wants to borrow money from you. Since no one can vouch for his honesty because he is a new acquaintance, you have the following choices. You can run an extensive background check on him that would be costly in terms of money and effort or you can refuse to make the loan even at the risk of seeming stingy and not collegial. If you loan him money, you will probably worry he will not repay the loan. Alternatively, if you loan him money, you may feel rewarded by the satisfaction of helping someone in need. You may even expect reciprocal acts of generosity. In this example, we view trust as a psychological prediction model that is based on a subjective belief that other people's actions are more predictable than they actually are (Lewis & Weigert, 1985). Boon and Holmes (1991, p. 206) describe this belief as follows: "At some level trust is a positive illusion developed to curtail feelings of uncertainty once commitments have been made".

The premise in this thesis is that trust is used as a coping strategy to facilitate the avoidance or suppression of uncertainty such that potentially adverse outcomes will be shared by other people or the blame related to such outcomes will be directed towards other people. The decision to trust someone, which may in fact be an act of self-protection or self-enhancement, is a subjective process in which trust becomes a voluntary control strategy that can be implemented in times of uncertainty.

One area where uncertainty is inherent is financial decision-making. Investors have different ways of coping with this uncertainty. As the stock market is theoretically assumed to reflect all available information (Malkiel, 2003), the efficient market hypothesis proposes that an investor cannot benefit, for example, from studying financial data. However, if all stock market information were known and reflected in share prices, very few investors would buy or sell anything. They would have no possibilities for arbitrage (Grossman & Stiglitz, 1980). Yet obviously investors do buy and sell shares and other investments. Thus, there must be other explanations, besides the available information, of observed investor behaviour. This thesis investigates ambiguity aversion (Ellsberg, 1961) as a possible reason that investors make market decisions based on trust in financial data and expertise that helps resolves their ambiguity.

Because it is necessary to examine trust, next I review the literature on trust (general to specific), focusing on a number of different disciplines and approaches. Thereafter I summarize the three empirical studies that were conducted for this thesis. In the last section I present a general and critical discussion of the findings and limitations of the research as well as make suggestions for future research.

Literature review

Origin and development of trust

The first experiences of trust occur in early childhood. Proponents of attachment theory (see Bowlby, 1982) argue that children's first experiences with trust make a permanent imprint that influences their later development of social trust (see also Eriksson, 1968). This dispositional view of the different aspects of personality was predominant in mid-twentieth century psychology research. Repeated experiences with trust, or more specifically positive outcomes of trusting behaviour, will influence how willing a person is to trust in the future. For example, King-Casas et al. (2005) claim that reciprocated trust predicts higher trust in multiple rounds of investment games.

We find four main approaches to trust development in the literature (Lewicki, Tomlinson, & Gillespie, 2006). The first approach, the behavioural perspective, takes a rational choice perspective in which trust is measured by behavioural outcomes such as cooperation. An assumption is that initially trust is low and only changes as a response to trusting behaviour from a counterpart.

The second approach, a uni-dimensional perspective, assumes many cues influence trust, and that trust varies between distrust and high trust. However, it is unclear if trust begins at zero or at an initial mean level. It is plausible that the initial level depends on both personality and the social context.

The third approach, a two-dimensional perspective, assumes trust and distrust are interrelated yet distinct constructs with initially low levels of trust in novel environments.

The fourth approach, the transformational perspective, is grounded in different cues of trustworthiness like the uni-dimensional and two-dimensional perspectives although it is more complex. According to the transformational perspective, trust is based on expected costs and benefits, knowledge, shared values, and identity. Thus, trust begins as a calculative relationship and transforms into a more emotionally oriented relationship. This transformation occurs if there is a positive relationship history that fosters predictability and

decreases information asymmetry. Although theoretically separate, these four approaches to trust development are similar in that each assumes trust is sensitive to changes over time.

Lewicki and Bunker (1995) offer still another approach to trust development: knowledge-based trust. They look at trust as a pure, calculus-based transaction. If parties enter into trusting situations repeatedly, then ideally information between them is shared. This decreases the information asymmetry between the parties because trust is based on knowledge both parties have. Ultimately, if there is positive affect linked to knowledge-based trust, the parties' relationship can transform to identification-based trust. Rousseau, Sitkin, Burt, and Camerer (1998) agree that trust relationships begin as calculative trust and transform over time into more relational trust.

Some empirical studies claim that trust is higher between two people if they have had prior interactions with each other (e.g., Gulati, 1995). In this context, Jones and George (1998) describe calculative trust and affective trust as conditional and unconditional, respectively. Conditional trust develops into unconditional trust when information is exchanged in repeated trust experiences over time. In this way, trust is processed cognitively and conditionally (at least at the beginning of a relationship), suggesting that initial trust should be low because there is no prior relationship in which information has been shared. Yet, paradoxically, the literature reports that initial trust levels often are high.

One way to resolve this paradox is to acknowledge the dispositional view of trust, that is, the acceptance of the baseline, faith-in-humanity-effect. Disposition-related trust seems most salient in initial trust interactions, especially between people in ambiguous situations with no prior relationship history (McKnight, Cummings, & Chervany, 1998). An even simpler solution may be to relate trust to the passage of time. This means that initial trust develops into cognitive and affective trust in three distinct phases of trust development (Webber, 2008).

In general, trust development seems related mainly to repeated (positive) outcomes of trusting situations. For example, repeated trust interactions between the same parties will eventually stabilize owing to the diminishing marginal effect of each new interaction (Huang & Wilkinson, 2013). In other words, past experiences of trust will influence future trust judgments. A longer trust relationship will thus accumulate more information that the parties can use to make trust judgments. Such information appears as both "cognitive" and "emotive" data.

Definition of trust

Although trust is a powerful concept that is used in numerous disciplines, neither laypeople nor researchers define trust in the same way. However, one workable dictionary definition of trust is the following: “assured reliance on the character, ability, strength, or truth of someone or something”.¹ In addition, the characteristic of trustworthiness means that someone or something is “able to be relied on to do or provide what is needed or right”.² Another appealing definition is by Boon and Holmes (1991, p. 194) that states that trust is “a state involving confident positive expectations about another’s motives with respect to oneself in situations entailing risk”.

Trust is sometimes defined as trust propensity, which relates to both trust and trustworthiness, which is the natural inclination to trust others. Trust propensity is a dispositional construct in that people are assumed to have an invariant preference for a certain degree of trust (Colquitt, Scott, & LePine, 2007).

The concepts of trust and trustworthiness are closely related because trust is usually only placed in trustworthy people or things. However, much of the early trust research is more concerned with trust than with trustworthiness (for a discussion, see the Introduction in Kharouf, Lund, and Sekhon, 2014). Therefore, trustworthiness is not addressed to any great extent in this thesis. In my opinion, trustworthiness, which deals to a large extent with signal-detection theory, consists of many components with different signalling cues. For example, different people, under very different circumstances, can interpret trustworthiness differently. Such complex components of trustworthiness are beyond the scope of this thesis.

Mayer, Davis, and Schoorman (1995) developed an integrative (and more simplified) model for trustworthiness that consists of the following three components: competence, benevolence, and integrity. Rousseau et al. (1998), who compared the two concepts of trust and trustworthiness in various academic disciplines, found that trust and trust components are regarded similarly, irrespective of the discipline. However, Colquitt et al. (2007), who tested the relationship among trust, trustworthiness (competence, benevolence, and integrity), and trust propensity using meta-analytic structural equation modelling, found the three concepts are separate constructs that should be dealt with separately.

A closely related concept to trust is social capital that, in many ways, is as important as physical, human, or natural capital. Social capital, which is created over time, derives from a common understanding between people within groups. Unlike other types of capital, social

¹ <http://www.merriam-webster.com/dictionary/trust>

² <http://www.merriam-webster.com/dictionary/trustworthiness>

capital is not depleted but rather increases with use. While it is difficult to measure trust precisely and to construct it at will (Ostrom, 2000), social capital can be measured as the aggregate value from social connections that arise when an adequate number of people trust each other (Putnam, 2000).

It is generally assumed that geographic areas lacking social capital find it difficult to prosper (Guiso, Sapienza, & Zingales, 2004; Knack & Keefer, 1997; Zak & Knack, 2001). One key explanation for perpetual poverty is the lack of trust where mutual defection, hostility, and short-sighted opportunism are social norms. This situation may also mean the presence of low social capital (Woolcock, 1998). One theory is that people invest in social capital only if there are incentives, just as they do with other investments (Glaeser, Laibson, & Sacerdote, 2002).

According to game theory, a one-shot investment game will not automatically lead to cooperation but rather to the inclination by both players to defect, which constitutes a Nash equilibrium (Berg, Dickhaut, & McCabe, 1995). However, the one-shot situation rarely exists from an ecologically valid perspective. A more realistic analysis is that if people interact repeatedly (e.g., because of shared religions, traditions, laws, or social norms), they have an incentive to cooperate. Social capital is then spontaneously generated over time through repeated “trust games” in real life (Fukuyama, 2001).

People’s behaviour in repeated trust games tends to be more cooperative and less selfish when reputational damage (Boero, Bravo, Castellani, & Squazzoni, 2009) and other punishments for norm violations (Camerer, 2003) are likely. One conclusion is that trust is the difference between how people, in theory, should behave so as to maximize their utility and how they actually behave so as to preserve social capital. If trust occurs repeatedly, and is initiated by a large number of people in a group, that aggregate behaviour can be considered high social capital.

Preconditions for trust

Trust is a voluntary and selective mental process followed by a specific judgment or decision (Möllering, 2006). Trust is voluntary in the sense that people choose to trust based on their knowledge of others and of the relevant context. Trust is selective in the sense that people discriminate among people in matters requiring trust. If everyone were trusted, the concept of trust would be conceptually redundant. The decision to trust, therefore, requires a specific judgment (evaluation) of the trustworthiness of others and/or of the situation.

Another precondition for trust judgments and decisions relates to the inadequacy of information in general and to the uncertainty about others' behaviour in particular (Gambetta, 1988). Trust situations are typically asymmetrical because the trusted person (henceforth, the trustee) has some advantage over the trusting person (henceforth, the trustor) who has less information than the trustee. For example, when the trustor has complete information about someone or something, trust is not required because there is no uncertainty. Conversely, with complete lack of information, the trustor's uncertainty becomes a matter of faith rather than of trust. A trust judgment requires that at least some information is available so that the trustor can assess the level of risk or uncertainty.

Another precondition for trust relates to the finite amount of desirable resources available and to the people who are inclined to cooperate in managing these resources under scarcity (Casson & Della Giusta, 2006). Balliett and van Lange (2013) also conclude that the relationship between trust and cooperation is stronger when there is a larger, versus smaller, degree of conflicting interests.

A different and more incentive-based perspective of trust is that the trustor should gain ($G > 0$) from trusting the trustee while still taking into account the risk and potential loss ($L > 0$) of betrayal by the trustee. Ideally, the potential gain minus the risk of loss should be higher than zero in order that the trustor has an incentive to trust the trustee and thereby gain in utility. The expected utility value E thus depends on the subjective probability p of the trustor's trustworthiness and on the potential gain G and loss L in trusting the trustee (Coleman, 1990). The following formula expresses this utility value:

$$E = pG - (1 - p)L > 0$$

Trust as an expression of risk

In terms of calculated gain and loss, Butler, Giuliano, and Guiso (2009) suggest there is an optimal level where a certain risk level should be met with a corresponding trust level. This means that people who are very trusting will be taken advantage of, and that people who are much less trusting will often miss beneficial opportunities. People at the extremes of these trust levels will therefore suffer from a disadvantage in terms of utility.

Taking a transaction-based view of trust and risk, Manchala (2000) proposes a risk-trust matrix (see Figure 1). As the figure illustrates, a higher cost, which translates to a higher risk, is met with a lower degree of trust irrespective of the transaction history.

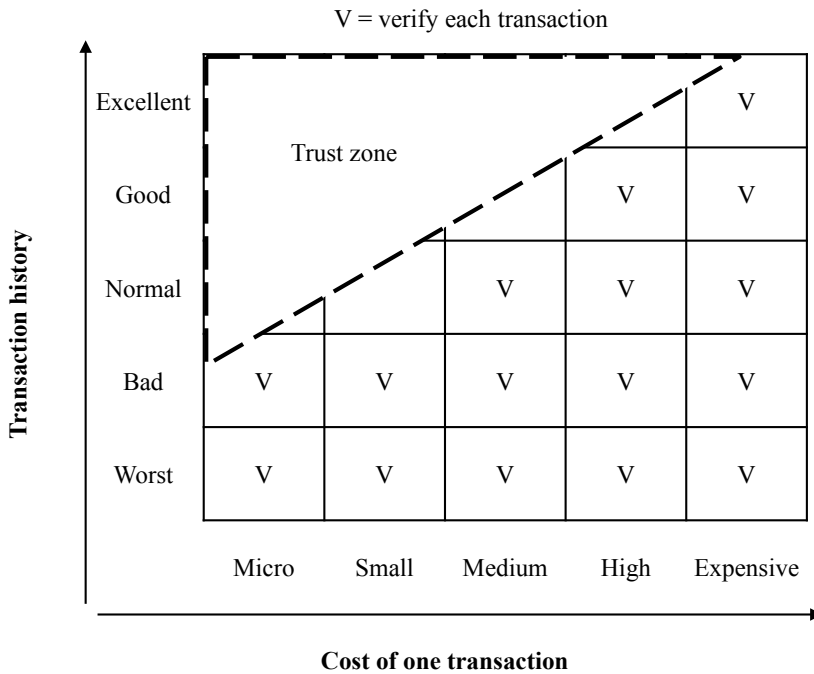


Figure 1. Risk-trust matrix (Manchala, 2000, p. 39)

However, this thesis does not assume linearity between trust and risk. Rather, the assumption is a quadratic function for trust and risk with an implied optimal trust level in terms of utility (Adobor, 2006; Butler et al., 2009). To clarify, an increasing risk level results in a higher trust level; however, at some level of risk, the potential costs will likely outweigh the potential benefits. At that point, as trust decreases, cooperative behaviour also decreases (see Figure 2). The optimal trust level is then the result of a cost-benefit analysis that people conduct in these scenarios (Kamleitner & Hoelzl, 2009). To some extent, trust becomes a rational choice when both the long- and short-term costs and benefits are evaluated.

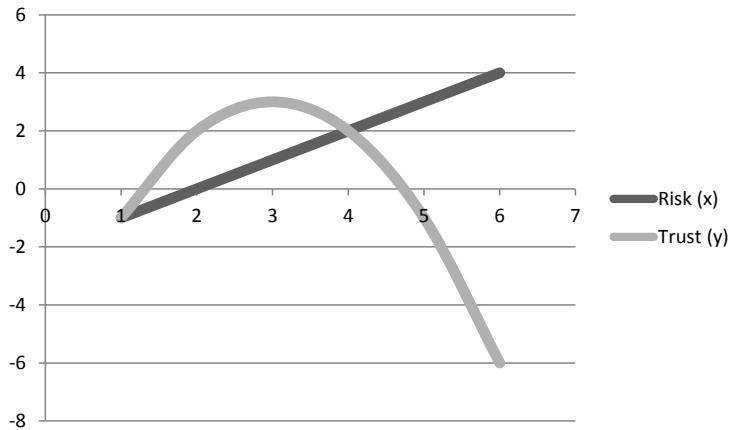


Figure 2. Assumed relationship between risk and trust

Trust and stress responses

Given the assumption that uncertainty or risk in general produces a stress response, and that individuals voluntarily increase their trust as a coping strategy, many empirical studies conclude a negative relationship exists between trust and stress (Ahnquist, Wamala, & Lindström, 2010; Cardoso, Ellenbogen, Serravalle, & Linnen, 2013; Cheung & Tse, 2008; Guinot, Chiva, & Roca-Puig, 2014; Harvey, Kelloway, & Duncan-Leiper, 2003; Oktug, 2013; Takahashi et al., 2005; Zysberg, Kimhi, & Eshel, 2013). Yet other studies reach the opposite conclusion (Beard, 1982^a, 1982^b).

Increases in uncertainty can result in an increase in trust (Kollock, 1994) since uncertainty is a precondition to trust. It has been reported that interpersonal trust can be up-regulated as an adaptive coping response (Koranyi & Rothermund, 2012). This response is at the core of the coping strategy suggested in this thesis. Other coping strategies have also been reported to correlate with trust (Buchwald, 2003; Grace & Schill, 1986; Wilson & Darke, 2012).

The unpleasantness of uncertainty

Negative experiences involving uncertainty often result from the incompatibility among cognition, experience, and behaviour (Kagan, 1972). Such incompatibility creates a dissonance that people typically find unpleasant and wish to avoid (for a review of the

tolerance of ambiguity and related concepts, see Furnham and Marks, 2013). In decision theory, the Ellsberg paradox (Ellsberg, 1961) refers to the idea that people prefer to take risks where the odds on eventual outcomes are known rather than to take risks where the odds are ambiguous, even when the known probability is low. This preference is usually referred to as the uncertainty (or risk) aversion (Epstein, 1999).

Because estimates of uncertainty are subjective (Lindley, 2006), and therefore susceptible to many different judgment biases (Kahneman, 2011), people differ in their tolerance of uncertainty (Buhr & Dugas, 2002; Hofstede, 1984). The consensus, however, is that people who react negatively to uncertainty show signs of stress (Greco & Roger, 2003; Mishel, 1984; Monat, Averill, & Lazarus, 1972). For example, uncertainty reduction theory (Berger & Calabrese, 1975) stipulates that because the initial social uncertainty between two people is uncomfortable, they are motivated to reduce this discomfort by sharing information about themselves.

Other studies have shown that superstition (Case, Fitness, Cairns, & Stevenson, 2004) and increased materialism (Chang & Arkin, 2002) may be used to suppress uncertainty. Still another way to reduce uncertainty, after evaluating both the adverse and favourable outcomes of a particular situation, is to expect an outcome that lies somewhere in between. This method is often used in determining commodity market prices (Akerlof, 1970).

Thus, people use different strategies for handling uncertainty (Lipshitz & Strauss, 1997). Furthermore, some research suggests that anticipated coping strategies differ from the coping strategies actually used (Folkman & Lazarus, 1985). In other words, people are largely unaware of the coping strategies they use – a condition that is similar to their difficulty in predicting emotional responses (Gilbert, Pinel, Wilson, & Blumberg, 1998).

Dealing with uncertainty

Assuming that uncertainty is an unacceptable mental state and that asymmetries in information contribute to this uncertainty, people should be motivated to reduce perceived information asymmetry. One way they compensate for a lack of information is to think (in spite of evidence to the contrary) they have more information and control than are realistically justified. Langer (1975) describes this false belief as “the illusion of control”.

Judgment biases are other ways to reduce perceived information asymmetry. For example, people may have an optimistic bias (Weinstein, 1980), which is reflected by overly optimistic self-confidence, or a hindsight bias, which is reflected by a knew-it-all-along attitude (see Blank, Musch, & Pohl, 2007). Other people will systematically exhibit

unawareness of their lack of knowledge or information (Kruger & Dunning, 1999). Nevertheless, illusions such as these are seen as adaptive and crucial for the well-functioning of human thought (Taylor & Brown, 1988). However, in some areas, such as finance, holding deceptive or misleading illusions can have very costly consequences (Fenton-O’Creevy, Nicholson, Soane, & Willman, 2003).

People may also reduce perceived information asymmetry by trusting another person’s knowledge or potential access to information. Dia (2011) suggests this strategy explains how some financial decisions are made. It has also been reported that people trust authorities and experts for risk assessments much more when they lack specific knowledge themselves (Siegrist & Cvetkovich, 2000; Viklund, 2003). This conclusion can partly be explained by the fact that it is easier to evaluate the trustworthiness of experts than of their expertise (Tyler & Huo, 2002). Thus, trust, which simplifies complexity (Earle & Cvetkovich, 1995), can be a subjective and positive illusion for the assumed control of uncontrollable events (Boon & Holmes, 1991). In this way, trust allows people to convince themselves the uncertain future is less uncertain (Lewis & Weigert, 1985; Sztompka, 2003). In addition, the “illusion of control (by proxy)”, described by Wohl and Enzle (2009), allows people to trust third parties.

Measurement of trust

It is evident from the literature that trust is a subjective evaluation of the likelihood that future events – which are difficult to measure or to conceptualize – will occur. Historically, trust measurements fall into three major categories. The first category is based on the dispositional view that trust is inherent and static. One of the most cited measurements is Rotter’s (1967) Interpersonal Trust Scale, which analyses various areas ranging from judgments of politicians’ truthfulness to students’ exam-taking opportunism. Another measurement in this category, the General Social Survey³ (GSS) in the United States, poses the following question: “Generally speaking, would you say that most people can be trusted or that you can’t be too careful in dealing with people?” The World Values Survey⁴ (WVS) permits comparisons among nations. Yet another measurement is Yamagishi’s (1986) 5-item questionnaire, the Trust Scale, which was later developed into the 6-item General Trust Scale (Yamagishi & Yamagishi, 1994). Numerous other measurements exist that build on self-

³ <http://www3.norc.org/gss+website/>

⁴ <http://www.worldvaluessurvey.org/>

reports of trust in general or of trust in others. All measurements in this category are designed to measure whether people can be trusted, regardless of the situation.

The second category in trust measurement is the result of concerns about whether self-reports influence real life behaviour. Berg et al. (1995) designed the Trust Game (also known as “the investment game”) that is based on (and similar to) the dictator or ultimatum game. This game, which has become the gold standard in many disciplines for the measurement of trust, involves at least two paired participants: a trustor and a trustee. The trustor initially receives some money and must decide whether to give some of it to the trustee. The trustor may also send no amount of money. The experiment leader doubles or triples the amount given. The trustee then must decide either to return some portion of the now increased amount of money to the trustor or to keep the entire amount. Both the trustor and the trustee have the opportunity to send or to decline to send money to the other. The amount of money from the trustor is typically regarded as an indication of trust while the money returned from the trustee has more similarities with reciprocity.

In their study of the relationship between trust measured by surveys and by trust games, Glaeser, Laibson, Scheinkman, and Soutter (2000) found that the trust question from the General Social Survey does not correlate with trusting behaviour as measured by the trust game. Some researchers have replicated this finding (Ermisch, Gambetta, Laurie, Siedler, & Uhrig, 2009; Holm & Nystedt, 2008) while others have not (Bellemare & Kröger, 2007; Fehr, Fischbacher, von Rosenblatt, Schupp, & Wagner, 2003). The explanation of these contradictory results may be that trust consists of both beliefs and preferences. While survey questions mainly measure beliefs, experiments such as the trust game measure both beliefs and preferences (Sapienza, Toldra-Simats, & Zingales, 2013).

Concerns may also be raised as to how accurate these various measurements are. Because trust is a complex concept, treating it rather simplistically (e.g., by one general question such as the GSS trust question) may create measurement error. However, the trust game measure is also criticized because it frequently presupposes complete anonymity and uses an often-sterile environment that has few similarities with reality. Moreover, because the trust game is frequently used in groups of students with small sums, the real life basis for participants’ decisions may be challenged.

However, there is some variation among the many ways the trust game has been conducted. In their meta-analysis, Johnson and Mislin (2011) found that trustors send less money if their payment is random instead of performance-based, and if they are playing against a non-human counterpart (e.g., a computer). Conversely, trustees return less money if

they are students and if the amount has a low rate of return. Another important finding is that trust game participants who live in geographic areas of low social capital both send and returns less. Researchers have also found that questions that correspond best to money sent in the trust game are specific questions about past trusting behaviour (Glaeser et al., 2000; Sapienza et al., 2013).

The third category in trust measurement developed as result of technical advances in functional magnetic resonance imaging (fMRI). There is an interesting coherence between the results of fMRI studies and the findings in the trust literature. For example, trust and distrust have been reported as two separate conceptions that are processed by two different regions of the brain (Dimoka, 2010). Furthermore, some research suggests that trust is processed both cognitively and emotionally, depending on which region of the brain is activated when people evaluate trustworthiness (Adolphs, 2002; Baumgartner, Heinrichs, Vonlanthen, Fischbacher, & Fehr, 2008).

Components of trust

Trust has been represented in the literature as different components that often translate into specific explanations of why a trustor trusts the trustee. Trust is thought to succeed where rational thinking alone would fail (Lewis & Weigert, 1985) because trust is a mix of both rational and emotional processes. For example, Johnson-George and Swap (1982) describe emotional trust as the fear of social betrayal. However, Lewis and Weigert (1985) explain that trust has both cognitive and affective foundations. Jones (1996) describes trust as an affective attitude that acts as a cognitive filter. The trustor will view the trustee through this filter rather than make a rational assessment of trustworthiness.

There is a large body of evidence that supports the idea that rational decision-making is always based on emotions. According to Evans and Stanovich (2013), dual-processing theories are the most valid perspective although this division is debated. In financial decision-making, there are usually rational or theoretically correct actions in which the role of emotions is downplayed. However, because seemingly rational decision-making tends to activate areas responsible for emotions in the brain, some researchers think that indicates such decision-making involves emotional processing (Fehr, 2009; Sanfey, Rilling, Aronson, Nystrom, & Cohen, 2003).

Recent evidence shows that emotions such as empathy facilitate decision-making in social dilemmas (Ramsøy, Skov, Macoveanu, Siebner, & Fosgaard, 2015). There are yet examples when emotions both help and hurt the decision-making ability (Loewenstein &

Lerner, 2003). Anderson (2007) concludes that emotions, like rationality, are still a necessary part of decision-making. Therefore, it is reasonable to conclude that trustors search for concrete reasons to trust trustees although these reasons are both rational and emotional.

According to Deutsch (1960, p. 125), trust rests upon “confidence that the other individual has the ability and intention”. Other researchers describe additional, similar trust elements. For example, Barber (1983) identifies two necessary components of trust: fiduciary obligation and proficiency. A legal, ethical, or professional relationship entails certain obligations that the trustee (ideally) will honour. Moreover, the trustee must have the technical competence or ability to be trusted with a specific responsibility. Mayer et al. (1995) propose that trust consists of the interrelated components of competence, benevolence, and integrity. McKnight et al. (1998) propose a similar division that mainly focuses on integrity and the evaluations of competence, benevolence, honesty, and predictability. Rousseau et al. (1998), in applying trust differently across various disciplines, depending on the research area, methods, and incentives, find a number of similarities. According to Möllering, Bachmann, and Lee (2004), trust components should at least convey information about trustees that establishes they are able, willing, and consistent.

Rempel, Holmes, and Zanna (1985) propose dividing trust into the three dimensions of predictability, dependability, and faith. Predictability, which refers to the trustee’s consistency of action in a certain environment, resembles the cognitive and concrete prediction of ability. Dependability, which refers to the situation when the trust relationship has progressed to include mutual benefits, describes a trustee’s personal responsibility. Thus, this dimension is more emotionally and socially oriented. Faith, which refers to the trustor’s acknowledgement of the risk in trusting the trustee, is a positive belief not tied to available evidence.

Trust is also related to time because evaluations of ability and integrity are formed quickly while evaluations of benevolence take longer (Schoorman, Mayer, & Davis, 2007). Additionally, the cognitive and affective dimensions of trust have been associated with specific antecedents. Johnson and Grayson (2005) found that service expertise and product performance were antecedents of cognitive rather than of affective trust, and that similarity was an antecedent of affective trust rather than of cognitive trust. Therefore, it is possible that competence and integrity are more important for cognitive and faster processing whereas benevolence is associated with more consequential and affect-loaded processing.

However, Kahneman (2011) reaches a different conclusion. He proposes that in the two modes of thinking (fast and slow), the emotional or perhaps affective processes are fast

while the cognitive processes are slow. This potential incompatibility may result from assumptions of dual-processing that have not yet been fully addressed in the trust literature. The best way to approach dual-processing is probably to analyse it as two distinct systems that are complementary and intertwined.

There are some problems with the component view of the trustee's trustworthiness that should be addressed. First, because individual differences naturally occur, in game theory as well as in many theories of social interaction, both risk and social preferences may account for some variation in trust. Furthermore, people have different sensitivities to betrayal aversion that has been found to explain a substantial amount of trust behaviour, especially the decision not to trust (Bohnet & Zeckhauser, 2004; Hong & Bohnet, 2007). Second, the component view implies that the components are stable and readily available. However, because trust is a social phenomenon, it is inevitably sensitive to both temporal and contextual changes.

Most trust research sees trust as uni-directional, focusing on one person's trust in another (for a review, see Korsgaard, Brower, and Lester, 2014). However, it is likely that reciprocity influences trust because trust often stems from repeated interactions between two people – a process in which both, at different times, take the role of trustor and of trustee (Serva, Fuller, & Mayer, 2005). Such reciprocity implies that the trustor's trust influences the trustee's trust, and therefore trust is likely bi-directional. This research suggests that people's trust levels are sensitive to whether trust is matched by equal, reciprocal trust from others.

Over time, people seem to make adjustments in their initial trust level, eventually achieving optimal trust equilibrium (Glaeser et al., 2000). This means that if a high-trust person is obliged to cooperate repeatedly with a low-trust person, each party will very likely reach some adequate level of trust in the other. Thus, trust tends to converge towards a mutually, socially, or institutionally agreed-upon level of implicit trust (Kramer, 1999). Then trust, in many cases, is the result of a socially rational decision.

Trust in groups

Groups in general benefit from a high degree of interpersonal trust (de Jong & Elfring, 2010) because trust reduces the fear and greed often present in cooperative situations (Hwang & Burgers, 1997). The governance of effective cooperation in groups also depends on the group leaders. It is thus important that followers trust their leaders (for reviews on trust in leadership, see Burke, Sims, Lazzara, and Salas, 2007; Dirks and Ferrin, 2002).

Trust has become a global concern on an aggregate, macro-economic level. For example, because countries are interconnected through the global financial system, a loss of trust in one part of the system can affect the entire system. It has been suggested that the recent financial crisis was sparked because of a general loss of trust in the financial system after Bear Stearns and Lehman Brothers collapsed (Gillespie & Hurley, 2013; Sapienza & Zingales, 2012). In addition, according to Shin (2009), a fundamental explanation of the crisis was the widespread, unforeseen behaviour of high-risk investments. The financial system trusted these investments would experience perpetual and predictable growth.

Given what we know about financial crises, it is clear that trust in institutions is an important aspect of trust. One definition of an institution is that it is a socially established organization (e.g., by custom, practice, or law) that many people accept and use.⁵ Zucker (1986) was one of the first researchers to note that the concept of trust can be applied to institutions. This application is as compelling as it is problematic because it implies that people can trust in the absence of interpersonal evaluations.

The upshot of institutional trust is that many companies base their marketing campaigns on their cultural values and identity signalling in the expectation that people will ascribe personal attributes to corporations (Malone & Fiske, 2013). A recent study shows that people evaluate companies' moral decisions much as they evaluate individuals' decisions (Plitt, Savjani, & Eagleman, 2015). The idea that companies and institutions are judged on human qualities is not improbable because a company or institution may be viewed as a set of expectations for a group of people who are involved in social exchanges where norms, social rules, and legitimate processes exist.

One way of evaluating institutional trust is to look at the number of people who trust. If, in a given environment, the majority of people trust an institution(s) (e.g., the government or the legal system), society can function despite a lack of trust by a minority. According to Luhmann (1979), institutional trust differs from interpersonal trust in that it resembles confident or a systemic trust derived from reliance on a wider and more rigid norm- or rule-based agreement. As such, trust, which appears embedded in most social functions, is undoubtedly an important factor in institutional decision-making. It is therefore important to operate or govern in accordance with norms of trust. In this way, cooperation is achievable that allows society to avoid situations similar to the "tragedy of the commons" that Hardin

⁵ <http://www.merriam-webster.com/dictionary/institution>

(1968) describes when people, acting purely from self-interest, damage the best interests of the group. This is especially important in the globally interconnected financial system.

The functional value of trust

Trust can be viewed as the conscious regulation of the perceived need for interdependence from others (Zand, 1972). Trust, which reduces perceived complexity (Luhmann, 1979), has been shown to function as a mental buffer in dealing with threats (Cohen & Wills, 1985). Previous research has also shown that higher trust levels lead to more social connections that, in turn, facilitate new and beneficial opportunities (Yamagishi, 2001). Most importantly, trust offers a way of acting as if the uncertain future is less uncertain (Hardin, 1993; Lewis & Weigert, 1985; Sztompka, 2003). Trust also seems to function as a supplement to control (Das & Teng, 1998).

It is important to recognize that only the subjective perception of the future alters with trust. For this reason, under some circumstances, trust may be similar to self-deception in its use as a strategy for coping with an undesired potential outcome. For example, instead of entering a high-risk endeavour with a possible negative impact on well-being, calling on a third-party expert to solve the problem may decrease the risk perception.

There are ways to manipulate trusting behaviour artificially. Kosfeld, Heinrichs, Zak, Fischbacher, and Fehr (2005) found that oxytocin hormone has an essential role in pro-social behaviour, and that trust increases with the intranasal administration of oxytocin. While the testosterone hormone seems to decrease interpersonal trust (Bos, Terburg, & van Honk, 2010), another group of researchers found that testosterone promotes reciprocity in social exchange (Boksem et al., 2013). Thus, the effect of testosterone on trust is unclear.

Even though the biological markers of trust are important to study, they do not explain the origin of trust better than other indicators. The research on biological trust markers such as oxytocin or testosterone says little about causality. In a recent review, Riedl and Javor (2012) investigated the linkage among trust, genes, hormones, and the brain. They found that trust is, to some degree, genetically predetermined by hormone production (including receptor susceptibility) and by brain structure.

Nevertheless, there seems to be a complex interplay between trust and the brain and specific hormones. Possibly this interplay self-reinforces through repeated experiences. To some extent, the idea of self-reinforcement is supported by the research that proposes trust consists of at least a cognitive component and an emotional component. The brain governs cognitive and executive functions while hormones may elicit cognitively interpreted

emotional responses. Nor is the idea new that some variation in trust among people is a genetic disposition. Deutsch (1958) argued that some people show “pathologies of trust” in that they consistently exhibit trust in situations that others would view as risk-taking or gambling situations. Therefore, that idea that trust is adaptive may partially explain why it feels more satisfying to trust than to distrust. People may trust as a substitute for uncomfortable feelings.

Application of trust

Jensen (2014) recently paraphrased Lenin’s famous, oft-quoted remark – “Trust is good, control is better” – as “control is good, but trust is cheaper”. Jensen’s conclusion is that trust, which is inherent in social functioning, facilitates effective progress in the modern world. A large city, like a small village, requires cooperation and consistency if it is to function. For example, one of the most prominent economists of the twentieth century, John Maynard Keynes, observed in the 1930s that economic behaviour was influenced by psychological factors such as confidence in the economy and subjective uncertainty judgments (for a synthesis of Keynes’s work on uncertainty, see Bateman, 1996).

It is clear that when many people invest in the same project, hoping for positive returns in the uncertain future, they also fear negative returns. One obvious reason that an investment results in negative returns is that the invested level of trust (e.g., the amount of money invested) is not met by the trustee’s ability or willingness to create positive returns in the agreed-upon context.

Most research on trust refers to Arrow’s (1972) seminal paper that theorizes that trust decreases the costs of transactions. Arrow’s idea is that it is cheaper and more effective to trade in a market where the buyers and sellers trust each other. Mutual trust reduces the need for credit controls, bargaining, collateral, or formal contracts. When trust is lacking in social and commercial transactions, then rules and regulations are required, and costs are incurred (Fukuyama, 1995). This is the case for monetary transaction costs (Bromiley & Cummings, 1995) and increased cognitive efforts (Yamagishi, 2011). Trust can therefore be regarded as an expression of effort aversion through an adaptive cognitive process (Kramer, 2006).

Trust has furthermore proven to be a pervasive element in finance. For example, Morningstar’s ratings of funds increase investments in their recommended funds, irrespective of the investments’ underlying fundamentals (Del Guercio & Tkac, 2008). According to Gennaioli, Shleifer, and Vishny (2015), trust appears to reduce the risk perceptions of the

investor. Ng, Ibrahim, and Mirakhor (2014) find that stock market activity is influenced by trust, especially in countries with weak governments and extensive corruption.

Moreover, research that compares countries and regions shows that trust is associated with prosperity and development (Guiso et al., 2004; Knack & Keefer, 1997; Zak & Knack, 2001). This research is dominated by studies that claim generalized trust or social capital is associated with positive advances in economic growth, democracy, and welfare. In contrast, lack of trust or a high level of distrust impedes investors' willingness to invest (Guiso, Sapienza, & Zingales, 2009). One reason is that low trust generally means that the risk (and consequently the transaction cost) is higher. In addition, according to Weber, Blais, and Betz (2002), risk taking, which is domain specific, depends more on the investors' perceived benefits rather than on their general risk preferences. Consequently, investments in infrastructure, companies, or people are less common when trust is low.

Recent findings show that general trust is highly correlated with intelligence even after controlling for socio-economic characteristics (Hooghe, Marien, & de Vroome, 2012; Sturgis, Read, & Allum, 2010). These findings imply that the ability to assess other people's trustworthiness is a part of human intelligence. General trust is also correlated with self-rated health and happiness after controlling for intelligence (Carl & Billari, 2014). Trust is hence beneficial so long as the trusting relationship is assumed to be self-regulatory and not heavily dependent on binding contracts or strong incentives to cooperate.

Trust as a principal-agent problem

If and when people cooperate, especially when one individual acts on the behalf of another, an asymmetry in information is likely. The reason is that the trustees know more about their ability and motives than the trustors do. In economics, this situation refers to the principal-agent problem or the agency dilemma in which the trustor is the principal and the trustee is the agent (Eisenhardt, 1989; Shapiro, 2005). The trust literature assumes trust has more normative and social incentives while the agency literature assumes monetary incentives have a larger influence.

Both the trust literature and the agency literature, however, need to resolve, or to compensate for, the information asymmetry between principals and agents. Various solutions to this problem exist. For example, agents may signal additional information (Spence, 1973) or principals may screen agents for more information (Stiglitz, 1975). However, obtaining more information may not always be possible; often the information asymmetry will continue, creating uncertainty (Akerlof, 1970).

Trust from a financial savings perspective

Bank customers and investors face significant uncertainty in their choice of financial products that include, among others, savings plans, fixed or adjustable-rate mortgages, and mutual funds. It is therefore possible, and even likely, that such customers and investors trust financial advisers and fund managers to reduce their investment uncertainty. For example, if investments are profitable, investors congratulate themselves on the selection of an investment manager. If investments are unprofitable, investors blame the investment manager. These scenarios are more evident with mutual fund investments than with specific share investments.

The much-reported disposition effect of selling shares that have increased in value too soon and holding shares that have decreased in value for too long (Shefrin & Statman, 1985). This can be seen as a self-enhancing strategy since poor investment decisions are reluctantly realized (Nofsinger, 2007). In contrast, when buying and selling mutual funds, a reversed disposition effect is evident that is partially explained by the blame attribution to another person (Chang, Solomon, & Westerfield, 2014; Kaustia, 2010).

Thus, trust meets several investor needs, including the need to avoid uncertainty that is similar to the need for assigning blame. Furthermore, the investor requires trust in the availability of additional information or knowledge provided by financial experts. Without such subjective attitudes and rationalizations, fewer people would make investments of any kind.

Summary of the empirical papers

Aim

The general aim of this thesis is to investigate trust as a strategy for coping with uncertainty in a financial context. Recent research, which has proposed that trust can reduce an investor's perception of risk, may explain why financial advisers can charge for their often-underperforming recommendations (Gennaioli et al., 2015).

Many rational reasons for trust exist – for example, synergies (the greater good) or monetary and social incentives. This thesis investigates situations when investors' trust may, or may not, be beneficial (e.g., investor compensation for insufficient financial information). Although there are multiple reasons for trusting, the thesis proposes that the main function of trust is to reduce perceived uncertainty (Gennaioli et al., 2015) using “the illusion of control” (Langer, 1975) and the delegation of responsibility (Chang et al., 2014; Wohl & Enzle,

2009), in particular to others who are thought to possess more information and knowledge (Dia, 2011; Siegrist & Cvetkovich, 2000).

Study I

The specific aim of Study I was to investigate possible explanations of why people trust financial advice even when the empirical data conclude that the cost of such advice is greater than its benefit.

The market for mutual funds is a lucrative and ever-growing activity for banks and fund managers. However, on average, in the long run, the more expensive, actively managed funds rarely outperform the cheaper, non-managed funds. Why then are the former funds so popular? In this study, two potential explanations are investigated: (1) the conviction that a professional investor can produce a higher rate of return than the average rate of return; and (2) the investors' trust in institutions. We hypothesized that the choice of an actively managed fund is related to beliefs in investor skills and to trust in financial institutions.

Data were collected by a paper-and-pencil questionnaire consisting primarily of statements about investor skill, trust, and the propensity to invest in four different investments. The sample consisted of 178 respondents who were obtained from the Swedish tax register (96 women, 82 men, mean age 52.5 years). A second sample consisted of 186 university undergraduates (110 women, 76 men, mean age 23.7 years). The data analysis was conducted with multiple OLS-regression.

The results confirmed the general hypotheses that both beliefs in investor skills and trust in financial institutions determined the likelihood that people would choose an actively managed fund. In addition, trust in financial institutions fully mediated the effect of beliefs in investor skills. The likelihood that people would choose a passive index fund or would choose shares or an interest-bearing savings account independently was not related to either beliefs in investor skills or trust in institutions. Furthermore, trust and self-reported financial knowledge were found to be complementary because the likelihood of choosing an actively managed fund was not determined by knowledge whereas investing in shares independently was strongly determined by self-reported financial knowledge rather than by trust.

Study II

The specific aim of Study II was to investigate the role of both trust (and the three determinants of trust: competence, benevolence and transparency), and perceived quality of personal services on satisfaction with banks.

Bank customers need to trust their banks. For example, trust gives them a way to cope with the uncertainty of future wealth accumulation when they receive financial advice on financial products. Trust is equally important for the bank because customer trust influences customers' bank investments and bank satisfaction. Most bank customers are generally loyal to their main bank despite the various financial crises and scandals reported in the mass media.

Data were collected by a web survey conducted with randomly selected respondents from a customer database at the Swedish bank, Skandiabanken. Two hundred and ninety three (5.9 % response rate) respondents completed the questionnaire (82 women, 211 men, mean age 55.4 years). The data analysis was conducted with structural equation modeling (SEM).

The results confirmed earlier studies in that both trust and perceived quality of personal services determined customer satisfaction. Trust was determined by the banks' perceived competence, benevolence, and transparency. The direct and indirect effects revealed that trust fully mediated the relationship between perceived quality of personal services and customer satisfaction.

The results also indicated a possible halo-effect, in which respondents overall positive impression towards the bank influences all statements accordingly.

Study III

The specific aim of Study III was to investigate an investment choice scenario from a private investor perspective in which the investor's goal was to construct a stock portfolio.

Portfolio delegation is a way to handle individual investment choices, which usually involves a premium cost to the investor. Recent research shows that trust in financial advisers can lower the perception of risk. Other reasons for choosing to delegate investment management or to invest individually are trust in financial advisers in general, and investor financial literacy as measured by both self-reports and by the "Big Five" financial literacy inventory.

We hypothesized that the study's participants would delegate the portfolio construction to a financial adviser more frequently in a high-risk scenario. Our assumption was that investors would perceive less uncertainty if an expert adviser took responsibility for the construction of the investment portfolio. For this reason, it was likely that trust would be positively related to the choice of financial adviser, while financial literacy would be positively related to the two choices of individual investing and index fund investing.

The web-based experiment randomly placed participants in either a high-risk group or a low-risk group. These groups were determined based on the price volatility of shares in the portfolios. We also used variation in terms of order. Thus, half the participants completed the choice task and then continued to rate statements of trust in financial advisers, financial literacy (Big Five and self-report), and a subjective uncertainty measure. The other half of the participants completed the experiment in reverse order.

In the choice task, the 199 participants (119 women, 80 men, mean age 45.6 years) were instructed to choose among constructing the portfolio themselves, delegating the task to a financial adviser, or investing in an index fund. The data were analysed using analysis of variance (ANOVA) and multinomial logistic regression.

The results show that although the difference between high and low risk did not produce the hypothesized effect on the choices, the participants who made the financial adviser choice rated their uncertainty significantly lower than the other participants. As expected, trust also increased the probability of making the financial adviser choice whereas financial literacy increased the probability of making the individual investment choice and the index fund choice.

General discussion

Consistent with studies by Del Guercio and Tkac (2008) and Ng et al. (2014), the three studies of this thesis demonstrate that trust influences people's financial decisions. Our results also support the finding by Gennaioli et al. (2015) that trust can reduce the perception of risk. In a financial context, the most parsimonious and plausible explanation for these results is that people depend on fund managers and bank managers for beneficial investment information and advice. This conclusion is consistent with previous research that offers possible reasons for trust (Siegrist & Cvetkovich, 2000; Tyler & Huo, 2002). In this respect, trust appears as a rational linkage between self-knowledge and expert knowledge supported by the conclusion that expert knowledge is an acceptable substitute for deficient self-knowledge (Dia, 2011). However, and more importantly, the main contribution of this thesis is that under conditions of uncertainty, trust resembles a coping strategy that can be deliberately used at will when people are susceptible to a positive, illusion-like state of mind.

Rather than accepting uncertainty, people trust financial advisers' expertise, as reported in Study I. People are satisfied with this choice, as reported in Study II. Trust is a substitute for knowledge and a suppressor of uncertainty, as reported in Study III.

Main findings

In Study I, positive results were found for both the belief in investor skills and investor trust in actively managed mutual funds (vs. index funds, individual shares, and savings account). This finding is consistent with recent research by Gennaioli et al. (2015) and is further substantiated by the fact that trust had a stronger effect than self-reported knowledge on the likelihood of choosing an actively managed mutual fund. Trust thus seems to increase the propensity to invest as reported in previous studies (Guiso et al., 2004; Guiso et al., 2009; Knack & Keefer, 1997; Zak & Knack, 2001).

The results also showed that the effect of belief in investor skills on the likelihood of choosing an active fund was fully mediated by trust. This finding may be partly explained by the overlap between the two constructs since competence is included as a component of trust. Since no differences were found between the study's two groups (university undergraduates and the general public), the results can be seen as generalizable and robust.

In Study II, we examined the role of trust and banks' personal services in order to explain why bank customers are satisfied with and loyal to their banks. Trust and financial services are, for many reasons, related because trust is primarily an interpersonal phenomenon. Furthermore, the literature has frequently related trust to satisfaction (e.g., Geyskens, Steenkamp, and Kumar, 1999). Therefore, we expected that the perception of banks' personal services would influence trust.

The results show that the hypothesized model of trust as a mediator for the effects of personal services on satisfaction is acceptable. The results imply that it is mainly trusted personnel that can create customer satisfaction. However, considering that Study II is a correlational study, the proposed relationship may also be reciprocal in terms of a choice-supportive bias (Mather & Johnson, 2000). This is the kind of reasoning that concludes: "I buy Toyota because I'm satisfied with Toyota. The reason I'm satisfied is because there's a Toyota in my garage". It can be argued that this reasoning is also a strategy for uncertainty avoidance, which supports the finding that both trust and satisfaction reflect investors' and bank customers' need to think they have made the right choice.

Study III was based on Study I and partially on Study II in that we highlighted the reasons for choosing different financial products from a private investor perspective. Study III, however, contrasts with Studies I and II in that an experimental setting was used to collect data. Thus, Study III provides a clearer view of the mental processes leading to a specific investor decision. The results show that those investors who delegated the responsibility of a portfolio construction to a financial adviser rated their subjective uncertainty of the task

lower than investors who constructed their portfolios themselves. Furthermore, trust increased the probability of delegating portfolio construction whereas financial literacy increased the probability of constructing the portfolio individually or choosing an index fund. These results, which are consistent with the results of Study I, also support previous studies that reveal trust relates to financial advice (Gennaioli et al., 2015) and positively influences investment choices (Guiso et al., 2004; Ng et al., 2014). However, financial literacy reveals a positive effect on individual investing in shares and index funds (Hilgert, Hogarth, & Beverly, 2003; Van Rooij, Lusardi, & Alessie, 2011).

It is evident in many domains that people prefer to trust people who are regarded as experts (Huber, Kirchler, & Stöckl, 2010). There is no apparent reason why financial decisions should be any different in this respect. In the absence of self-knowledge, trust in knowledgeable people can be substitute when assessing risks (Siegrist & Cvetkovich, 2000; Viklund, 2003). This pattern seems to exist in investment choices given that both Study I and Study III found financial knowledge and trust complementary.

The results of this thesis thus provide evidence that financial investment decisions, especially delegated decisions, are based on subjective beliefs that other people's knowledge is an acceptable substitute for self-knowledge. As further shown in Study III, this acceptance of other people's knowledge can reduce the perception of risk, even where there are obvious differences between self-knowledge and experts' knowledge. In other words, trust may be a subjectively constructed, positive illusion of certainty.

Additional findings

A general theme in this thesis is that trust is a substitute for knowledge, as reported in Study I, or for financial literacy, as reported in Study III. However, Study II found no significant effects of knowledge when assessed by two different measures of financial literacy. This result may be due to a ceiling effect indicated by the general skew in trust ratings. The respondents in Study II were also predominantly male, older than average, and more affluent than average.

A certain selection bias in Study II was also expected because potential participants who thought they were unknowledgeable or uninterested in investments and finance may have declined to take the questionnaire. It is therefore possible that the lack of variation (although not in violation of necessary statistical assumptions) in this homogenous group may explain why no significant differences in financial literacy were found. In addition, because a majority of the participants reported they had been customers with their main bank for more

than 10 years, evaluations about uncertainty may not be as important or relevant, as is partially evident considering the skew in the ratings. This may affect the reasoning of uncertainty avoidance that this thesis proposes. It may also be argued that more affluent people are less sensitive to uncertainty cues because of the potentially empowering effect of wealth.

Critique and limitations

Based on the findings of this thesis, it is still possible that trust is merely a component in a utility function such that trustors think they will benefit from trusting. The substitution of the trustee's perceived knowledge for the trustor's lack of knowledge may serve both the trustor and the trustee well, assuming that a higher level of knowledge results in a higher level of utility. Furthermore, trust can also be a way of avoiding blame as is evident in mutual fund transactions (Chang et al., 2014; Kaustia, 2010). This means that even though trust involves the risk of betrayal and possibly other costs, people may still be inclined to trust if a cost-benefit comparison (Kamleitner & Hoelzl, 2009) is deemed favourable for trusting behaviour.

A closely related topic is whether satisfaction, as reported in Study II, is part of a similar cost-benefit analysis. If bank customers fail to see any substantial differences between banks and if the cost of changing banks – both economical and cognitive – is too high, customer satisfaction will likely be reported and consciously or unconsciously maintained. It is, after all, likely a journey from one's comfort zone to a new bank will result in some discomfort. The experience with the new bank is as yet unknown. Changing a bank may be a dubious move while staying with a bank is rather like certainty or uncertainty avoidance. Since trust can be expressed as an effort aversion (Kramer, 2006), and considering, for example, the status quo bias (Kahneman, Knetsch, & Thaler, 1991), people may be inclined to maintain a state of satisfaction compared to the alternatives. This implies that a dissatisfied customer will either have to use cognitive resources to find alternatives or accept the dissatisfaction or distrust. The outcome may be uncertainty, stress, and other impediments to well-being.

Satisfaction and trust are highly correlated in Study II, which means that the participants did not fully discriminate between the two concepts owing to an underlying factor that created a halo-effect. This means that the included constructs interconnected in a way that is hard to interpret. The halo effect can thus be that satisfaction or trust, or both, or the relationship with one's bank, spills over to the other constructs.

Another concern in this type of research is the conflict between internal and external validity. A common research approach is a scenario-based method in which the strength of a manipulation does not have to meet any realistic criteria. Alternatively, a realistic scenario may produce small effects that lack scientific relevance. This is evident in Study III where the possibly overly weak risk manipulation between high and low volatility shares did not influence the investment choice or the subjective uncertainty between the high and low-risk groups. Yet, because we presented actual shares and real-time stock information to the participants, this is rather an important result in the thesis. This result may imply that, given the choice of buying and selling shares individually, investing in an index fund, or consulting a financial adviser, the level of risk, as reflected in share price volatility, does not have any major effects.

A common criticism of investment and decision-making studies is that they offer insufficient investor incentives, including compensation that is too low to elicit the desired mind-set. Yet some research in trust games has found that the amount of money invested does not influence the use of different strategies (e.g., Johnson & Mislin, 2011). Nevertheless, the different stakes used in research studies are often quite small and rather unrealistic. However, for many reasons, it is impossible to conduct real-life experiments with large sums of money.

Another fundamental criticism of such studies is that in questionnaires people state the actions they intend to take or would have taken; these actions may not match their actual behaviour. Solving this problem means creating field experiments involving spying on and monitoring customer-financial adviser meetings. Because very close collaboration with financial institutions would be required, prohibitive practical and ethical issues would arise.

Directions for future research

The research presented in this thesis should be investigated further in experimental settings that allow for continued monitoring of physical responses during financial decision-making. Such monitoring would involve integrating stress measurements with coping strategies. A promising research format is the observation of a principal-agent scenario. In this observation, the researcher could measure the principal's reactions over time to certain problems and delegation situations. This research could explain how an increasing level of trust influences the perceived decrease in risk or uncertainty.

Another closely related research topic of interest is the role of individual investor preferences. It is highly likely that the patterns presented in this thesis depend on people's desire for both adventure and safety. This means it is crucial to investigate individual

differences such as risk preferences, uncertainty tolerance, the illusion of control, and other personality variables. It would be of special interest to develop an illusion of control inventory aimed at financial decision-making. This research could help explain some previous gaps in decision-making in the financial context.

It is also recommended that researchers investigate different risk levels, preferably more than two, and their effects on trust levels, particularly on trustees' willingness to pay for financial advice. Following recent research (e.g., Gennaioli et al., 2015), this investigation could examine if people are willing to pay more for investment management or advice when the risk is higher and if this willingness results in higher trust levels. If people are willing to pay for certainty that increases their trust, this willingness may lead to higher risk choices and thus higher investment costs.

Concluding remarks

In sum, the unwillingness to accept uncertainty may lead to higher trust in financial expertise, which is one of many possible explanations for investment decisions. This raises some ethical issues because the public debate has focused almost exclusively on financial products that do not deliver what is promised. It may, for instance, be considered unethical to make money from people's positive illusions that are there to protect them from uncertainty.

Conversely, bank managers and fund managers must be clearer in their risk and return communications with their customers/investors because less knowledgeable people are at greater risk of being taking advantage of. It is important to know why customers/investors trust. As this thesis explains, this may be part of the very human inclination to escape the uncertainty of the future. More specifically, one of the many possible explanations why trust seems to reduce perceived uncertainty is that trustors substitute their own lack of knowledge with the perceived knowledge of the trustee.

It is also reasonable to argue that people trust because they think that the act of trusting is beneficial and will lead to several positive results. In contrast, the alternative to trusting may be to embrace uncertainty, which may result in aversive mental states. A general trusting behaviour can, on the other hand, evoke the greater risk of being taken advantage of. My conclusion is, ultimately, a somewhat qualified conviction that more trust in people still leads to a higher utilitarian state.

References

- Adobor, H. (2006). Optimal trust? Uncertainty as a determinant and limit to trust in inter-firm alliances. *Leadership & Organization Development Journal*, 27(7), 537-553.
<http://dx.doi.org/10.1108/01437730610692407>
- Adolphs, R. (2002). Trust in the brain. *Nature Neuroscience*, 5(3), 192-193.
<http://dx.doi.org/10.1038/nn0302-192>
- Ahnquist, J., Wamala, S. P., & Lindström, M. (2010). What has trust in the health-care system got to do with psychological distress? Analyses from the national Swedish survey of public health. *International Journal for Quality in Health Care*, 22(4), 250-258. <http://dx.doi.org/10.1093/intqhc/mzq024>
- Akerlof, G. A. (1970). The market for “lemons”: Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics*, 84(3), 488-500.
<http://dx.doi.org/10.2307/1879431>
- Anderson, C. J. (2007). The functions of emotion in decision making and decision avoidance. In K. D. Vohs, R. F. Baumeister, & G. Loewenstein (Eds.), *Do Emotions Help or Hurt Decision Making? A Hedgefoxian Perspective* (pp. 183-202). New York, NY: Russell Sage Foundation.
- Arrow, K. J. (1972). Gifts and exchanges. *Philosophy & Public Affairs*, 1(4), 343-362.
<http://dx.doi.org/10.2307/2265097>
- Balliet, D., & van Lange, P. A. M. (2013). Trust, conflict, and cooperation: A meta-analysis. *Psychological Bulletin*, 139(5), 1090-1112. <http://dx.doi.org/10.1037/a0030939>
- Barber, B. (1983). *The Logic and Limits of Trust*. New Brunswick, NJ: Rutgers University Press.
- Bateman, B. W. (1996). *Keynes's Uncertain Revolution*. Ann Arbor, MI: University of Michigan Press.
- Baumgartner, T., Heinrichs, M., Volanthen, A., Fischbacher, U., & Fehr, E. (2008). Oxytocin shapes the neural circuitry of trust and trust adaptation in humans. *Neuron*, 58(4), 639-650. <http://dx.doi.org/10.1016/j.neuron.2008.04.009>
- Beard, M. T. (1982^a). Life events, method of coping, and interpersonal trust: Implications for nursing actions. *Issues in Mental Health Nursing*, 4(1), 25-49.
<http://dx.doi.org/10.3109/01612848209141041>
- Beard, M. T. (1982^b). Trust, life events, and risk factors among adults. *Advances in Nursing Science*, 4(4), 26-43. <http://dx.doi.org/10.1097/00012272-198207000-00005>
- Bellemare, C., & Kröger, S. (2007). On representative social capital. *European Economic Review*, 51(1), 183-202. <http://dx.doi.org/10.1016/j.eurocorev.2006.03.006>
- Berg, J., Dickhaut, J., & McCabe, K. (1995). Trust, reciprocity, and social history. *Games and Economic Behavior*, 10(1), 122-142. <http://dx.doi.org/10.1006/game.1995.1027>
- Berger, C. R., & Calabrese, R. J. (1975). Some explorations in initial interaction and beyond: Toward a developmental theory of interpersonal communication. *Human Communication Research*, 1(2), 99-112. <http://dx.doi.org/10.1111/j.1468-2958.1975.tb00258.x>
- Blank, H., Musch, J., & Pohl, R. F. (2007). Hindsight bias: On being wise after the event. *Social Cognition*, 25(1), 1-9. <http://dx.doi.org/10.1521/soco.2007.25.1.1>
- Boero, R., Bravo, G., Castellani, M., & Squazzoni, F. (2009). Reputation clues in repeated trust games. *The Journal of Socio-Economics*, 39(6), 871-877.
<http://dx.doi.org/10.1016/j.socec.2009.05.004>
- Bohnet, I., & Zeckhauser, R. (2004). Trust, risk and betrayal. *Journal of Economic Behavior & Organization*, 55(4), 467-484. <http://dx.doi.org/10.1016/j.jebo.2003.11.004>

- Boksem, M. A. S., Mehta, P. H., Van den Bergh, B., van Son, V., Trautmann, S. T., Roelofs, K., Smidts, A., & Sanfey, A. G. (2013). Testosterone inhibits trust but promotes reciprocity. *Psychological Science*, *24*(11), 2306-2314.
<http://dx.doi.org/10.1177/0956797613495063>
- Boon, S. D., & Holmes, J. G. (1991). The dynamics of interpersonal trust: Resolving uncertainty in the face of risk. In R. A. Hinde & J. Groebel (Eds.), *Cooperation and Prosocial Behavior* (pp. 190-211). Cambridge: Cambridge University Press.
- Bos, P. A., Terburg, D., & van Honk, J. (2010). Testosterone decreases trust in socially naïve humans. *PNAS Proceedings of the National Academy of Sciences of the United States of America*, *107*(22), 9991-9995.
- Bowlby, J. (1982). *Attachment* (2nd ed.). New York, NY: Basic Books.
- Bromiley, P., & Cummings, L. L. (1995). Transactions costs in organizations with trust. In R. Bies, B. Sheppard, & R. Lewicki (Eds.), *Research on Negotiation in Organizations* (Vol. 5, pp. 219-250). Greenwich, CT: JAI Press.
- Buchwald, P. (2003). The relationship of individual and communal state-trait coping and interpersonal resources as trust, empathy and responsibility. *Anxiety, Stress & Coping: An International Journal*, *16*(3), 307-320.
<http://dx.doi.org/10.1080/1061580031000095452>
- Buhr, K., & Dugas, M. J. (2002). The intolerance of uncertainty scale: Psychometric properties of the English version. *Behaviour Research and Therapy*, *40*(8), 931-945.
[http://dx.doi.org/10.1016/S0005-7967\(01\)00092-4](http://dx.doi.org/10.1016/S0005-7967(01)00092-4)
- Burke, C. S., Sims, D. E., Lazzara, E. H., & Salas, E. (2007). Trust in leadership: A multi-level review and integration. *The Leadership Quarterly*, *18*(6), 606-632.
<http://dx.doi.org/10.1016/j.leaqua.2007.09.006>
- Butler, J., Giuliano, P., & Guiso, L. (2009). *The right amount of trust*. (NBER Working Paper 15344). Cambridge, MA: National Bureau of Economic Research. Retrieved January 10, 2015, from <http://www.nber.org/papers/w15344.pdf>
- Camerer, C. F. (2003). *Behavioral Game Theory: Experiments in Strategic Interaction*. Princeton, NJ: Russell Sage Foundation.
- Cardoso, C., Ellenbogen, M. A., & Serravalle, L., & Linnen, A-M. (2013). Stress-induced negative mood moderates the relation between oxytocin administration and trust: Evidence for the tend-and-befriend response to stress? *Psychoneuroendocrinology*, *38*(11), 2800-2804. <http://dx.doi.org/10.1016/j.psyneuen.2013.05.006>
- Carl, N., & Billari, F. C. (2014). Generalized trust and intelligence in the United States. *PLoS ONE*, *9*(3), 1-10. <http://dx.doi.org/10.1371/journal.pone.0091786>
- Case, T. I., Fitness, J., Cairns, D. R., & Stevenson, R. J. (2004). Coping with uncertainty: Superstitious strategies and secondary control. *Journal of Applied Social Psychology*, *34*(4), 848-871. <http://dx.doi.org/10.1111/j.1559-1816.2004.tb02574.x>
- Casson, M., & Della Giusta, M. (2006). The economics of trust. In R. Bachmann & A. Zaheer (Eds.), *Handbook of Trust Research* (pp. 332-355). Cheltenham: Edward Elgar.
- Chang, L., & Arkin, R. M. (2002). Materialism as an attempt to cope with uncertainty. *Psychology and Marketing*, *19*(5), 389-406. <http://dx.doi.org/10.1002/mar.10016>
- Chang, T., Solomon, D. H., & Westerfield, M. M. (2014). Looking for someone to blame: Delegation, cognitive dissonance, and the disposition effect. *Journal of Finance*, forthcoming. Available at SSRN: <http://ssrn.com/abstract=2255674> or <http://dx.doi.org/10.2139/ssrn.2255674>
- Cheung, C-K., & Tse, J. W-L. (2008). Institutional trust as a determinant of anxiety during the SARS crisis in Hong Kong. *Social Work in Public Health*, *23*(5), 41-54.
<http://dx.doi.org/10.1080/19371910802053224>

- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98(2), 310-357. <http://dx.doi.org/10.1037/0033-2909.98.2.310>
- Coleman, J. S. (1990). *Foundations of Social Theory*. Cambridge, MA: Harvard University Press.
- Colquitt, J. A., Scott, B. A., & LePine, J. A. (2007). Trust, trustworthiness, and trust propensity: A meta-analytic test of their unique relationships with risk taking and job performance. *Journal of Applied Psychology*, 92(4), 909-927. <http://dx.doi.org/10.1037/0021-9010.92.4.909>
- Das, T. K., & Teng, B-S. (1998). Between trust and control: Developing confidence in partner cooperation in alliances. *Academy of Management Review*, 23(3), 491-512. <http://dx.doi.org/10.5465/AMR.1998.926623>
- De Jong, B. A., & Elfring, T. (2010). How does trust affect the performance of ongoing teams? The mediating role of reflexivity, monitoring, and effort. *Academy of Management Journal*, 53(3), 535-549. <http://dx.doi.org/10.5465/AMJ.2010.51468649>
- Del Guercio, D., & Tkac, P. A. (2008). Star power: The effect of Morningstar ratings on mutual fund flow. *Journal of Financial and Quantitative Analysis*, 43(4), 907-936. <http://dx.doi.org/10.1017/S0022109000014393>
- Deutsch, M. (1958). Trust and suspicion. *The Journal of Conflict Resolution*, 2(4), 265-279. <http://dx.doi.org/10.1177/002200275800200401>
- Deutsch, M. (1960). The effect of motivational orientation upon trust and suspicion. *Human Relations*, 13(2), 123-139. <http://dx.doi.org/10.1177/001872676001300202>
- Dia, E. (2011). Uncertainty, trust, and the regulation of the banking industry. *International Review of Economics*, 58(2), 213-228. <http://dx.doi.org/10.1007/s12232-011-0121-1>
- Dimoka, A. (2010). What does the brain tell us about trust and distrust? Evidence from a functional neuroimaging study. *MIS Quarterly*, 34(2), 373-396.
- Dirks, K. T., & Ferrin, D. L. (2002). Trust in leadership: Meta-analytic findings and implications for research and practice. *Journal of Applied Psychology*, 87(4), 611-628. <http://dx.doi.org/10.1037/0021-9010.87.4.611>
- Earle, T. C., & Cvetkovich, G. (1995). *Social Trust: Toward a Cosmopolitan Society*. Westport, CT: Praeger.
- Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 14(1), 57-74. <http://dx.doi.org/10.5465/AMR.1989.4279003>
- Ellsberg, D. (1961). Risk, ambiguity and the savage axioms. *The Quarterly Journal of Economics*, 75(4), 643-669. <http://dx.doi.org/10.2307/1884324>
- Epstein, L. G. (1999). A definition of uncertainty aversion. *Review of Economic Studies*, 66(3), 579-608. <http://dx.doi.org/10.1111/1467-937X.00099>
- Eriksson, E. H. (1968). *Identity: Youth and Crisis*. New York, NY: Norton.
- Ermisch, J., Gambetta, D., Laurie, H., Siedler, T., & Uhrig, N. (2009). Measuring people's trust. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 172(4), 749-769. <http://dx.doi.org/10.1111/j.1467-985X.2009.00591.x>
- Evans, J. St. B. T., & Stanovich, K. E. (2013). Dual-process theories of higher cognition: Advancing the debate. *Perspectives on Psychological Science*, 8(3), 223-241. <http://dx.doi.org/10.1177/1745691612460685>
- Fehr, E. (2009). Social preferences and the brain. In P. W. Glimcher, E. Fehr, C. Camerer, & R. A. Poldrack (Eds.), *Neuroeconomics: Decision Making and the Brain* (pp. 215-232). London, UK: Elsevier Inc.

- Fehr, E., Fischbacher, U., von Rosenbladt, B., Schupp, J., & Wagner, G. G. (2003). *A Nation-Wide Laboratory: Examining Trust and Trustworthiness by Integrating Behavioral Experiments into Representative Surveys* (Schmollers Jahrbuch: Zeitschrift für Wirtschafts- und Sozialwissenschaften / *Journal of Applied Social Science Studies*, 2002, 122 (4), 519-542). Bonn, Germany: Forschungsinstitut zur Zukunft der Arbeit GmbH (IZA). Retrieved March 10, 2014, from <http://ftp.iza.org/dp715.pdf>
- Fenton-O’Creevy, M., Nicholson, N., Soane, E., & Willman, P. (2003). Trading on illusions: Unrealistic perceptions of control and trading performance. *Journal of Occupational Organizational Psychology*, 76(1), 53-68. <http://dx.doi.org/10.1348/096317903321208880>
- Folkman, S., & Lazarus, R. S. (1985). If it changes it must be a process: Study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology*, 48(1), 150-170. <http://dx.doi.org/10.1037/0022-3514.48.1.150>
- Fukuyama, F. (1995). *Trust: The Social Virtues and the Creation of Prosperity*. New York, NY: Free Press.
- Fukuyama, F. (2001). Social capital, civil society and development. *Third World Quarterly*, 22(1), 7-20. <http://dx.doi.org/10.1080/713701144>
- Furnham, A., & Marks, J. (2013). Tolerance of ambiguity: A review of the recent literature. *Psychology*, 4(9), 717-728. <http://dx.doi.org/10.4236/psych.2013.49102>
- Gambetta, D. (1988). Can we trust trust? In D. Gambetta (Ed.), *Trust: Making and Breaking Cooperative Relations* (pp. 213-237). Oxford: Basil Blackwell.
- Gennaioli, N., Shleifer, A., & Vishny, R. (2015). Money doctors. *The Journal of Finance*, 70(1), 91-114. <http://dx.doi.org/10.1111/jofi.12188>
- Geyskens, I., Steenkamp, E. M., & Kumar, N. (1999). A meta-analysis of satisfaction in marketing channel relationships. *Journal of Marketing Research*, 36(2), 223-238. <http://dx.doi.org/10.2307/3152095>
- Gilbert, D. T., Pinel, E. C., Wilson, T. D., & Blumberg, S. J. (1998). Immune neglect: A source of durability bias in affective forecasting. *Journal of Personality and Social Psychology*, 75(3), 617-638. <http://dx.doi.org/10.1037/0022-3514.75.3.617>
- Gillespie, N., & Hurley, R. (2013). Trust and the global financial crisis. In R. Bachmann & A. Kaheer (Eds.), *Handbook of Advances in Trust Research* (pp. 177-203). Cheltenham, UK: Edward Elgar Publishing Limited.
- Glaeser, E. L., Laibson, D. I., & Sacerdote, B. (2002). An economic approach to social capital. *The Economic Journal*, 112(483), 437-458. <http://dx.doi.org/10.1111/1468-0297.00078>
- Glaeser, E. L., Laibson, D. I., Scheinkman, J. A., & Soutter, C. L. (2000). Measuring trust. *The Quarterly Journal of Economics*, 115(3), 811-846. <http://dx.doi.org/10.1162/003355300554926>
- Grace, G. D., & Schill, T. (1986). Social support and coping style differences in subjects high and low in interpersonal trust. *Psychological Reports*, 59(2), 584-586. <http://dx.doi.org/10.2466/pr0.1986.59.2.584>
- Greco, V., & Roger, D. (2003). Uncertainty, stress and health. *Personality and Individual Differences*, 34(6), 1057-1068. [http://dx.doi.org/10.1016/S0191-8869\(02\)00091-0](http://dx.doi.org/10.1016/S0191-8869(02)00091-0)
- Grossman, S. J., & Stiglitz, J. (1980). On the impossibility of informationally efficient markets. *American Economic Review*, 70(3), 393-408.
- Guinot, J., Chiva, R., & Roca-Puig, V. (2014). Interpersonal trust, stress and satisfaction at work: An empirical study. *Personnel Review*, 43(1), 96-115. <http://dx.doi.org/10.1108/PR-02-2012-0043>

- Guiso, L., Sapienza, P., & Zingales, L. (2004). The role of social capital in financial development. *American Economic Review*, 94(3), 526-556.
<http://dx.doi.org/10.1257/0002828041464498>
- Guiso, L., Sapienza, P., & Zingales, L. (2009). Cultural bias in economic exchange? *The Quarterly Journal of Economics*, 124(3), 1095-1131.
<http://dx.doi.org/10.1162/qjec.2009.124.3.1095>
- Gulati, R. (1995). Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances. *Academy of Management Journal*, 38(1), 85-112.
<http://dx.doi.org/10.2307/256729>
- Hardin, G. (1968). The tragedy of the commons. *Science*, 162(3859), 1243-1248.
<http://dx.doi.org/10.1126/science.162.3859.1243>
- Hardin, R. (1993). The street-level epistemology of trust. *Politics & Society*, 21(4), 505-529.
<http://dx.doi.org/10.1177/0032329293021004006>
- Harvey, S., Kelloway, E. K., & Duncan-Leiper, L. (2003). Trust in management as a buffer of the relationship between overload and strain. *Journal of Occupational Health Psychology*, 8(4), 306-315. <http://dx.doi.org/10.1037/1076-8998.8.4.306>
- Hilgert, M. A., Hogarth, J. M., & Beverly, S. G. (2003). Household financial management: The connection between knowledge and behaviour. *Federal Reserve Bulletin*, 89(7), 309-322. Retrieved from
<http://www.federalreserve.gov/pubs/bulletin/2003/0703lead.pdf>
- Hofstede, G. (1984). *International Differences in Work-Related Values*. Newbury Park, CA: SAGE.
- Holm, H., & Nystedt, P. (2008). Trust in surveys and games – A methodological contribution on the influence of money and location. *Journal of Economic Psychology*, 29(4), 522-542. <http://dx.doi.org/10.1016/j.joep.2007.07.010>
- Hong, K., & Bohnet, I. (2007). Status and distrust: The relevance of inequality and betrayal aversion. *Journal of Economic Psychology*, 28(2), 197-213.
<http://dx.doi.org/10.1016/j.joep.2006.06.003>
- Hooghe, M., Marien, S., & de Vroome, T. (2012). The cognitive basis of trust: The relation between education, cognitive ability and political trust. *Intelligence*, 40(6), 604-613.
<http://dx.doi.org/10.1016/j.intell.2012.08.006>
- Huang, Y., & Wilkinson, I. F. (2013). The dynamics and evolution of trust in business relationships. *Industrial Marketing Management*, 42(3), 455-465.
<http://dx.doi.org/10.1016/j.indmarman.2013.02.016>
- Huber, J., Kirchler, M., & Stöckl, T. (2010). The hot hand belief and the gambler's fallacy in investment decision under risk. *Theory and Decision*, 68(4), 445-462.
<http://dx.doi.org/10.1007/s11238-008-9106-2>
- Hwang, P., & Burgers, W. P. (1997). Properties of trust: An analytical view. *Organizational Behavior and Human Decision Processes*, 69(1), 67-73.
<http://dx.doi.org/10.1006/obhd.1996.2673>
- Jensen, K. (2014, December 8). Control is good, but trust is cheaper. *Forbes*. Retrieved from: <http://www.forbes.com/>
- Johnson, D., & Grayson, K. (2005). Cognitive and affective trust in service relationship. *Journal of Business Research*, 58(4), 500-507.
[http://dx.doi.org/10.1016/S0148-2963\(03\)00140-1](http://dx.doi.org/10.1016/S0148-2963(03)00140-1)
- Johnson, N. D., & Mislin, A. A. (2011). Trust games: A meta-analysis. *Journal of Economic Psychology*, 32(1), 865-889. <http://dx.doi.org/10.1016/j.joep.2011.05.007>

- Johnson-George, C., & Swap, W. C. (1982). Measurement of specific interpersonal trust: Construction and validation of a scale to assess trust in a specific other. *Journal of Personality and Social Psychology*, 43(6), 1306-1317. <http://dx.doi.org/10.1037/0022-3514.43.6.1306>
- Jones, G. R., & George, J. M. (1998). The experience and evolution of trust: Implications for cooperation and teamwork. *Academy of Management Review*, 23(3), 531-546. <http://dx.doi.org/10.5465/AMR.1998.926625>
- Jones, K. (1996). Trust as an affective attitude. *Ethics*, 107(1), 4-25. <http://dx.doi.org/10.1086/233694>
- Kagan, J. (1972). Motives and development. *Journal of Personality and Social Psychology*, 22(1), 51-66. <http://dx.doi.org/10.1037/h0032356>
- Kahneman, D. (2011). *Thinking Fast and Slow*. New York, NY: Farrar Straus Giroux.
- Kahneman, D., Knetsch, J. L., & Thaler, R. H. (1991). Anomalies: The endowment effect, loss aversion, and status quo bias. *Journal of Economic Perspectives*, 5(1), 193-206. <http://dx.doi.org/10.1257/jep.5.1.193>
- Kamleitner, B., & Hoelzl, E. (2009). Cost-benefit associations and financial behavior. *Applied Psychology*, 58(3), 435-452. <http://dx.doi.org/10.1111/j.1464-0597.2009.00400.x>
- Kaustia, M. (2010). Disposition effect. In H. Kent Baker & John R. Nofsinger (Eds.), *Behavioral Finance: Investors, Corporations, and Markets* (pp. 171-190). Hoboken, NJ: John Wiley & Sons.
- Kharouf, H., Lund, D. J., & Sekhon, H. (2014). Building trust by signalling trustworthiness in service retail. *Journal of Services Marketing*, 28(5), 361-373. <http://dx.doi.org/10.1108/JSM-01-2013-0005>
- King-Casas, B., Tomlin, D., Anen, C., Camerer, C. F., Quartz, S. R., & Montague, P. R. (2005). Getting to know you: Reputation and trust in a two-person economic exchange. *Science*, 308(5718), 78-83. <http://dx.doi.org/10.1126/science.1108062>
- Knack, S., & Keefer, P. (1997). Does social capital have an economic payoff? A cross-country investigation. *The Quarterly Journal of Economics*, 112(4), 1251-1288. <http://dx.doi.org/10.1162/003355300555475>
- Kollock, P. (1994). The emergence of exchange structures: An experimental study of uncertainty, commitment, and trust. *American Journal of Sociology*, 100(2), 313-345.
- Koranyi, N., & Rothermund, K. (2012). Automatic coping mechanisms in committed relationship: Increased interpersonal trust as a response to stress. *Journal of Experimental Social Psychology*, 48(1), 180-185. <http://dx.doi.org/10.1016/j.jesp.2011.06.009>
- Korsgaard, A. M., Brower, H. H., & Lester, S. W. (2014). It isn't always mutual: A critical review of dyadic trust. *Journal of Management*. Advance online publication. <http://dx.doi.org/10.1177/0149206314547521>
- Kosfeld, M., Heinrichs, M., Zak, P. J., Fischbacher, U., & Fehr, E. (2005). Oxytocin increases trust in humans. *Nature*, 435(1), 673-676. <http://dx.doi.org/10.1038/nature03701>
- Kramer, R. M. (1999). Trust and distrust in organizations: Emerging perspectives, enduring questions. *Annual Review of Psychology*, 50(1), 569-598. <http://dx.doi.org/10.1146/annurev.psych.50.1.569>
- Kramer, R. M. (2006). Trust as situated cognition: An ecological perspective on trust decisions. In R. Bachmann & A. Zaheer (Eds.), *Handbook of Trust Research* (pp. 68-84). Cheltenham: Edward Elgar.

- Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology*, 77(6), 1121-1134.
<http://dx.doi.org/10.1037/0022-3514.77.6.1121>
- Langer, E. J. (1975). The illusion of control. *Journal of Personality and Social Psychology*, 32(2), 311-328. <http://dx.doi.org/10.1037/0022-3514.32.2.311>
- Lewicki, R. J., & Bunker, B. B. (1995). Trust in relationships: A model of development and decline. In B. B. Bunker, J. Z. Rubin, & Associates (Eds.), *Conflict, Cooperation and Justice: Essays Inspired by the Work of Morton Deutsch* (pp. 133-173). San Francisco, CA: Jossey-Bass.
- Lewicki, R. J., Tomlinson, E. C., & Gillespie, N. (2006). Models of interpersonal trust development: Theoretical approaches, empirical evidence and future directions. *Journal of Management*, 32(6), 991-1022. <http://dx.doi.org/10.1177/0149206306294405>
- Lewis, D. J., & Weigert, A. (1985). Trust as a social reality. *Social Forces*, 63(4), 967-985. <http://dx.doi.org/10.1093/sf/63.4.967>
- Lindley, D. (2006). *Understanding Uncertainty*. Hoboken, NJ: John Wiley & Sons.
- Lipshitz, R., & Strauss, O. (1997). Coping with uncertainty: A naturalistic decision-making analysis. *Organizational Behaviour and Human Decision Processes*, 69(2), 149-163. <http://dx.doi.org/10.1006/obhd.1997.2679>
- Loewenstein, G., & Lerner, J. S. (2003). The role of affect in decision making. In R. Davidson, K. Scherer, & H. Goldsmith (Eds.), *Handbook of Affective Sciences* (pp. 619-642). New York, NY: Oxford University Press.
- Luhmann, N. (1979). *Trust and Power*. New York, NY: John Wiley & Sons.
- Malone, C., & Fiske, S. T. (2013). *The Human Brand: How We Relate to People, Products, and Companies*. San Francisco, CA: Jossey-Bass.
- Manchala, D. W. (2000). E-commerce trust metrics and models. *Internet Computing, IEEE*, 4(2), 36-44. <http://dx.doi.org/10.1109/4236.832944>
- Malkiel, B. G. (2003). The efficient market hypothesis and its critics. *The Journal of Economic Perspectives*, 17(1), 59-82. <http://dx.doi.org/10.1257/089533003321164958>
- Mather, M., & Johnson, M. K. (2000). Choice-supportive source monitoring: Do our decisions seem better to us as we age? *Psychology and Aging*, 15(4), 596-606. <http://dx.doi.org/10.1037/0882-7974.15.4.596>
- Mayer, R. C., Davis, J. H. & Schoorman, D. F. (1995). An integrative model of organizational trust. *Academy of Management Review*, 20(3), 709-734. <http://dx.doi.org/10.5465/AMR.1995.9508080335>
- McKnight, D. H., Cummings, L. L., & Chervany, N. L. (1998). Initial trust formation in new organizational relationships. *Academy of Management Review*, 23(3), 473-490. <http://dx.doi.org/10.2307/259290>
- Mishel, M. H. (1984). Perceived uncertainty and stress in illness. *Research in Nursing & Health*, 7(3), 163-171. <http://dx.doi.org/10.1002/nur.4770070304>
- Monat, A., Averill, J. R., & Lazarus, R. S. (1972). Anticipatory stress and coping reactions under various conditions of uncertainty. *Journal of Personality and Social Psychology*, 24(2), 237-253. <http://dx.doi.org/10.1037/h0033297>
- Möllering, G. (2006). *Trust: Reason, Routine, Reflexivity*. Bingley, UK: Emerald Group Publishing Limited.
- Möllering, G., Bachmann, R., & Lee, S. H. (2004). Introduction: Understanding organizational trust – foundations, constellations and issues of operationalisation. *Journal of Managerial Psychology*, 19(6), 556-570. <http://dx.doi.org/10.1108/02683940410551480>

- Ng, A., Ibrahim, M. H., & Mirakhor, A. (2014). Does trust contribute to stock market development? *Economic Modelling*, in press.
<http://dx.doi.org/10.1016/j.econmod.2014.10.056>
- Nofsinger, J. (2007). *The Psychology of Investing*. New York, NY: Prentice Hall.
- Oktug, Z. (2013). Managing emotions in the workplace: It's mediating effect on the relationship between organization trust and occupational stress. *International Business Research*, 6(4), 81-88. <http://dx.doi.org/10.5539/ibr.v6n4p81>
- Ostrom, E. (2000). Social capital: A fad or a fundamental concept. In P. Dasgupta & I. Serageldin (Eds.), *Social Capital: A Multifaceted Perspective* (pp. 172-214). Washington, DC: The International Bank of Reconstruction and Development.
- Plitt, M., Savjani, R. R., & Eagleman, D. M. (2015). Are corporations people too? The neural correlates of moral judgments about companies and individuals. *Social Neuroscience*, 10(2), 113-125. <http://dx.doi.org/10.1080/17470919.2014.978026>
- Putnam, R. D. (2000). *Bowling Alone: The Collapse and Revival of American Community*. New York, NY: Simon & Schuster.
- Ramsøy, T. Z., Skov, M., Macoveanu, J., Siebner, H. R., & Fosgaard, T. R. (2015). Empathy as a neuropsychological heuristic in social decision-making. *Social Neuroscience*, 10(2), 179-191. <http://dx.doi.org/10.1080/17470919.2014.965341>
- Rempel, J. K., Holmes, J. G., & Zanna, M. P. (1985). Trust in close relationships. *Journal of Personality and Social Psychology*, 49(1), 95-112.
<http://dx.doi.org/10.1037/0022-3514.49.1.95>
- Riedl, R., & Javor, A. (2012). The biology of trust: Integrating evidence from genetics, endocrinology, and functional brain imaging. *Journal of Neuroscience, Psychology, and Economics*, 5(2), 63-91. <http://dx.doi.org/10.1037/a0026318>
- Rotter, J. B. (1967). A new scale for the measurement of interpersonal trust. *Journal of Personality*, 35(4), 651-665. <http://dx.doi.org/10.1111/j.1467-6494.1967.tb01454.x>
- Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management Review*, 23(3), 393-404.
<http://dx.doi.org/10.5465/AMR.1998.926617>
- Sanfey, A. G., Rilling, J. K., Aronson, J. A., Nystrom, L. E., & Cohen, J. D. (2003). The neural basis of economic decision-making in the ultimatum game. *Science*, 300(5626), 1755-1758. <http://dx.doi.org/10.1126/science.1082976>
- Sapienza, P., Toldra-Simats, A., & Zingales, L. (2013). Understanding trust. *The Economic Journal*, 123(573), 1313-1332. <http://dx.doi.org/10.1111/eoj.12036>
- Sapienza, P., & Zingales, L. (2012). A trust crisis. *International Review of Finance*, 12(2), 123-131. <http://dx.doi.org/10.1111/j.1468-2443.2012.01152.x>
- Schoorman, D. F., Mayer, R. C., & Davis, J. H. (2007). An integrative model of organization trust: Past, present, and future. *Academy of Management Review*, 32(2), 344-354.
<http://dx.doi.org/10.5465/AMR.2007.24348410>
- Serva, M. A., Fuller, M. A., & Mayer, R. C. (2005). The reciprocal nature of trust: A longitudinal study of interacting teams. *Journal of Organizational Behavior*, 26(6), 625-648. <http://dx.doi.org/10.1002/job.331>
- Shapiro, S. P. (2005). Agency theory. *Annual Review of Sociology*, 31(1), 263-284.
<http://dx.doi.org/10.1146/annurev.soc.31.041304.122159>
- Shefrin, H., & Statman, M. (1985). The disposition to sell winners too early and ride losers too long: Theory and evidence. *The Journal of Finance*, 40(3), 777-790.
<http://dx.doi.org/10.1111/j.1540-6261.1985.tb05002.x>
- Shin, H. S. (2009). Reflections on Northern Rock: The bank run that heralded the global financial crisis. *Journal of Economic Perspectives*, 23(1), 101-119.
<http://dx.doi.org/10.1257/jep.23.1.101>

- Siegrist, M., & Cvetkovich, G. (2000). Perceptions of hazards: The role of social trust and knowledge. *Risk Analysis*, 20(5), 713-720. <http://dx.doi.org/10.1111/0272-4332.205064>
- Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, 87(3), 355-374. <http://dx.doi.org/10.2307/1882010>
- Stiglitz, J. E. (1975). The theory of "screening," education and the distribution income. *The American Economic Review*, 65(3), 283-300.
- Sturgis, P., Read, S., & Allum, N. (2010). Does intelligence foster generalized trust? An empirical test using the UK birth cohort studies. *Intelligence*, 38(1), 45-54. <http://dx.doi.org/10.1016/j.intell.2009.11.006>
- Sztompka, P. (2003). *Trust: A Sociological Theory*. Cambridge: Cambridge University Press.
- Takahashi, T., Ikeda, K., Ishikawa, M., Kitamura, N., Tsukasaki, T., Nakama, D., & Kameda, T. (2005). *Neuroendocrinology*, 16(2), 197-199. <http://dx.doi.org/10.1097/00001756-200502080-00027>
- Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, 103(2), 192-210. <http://dx.doi.org/10.1037/0033-2909.103.2.193>
- Tyler, T. R., & Huo, Y. J. (2002). *Trust in the Law*. New York, NY: Russell Sage Foundation.
- Van Rooij, M., Lusardi, A., & Alessie, R. (2011). Financial literacy and stock market participation. *Journal of Financial Economics*, 101(2), 449-472. <http://dx.doi.org/10.1016/j.jfineco.2011.03.006>
- Viklund, M. J. (2003). Trust and risk perception in Western Europe: A cross-national study. *Risk Analysis*, 23(4), 727-738. <http://dx.doi.org/10.1111/1539-6924.00351>
- Webber, S. S. (2008). Development of cognitive and affective trust in teams. *Small Group Research*, 39(6), 746-769. <http://dx.doi.org/10.1177/1046496408323569>
- Weber, E. U., Blais, A.-R., & Betz, N. E. (2002). A domain-specific risk-attitude scale: Measuring risk perceptions and risk behaviors. *Journal of Behavioral Decision Making*, 15(4), 263-290. <http://dx.doi.org/10.1002/bdm.414>
- Weinstein, N. D. (1980). Unrealistic optimism about future life events. *Journal of Personality and Social Psychology*, 39(5), 806-820. <http://dx.doi.org/10.1037/0022-3514.39.5.806>
- Wilson, A. E., & Darke, P. R. (2012). The optimistic trust effect: Use of belief in a just world to cope with decision-generated threat. *Journal of Consumer Research*, 39(3), 615-628. <http://dx.doi.org/10.1086/664499>
- Wohl, M. J. A., & Enzle, M. E. (2009). Illusion of control by proxy: Placing one's fate in the hands of another. *British Journal of Social Psychology*, 48(1), 183-200. <http://dx.doi.org/10.1348/014466607X258696>
- Woolcock, M. (1998). Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and Society*, 27(2), 151-208. <http://dx.doi.org/10.1023/A:1006884930135>
- Yamagishi, T. (1986). The provisioning of a sanctioning system as a public good. *Journal of Personality and Social Psychology*, 51(1), 110-116. <http://dx.doi.org/10.1037/0022-3514.51.1.110>
- Yamagishi, T. (2001). Trust as a form of social intelligence. In K. S. Cook (Ed.), *Trust in Society* (pp. 121-147). New York, NY: Russell Sage Foundation.
- Yamagishi, T. (2011). *Trust: The Evolutionary Game of Mind and Society*. Tokyo: Springer.
- Yamagishi, T., & Yamagishi, M. (1994). Trust and commitment in the United States and Japan. *Motivation and Emotion*, 18(2), 129-166. <http://dx.doi.org/10.1007/BF02249397>
- Zak, P. J., & Knack, S. (2001). Trust and growth. *The Economic Journal*, 111(470), 295-321. <http://dx.doi.org/10.1111/1468-0297.00609>

- Zand, D. E. (1972). Trust and managerial problem solving. *Administrative Science Quarterly*, 17(2), 229-239. <http://dx.doi.org/10.2307/2393957>
- Zucker, L. G. (1986) Production of trust: Institutional sources of economic structure. *Research in Organizational Behavior*, 8(1), 53-111.
- Zysberg, L., Kimhi, S., & Eshel, Y. (2013). Someone to watch over me: Exposure to war events and trust in the armed forces in Israel as factors in war-related stress. *Medicine, Conflict and Survival*, 29(2), 140-154.
<http://dx.doi.org/10.1080/13623699.2013.785109>

© Anders Carlander
Printed in Sweden
Ineko AB, 2015
ISSN: 1101-718X
ISBN: 978-91-628-9464-1
ISRN: GU/PSYK/AVH--318—SE
<http://hdl.handle.net/2077/38722>