The development, escalation and collapse of system trust: From the financial crisis to society at large

Kroeger, F

Original citation & hyperlink:
Kroeger, F 2015, 'The development, escalation and collapse of system trust: From the financial crisis to society at large' European Management Journal, vol 33, no. 6, pp. 431-437. DOI: 10.1016/j.emj.2015.08.001
https://dx.doi.org/10.1016/j.emj.2015.08.001

DOI 10.1016/j.emj.2015.08.001
ISSN 0263-2373

Publisher: Elsevier

This is a post-print version of: Kroeger, Frens (2015). The development, escalation and collapse of system trust: From the financial crisis to society at large. *European Management Journal* 33: 431–437. http://www.sciencedirect.com/science/article/pii/S0263237315000778

The development, escalation and collapse of system trust:

From the financial crisis to society at large

Frens Kroeger

(Centre for Trust, Peace and Social Relations, Coventry University)

Abstract

This theoretical outline sketches the development, escalation and collapse of trust in expert systems, using the recent financial crisis as an example, but aiming at the description of broader underlying mechanisms. After reviewing the literature on the genesis of system trust, it identifies spirals of system trust which escalate both "vertically" (actors placing too much trust in the system) and "horizontally" (wider and wider circles of actors placing trust in the system). Both the apparent stability and the potential for collapse inherent in these spirals results from the fact that system trust is typically more distant, and consequently lacks some of the safeguards present in interpersonal trust. Ironically, thus, attempts to eliminate the influence of trust by introducing impersonal rule systems may increase rather than reduce the risk it poses to systemic stability.

Keywords: system trust; trust in expert systems; confidence; trust and modernity; trust crises; financial crises

1. Introduction

Over the past two decades, trust has evolved into a central concern in much of organization theory. This is not least because trust has become problematic across a wide range of societal sectors. Media coverage and public debate about the loss of trust in systems as different as food production and regulation, the activities and control of intelligence agencies, or "yet another once-trusted British institution: the police" (The Guardian, 2013a, b, c; 2014a, b) chime with ever-new academic findings of declining trust in government, business, health systems and regulatory regimes (Stevenson & Wolfers, 2011; Armstrong, 2012; Walls et al., 2004; Edelman Trust Barometer, 2013, 2015). Possibly the most glaring of these systemic trust failures was implicated in the emergence of the 2008 financial crisis (Gillespie & Hurley, 2013; Bachmann & Hanappi-Egger, 2014).

However, conceptual underpinnings for major trust failures of this kind have been slow to develop (Gillespie et al., 2012; Möllering, 2013). More generally, the trust in economic and social systems has remained strongly underresearched.

The present paper contributes to addressing this important gap. In the form of a theoretical outline, it explores the question how trust in expert systems can escalate and collapse. Although it focuses on these dynamics in the context of the financial system, it is interested not in a historical account of the recent crisis (for this refer, e.g., Shiller, 2008; Reinhart & Rogoff, 2008), but in the more generalizable mechanisms involved in the escalation and collapse of such trust.

Why keep the model this general? First, note that the present paper represents no more than a brief (and accordingly, rough) outline, seeing that first conceptual steps are still wanting before empirical research can build on and examine the validity of

the sequence hypothesized here. Second, it is hoped that the usefulness of this analysis will not be restricted to the financial sector, but may be instructive in regard to other sectors and functional spheres of society. Whether they are eventually found to exhibit highly similar or vastly different dynamics, the observations presented here can serve to establish a "null hypothesis" against which to chart the processes and principles of other expert systems.

I will return to both of these points in the concluding section. Before that, the following sections will define central terms (section 2.1) and briefly review the literature on the development of system trust (2.2); and then chart the different steps of the sequence put forward in regard to system trust: development towards predominance (section 3.1), expansion (3.2), escalation (3.3), and stability as well as potential collapse (3.4).

Within this sequence I will discuss, and identify as fallacious, two assumptions or "illusions" regarding the role of trust. The first is the idea that trust does not matter any more in a given sphere such as the financial system. The second, that the respective system is unquestionably stable because this is widely taken for granted. We could call the first the illusion of "the end of trust", and the second the illusion of stability. A common theme between them is an inherent underestimation of, and a consequent lack of attention to, trust and its significance to the system.

2. Interpersonal and system trust

2.1 Definitions

First, the central concepts of interpersonal and system trust require brief definition. Particularly for the sake of communicability and connectivity to other research on

trust, this contribution adopts the definition of trust put forward by Mayer et al. (1995) and since adopted by trust researchers across a wide variety of disciplines (see Schoorman et al., 2007). Mayer and colleagues define (interpersonal) trust as

> "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (1995: 712).

While the argument presented would be compatible with a wide variety of slightly differing definitions of trust, note in particular the central elements of voluntary vulnerability (Bigley & Pearce, 1998), relating to the future behavior of others, which is fundamentally unpredictable due to their freedom of decision (Luhmann, 1979).

These elements can apply both to individual trustees and to social or institutional systems (what Giddens [1990] called "expert systems"). Even though here, too, trust needs to relate to the human behavior which instantiates and reproduces the respective system, it ultimately refers to the systemic principles which guide that behavior (also see Sydow, 1998; Bachmann, 1998). (To elaborate on one of Giddens's examples [1990: 28], even though passengers never meet the engineers who construct, service and monitor the planes which they fly in, they have reasons to trust that the respective expert systems generate predictability and safety.)

Thus, just as in Luhmann's classical definition, in system trust the trustor "basically assumes that a system is functioning and places his trust in that function, not in people" (1979: 50).

2.2 The genesis of system trust

While interpersonal trust building has been studied in considerable depth (for an overview, see Lewicki et al., 2006), the genesis of system trust has remained strongly underresearched. Luhmann (1979), using the example of the monetary system and building on Simmel (1990), merely alluded to repeated confirmatory experiences in using money, referring chiefly to the fact that serious disappointments or breakdowns need to be *absent* in daily use. System trust relies on a high level of taken-for-grantedness (Luhmann, 1988).

The comparatively few relevant contributions since can be grouped into two distinct categories. The majority of contributions examines (1) the facilitation of system trust through mechanisms which increase systemic predictability; these mechanisms, in turn, can be grouped into (a) social norms; (b) the punishment of malfeasance; and (c) the promotion of relevant communication. A second, separate theoretical strand is composed of (2) conceptions of a "scaling up" of trust from the interpersonal to the institutional and systemic levels.

A number of authors have focused on the supportive capability of *social norms* in making the behavior of systems and their representatives more predictable to the outsider (see for instance Braithwaite & Levi, 1998: chapters 2-3). Of particular importance here are norms relating to the fairness of social and economic exchanges, reciprocity, and mutuality (Cook et al., 2009: chapters 1-4). Wicks et al. (2014) add that normatively controlled power equilibria are helpful in preserving fairness and therefore making the trusted entity more trustworthy.

This ties into increased predictability through *punishment of malfeasance* and the discouragement of untrustworthy behaviors. Especially Hardin (2002) has argued that institutional design has to encapsulate the self-interest of the officials administrating the larger systems. Legal and compliance mechanisms can be institutionalized as trust

safeguards (Wicks et al., 2014; also see Sztompka, 1999). This includes specialized agencies for monitoring and sanctioning breaches of trust, such as regulators (Pixley, 2004).

A number of contributions discuss the structured *promotion of communication* about trust-relevant issues. Some actors, such as credit-rating organizations and financial news organizations (Pixley, 2004), specialize in the evaluation and dissemination of trust-relevant information. Other communication, while less formalized, can be equally consequential. Braithwaite (1998) discusses "communities of dialogue", i.e., institutionalized debate about relevant systems in political and administrative circles. These and similar debates can be facilitated by "network brokers" who keep communication between relevant parties going (Barr et al., 2009; McEvily & Zaheer, 2004). Finally, Papakostas (2012) discusses a variety of mechanisms which institutionalize "structured skepticism", particularly in the form of rules enforced by independent and impartial bureaucracies.

In comparison, research has only begun to investigate the *"scaling up" of trust across levels*, i.e., its translation from the interpersonal to the institutional and to the system level (Farrell, 2009; Kroeger, 2012). One of the most promising concepts in this field is the "facework" of individuals who represent the trustworthiness of institutions and expert systems (Giddens, 1990; Kroeger A, forthcoming), drawing attention to dynamics of generalization from the interpersonal to the systemic level. Equally, it is worth studying how individuals can build helpful institutions (Lyon & Porter, 2010). Calls for studying meso-level phenomena related to system trust (e.g., Cook et al., 2009: chapters 5-7) are a logical consequence of these developments.

The present contribution will suggest an additional mechanism that can lead to the rise, but also to the fall of system trust, based on its reflexive nature and the resulting group dynamics.

Note that in all of the above renditions, system trust is significantly more *distant* than interpersonal trust (also see Harris et al, 2014: chapters 3-4). The trustor's experiences clearly lack the immediacy of interpersonal trust building (Khodyakov, 2007), where the object of trust is easier to observe, and often responds directly to the trustor's actions, signalling (un)trustworthiness in a much more immediate and continuous fashion.

3. System trust: growth, escalation, collapse

3.1 From interpersonal to system trust

Giddens (1990) connects interpersonal and system trust in the context of a broad historical or "evolutionary" progression. His well-known argument about the development towards (late) modernity shows how virtually all sectors of contemporary organized social life – from flying in planes over visiting a doctor to drinking clean tap water – fundamentally rely on trust in the respective expert systems, where in pre-modern or early modern times, trust in the individual medic or water-vendor was typically required.

The financial sector provides an obvious example for this development. Today, financial markets are regarded as essentially technical phenomena, to be anticipated and engaged with on the basis of rational calculation and largely technical expertise. While this idea has come to be widely taken-for-granted, in the past financial markets used to rely heavily on interpersonal trust, as illustrated by Mayer's (2008) study of

equity markets in the UK, Germany and Japan at the beginning of the 20th century. Although each market relied on different intermediaries (local stock brokers in the UK, bankers in Germany, and "business coordinators" in Japan), interpersonal trust in each of them was fundamental. While each of these groups held different kinds of relations with the companies listed at local stock exchanges, it was trust in the individual competence, but also the personal integrity and benevolence of these professionals which bridged the problems of future uncertainty and imperfect information, enabling financiers to confidently invest in the businesses that the trusted intermediaries vouched for. Without these central relations of interpersonal trust, the functioning of each of these financial markets would have been severely disrupted.[1]

3.2 The end of trust?

At the same time, the shift away from a reliance on these and other informal interpersonal relationships also links to broader social phenomenona which have been analyzed variously as bureaucratization, juridification, or more recently, financialization (Merton, 1940; Teubner, 1987; Epstein, 2005; also see Ritzer, 1996), and all of which can be traced back to Max Weber's (1968 [1922]) classical analysis of the process of rationalization. According to Weber, a central goal of rationalization in the move towards modernity is the elimination of informal, individual or idiosyncratic factors which may distort the "proper" and rational conduct of business. This elimination is achieved by introducing systems of impersonal rules, designed to operate *sine ira et studio*, and without regard of the individual person.

This process is highly evident in the financial sector. Here, a whole "science" has formed in order to eliminate the human element, i.e., decisions based on "irrational" motivations such as personal indebtedness, competitive spirit, hubris (Bollaert &

Petit, 2010), or intuition (Hensman & Sadler-Smith, 2011), and a whole range of emotions that may accompany them (e.g., anxiety, anger, or pride; Pixley, 2004). Instead, aspects of individual decision-making are progressively replaced with mathematical modelling which fulfils an increasingly prescriptive function (MacKenzie, 2006). In this way, investment decisions are meant to become fully rational and a matter of scientific accuracy rather than individual judgement.

This includes the intended elimination of the influence of interpersonal trust relations as portrayed by Mayer. Trust tends to be viewed as an idiosyncratic and essentially irrational phenomenon by economists and financial theorists (classically, see Williamson, 1975, 1993). Indeed, the majority of economic and financial theorists seem to agree that the introduction of "rational" methods such as mathematical modelling has eliminated the issue of trust entirely, ignoring trust in their analysis (Noteboom, 2002; Sapienza, 2009). Williamson even explicitly recommends avoiding "diffuse" concepts like trust (1996: 261).

However, no financial system can exist in the absence of (specific forms of) trust. Simmel's (1990 [1900]) now near-universally accepted insight that money depends fundamentally on trust in order to be able to function as a symbolic token of material value, applies *a fortiori* to financial markets in which still more abstract forms of money circulate (also see Gill & Butler, 1996). This is illustrated impressively by breakdowns of whole currencies in the past (see e.g. Fergusson, 2010), but also by the more recent instances of "bank runs" on Northern Rock, IndyMac and others (Shin, 2009; Acharya et al., 2009).

Active participation in today's financial markets is predicated not only on the reliance on further "guardians of trust" (Shapiro, 1987) such as ratings agencies, but also on the use of, acceptance of, and belief in a multitude of key statistics, ratings

and rankings, risk models, and trend projections (Danielsson, 2008; Mazumder & Ahmad, 2010). Use of these types of information would be pointless and illogical without a basic belief in the correctness of these models and their underlying assumptions.[2] That is, the actors involved "basically assume that the system is functioning and place their trust in that function, not in people" (see above).

Thus, consistent with Giddens's hypothesis, the need for interpersonal trust is replaced by a need for system trust instead. The shift from arrangements based on individual relations to impersonal systems does not eliminate trust *per se*, it merely shifts predominance from one type to another. However, system trust is less conspicuous than interpersonal trust, largely on account of its high degree of taken-for-grantedness (also see Möllering, 2006), promoting the illusion of the "end of trust". If as a result theorists and, more importantly, practitioners within the financial system assume that trust has been successfully eliminated, the shift away from interpersonal trust may have the ironic consequence that the largely unrecognized need for system trust may create *more*, not less of a risk to the stability of financial systems.

This risk materializes when system trust escalates.

3.3 Escalating system trust

Trust can spread between actors. That such a transfer of (interpersonal) trust can occur has been widely assumed in the literature, for instance by theories of third-party conduits of trust and social network analysis (Burt & Knez, 1996; Josang, 2007). Yet this does not mean that trust can be passed on "ready-made". Rather, patterns of trusting can be transmitted from one actor to another, who then enriches these "core logics" with their own individualized interpretations, justifications, and

rationalizations. (This process is described in greater depth in Kroeger, 2013.) Thus, actors can adopt and adapt patterns which make it quicker and easier to develop trust on their basis.

Such transmission increases the distance of the individual trustor from the person of the trustee (McEvily et al., 2003). When interpretations, justifications and rationalizations for system trust are passed on, this further increases the already marked distance inherent in system trust (in effect moving it increasingly closer to Luhmann's (1988) definition of "hope", in which the actor places confident expectations in future events, but has little or no influence over them). It is particularly this distance which allows system trust to spiral out of proportion.

I use the image of *escalating spirals of system trust*[3] because trust in an expert system such as finance can escalate in two different but interrelated dimensions:

"Vertically": i.e., the degree of trust can spiral upwards much more quickly than would be warranted on the basis of first-hand experience. In the run-up to the recent crisis this could be observed, on the one hand, in terms of the ever-higher degree of trust that led to the taking of greater and greater risks (Gillespie et al., 2012); and on the other, in the ready extension of trust to increasingly more complex financial instruments, about which great expert knowledge would have been required but was available only to a select few (Criado & Van Rixtel, 2008).

This establishes a link to the second dimension of escalation:

"Horizontally": i.e., system trust can spread to wider and wider circles of actors who are less familiar with the principles and dynamics of the expert system (Mazumder & Ahmad, 2010). In the run-up to the recent crisis, this was visible as great numbers of actors displayed trust in the financial system, freely investing in some of its most complex instruments. After the outbreak of the financial crisis,

however, they admitted that their knowledge of these instruments and their complexities had been very limited (also see Goldin & Vogel, 2010).

Consider the example of the German *Landesbanken*, regional state-owned financial institutions of significant size whose board of directors typically include government officials. After the outbreak of the financial crisis, many of them pointed out that it would have been inconceivable for them to be part of the tiny minority resisting the new financial instruments and the profit opportunities they offered. They also indicated that they had not possessed the necessary expertise to understand the magnitude of the risks they were taking. For instance, after the *Bayerische Landesbank* had incurred losses through high-risk trading of more than € 4 bn in 2007/08, prime minister and board member Günther Beckstein explained that he and his colleagues could not have been reasonably expected to recognize the severe risks involved in the transactions they had approved (Sueddeutsche Zeitung, 2010). Similarly, Austrian finance minister Josef Pröll, involved in the *Bayerische Landesbank*'s costly takeover of *Hypo Alpe Adria*, indicated in court he had not been aware of the risks, relying solely on experts instead (Format, 2013).

3.4 Stability and the potential for collapse

The result, then, may be escalating spirals of system trust in which actors who know increasingly little about the workings of the expert system bestow trust to a greater extent, in more respects, relating to higher stakes, and/or more quickly – that is, altogether more "blindly" – than would seem warranted, and specifically, more so than typically observable in relations of interpersonal trust. In addition, I contend that such spirals of system trust, having undergone escalation, are prone to collapse. Why?

I want to argue that this is the result of actors having *few safeguards* at their disposal for system trust. Not only are they often far removed from the institutional safeguards described in section 2 (e.g., relevant institutionalized debates), which are often in themselves complex and difficult to interpret to the actors particularly due to the "horizontal" escalation described. What is more, trustors lack important safeguards which they can draw on in the case of interpersonal trust. This is particularly in two respects, both of which are related to the typically more distant experience of expert systems.

First, interpersonal trust, where built over time, is experience-based in nature and can rely on a continuous stream of interactional cues (Six, 2007; Perks & Halliday, 2003). The trustee's behavior is taken as indicative of (lacking) trust and trustworthiness, particularly where tangible and consequential decisions between discrete alternatives need to be made. In addition, in recurring interpersonal interaction the trustee can be considered to "give off" signals of their motivations and intentions in an involuntary fashion (Goffman, 1959); faking these signals convincingly and consistently would often be as costly as factual trustworthiness (Bacharach & Gambetta, 2001). Research has demonstrated how actors develop, often highly effective, lay theories which help them distinguish trustworthy from untrustworthy individuals in the context of their respective life-worlds (famously, see Gambetta & Hamill, 2005).

Second, interpersonal trust can be bolstered by interpersonal *control*. A growing branch of the trust literature has demonstrated that trust and control are not only functional substitutes but also complements (Mellewigt et al., 2007); the same is true of trust and power (Bachmann, 2001; also see Luhmann, 1979). Greater power and/or control over the trustee's behavior can bring about higher predictability and thereby

facilitate trust. Trust is not always "blind" (Giddens, 1990) but typically relies to varying degrees on monitoring and the potential to influence the trustee's conduct.

In contrast, as noted above the experience of expert systems such as finance is typically mediated, and often abstract and ambiguous in nature. Corrective signals typically occur more rarely and are more difficult to observe and interpret, often to everyone save the most accomplished experts within the system. In addition, individual control cannot be exerted over such expansive and complex systems. As a substitute, trust in these systems is more likely to rely on "illusions of control" which establish mere psychological safety (McKnight et al., 1998).

Instead, the chief safeguard accessible to the individual and applicable to trust in these collective and somewhat distant expert systems is anchored in the reflexive nature of system trust, i.e., in the observation that others trust (Luhmann, 1979). It is

> "what Cialdini (1993) has termed *social proof* that a particular interpretation of reality is correct. Thus, by observing others acting in a trusting manner, individuals can infer that such a stance is neither foolish nor naive" (Meyerson et al., 1996: 186; also cf. Sabel, 1993).

Consequently, trustors will look to others for confirmation and inspiration. This group orientation facilitates the transfer of interpretations, rationalizations, and justifications for trust, and forms the trust equivalent of the "herd mentality" which has repeatedly been diagnosed as responsible for the run on risky financial products preceding the recent financial crisis (e.g., Gounaris & Prout, 2009; Brunnermeier et al., 2009). Consistent with Shapiro's (1987) ideas, this encompassed some of the most important "guardians of trust" (such as insurers, independent analysts, and others) whose task it would have been to institutionalize distrust and to act as external safeguards.

Reliance on "social proof" as a safeguard is thus liable to create an "illusion of stability" (which, in its turn, is closely related to the classical assumption of efficient markets; also see Holland, 1985). System trust can appear highly stable and, ironically, the appearance of stability is likely to be the greater the further escalation has proceeded, as more actors are seen to exhibit higher levels of trust.

(To return to the example of the *Bayerische Landesbank*, Günther Beckstein later explained that the chief reason why excessive risks were not recognized was because "maybe, to a degree, everyone was relying on one another"; Deutschlandradio Kultur, 2014.)

At the same time, the lack of alternative safeguards makes existing spirals of system trust highly vulnerable. They are likely to remain stable only while retaining a high level of taken-for-grantedness in the eyes of actors. Once the basis of trust comes under question, there is little to stop doubt from spreading catastrophically. In interpersonal trust, direct and personally tailored action can be taken to prevent an escalation of doubt (Grover et al., 2014). Alternatively, the mode of coordination can often be switched from interpersonal trust to interpersonal control (Mellewigt et al., 2007; Bachmann, 2001). Neither of these is possible for the broad and overarching expert systems (also see Shapiro, 1987). Hence, the dynamics of "social proof" mean that not only the growth, but the loss of system trust, too, can be highly contagious. Once initiated, the breakdown of these spirals can be as self-reinforcing as their preceding expansion.

Thus, to return to our guiding image, the escalating spirals of system trust are balanced on a fine tip; once the underlying basis of system trust is shaken, they can collapse quickly and cataclysmically. The insight that a loss of trust typically comes

about in a more sudden or "catastrophic" fashion than its emergence (Burt & Knez 1996: 83) applies *a fortiori* to system trust.

4. Conclusion

4.1 Synopsis

The argument made in this theoretical outline can be summed up in terms of an ideal-typical sequence, which incorporates two fallacious assumptions or "illusions", and is likely to result in an ironical outcome.

This sequence is the escalation of system trust, both "vertically" (in terms of its intensity) and "horizontally" (in terms of ever-wider circles of actors included), resulting in escalating spirals that are balanced on a fine tip, and become prone to collapse as soon as their heretofore taken-for-granted basis comes under question to any meaningful degree. This is the result of characteristics which distinguish system trust from interpersonal trust, particularly its more distant and less immediate nature, and the fact that as a consequence it lacks a number of safeguards which are pertinent to the interpersonal form.

The fallacious assumptions implicated in this process are, first, what I have called the illusion of the "end of trust", i.e., the assumption that the significance of *all* trust is eliminated through the introduction of impersonal systems, when really, this merely shifts significance from interpersonal to system trust (but participants typically are less aware of the need for or the consequences of system trust). And, second, what we may call the "illusion of stability", *viz.*, that participants to the system may be the most confident of its stability when it has reached its most unstable point – both of

these on account of ever-increasing numbers of actors exhibiting taken-for-granted trust in the system.

Thus, ironically, the intended antidote may itself become the poison: the measures taken to eliminate the perceived risk posed by trust may instead increase it, as trust becomes less visible; and the system may appear the most stable when trust in it has reached its most precarious escalation, making collapse more likely.

4.2 Limitations and implications

Needless to say, this contribution suffers from a great number of shortcomings, not least due to its nature as a brief and highly generalized theoretical outline. However, it also opens up a number of fruitful avenues of enquiry. Questions that result from this conceptual outline include:

How is system trust built? As mentioned, the genesis of system trust has remained strongly underresearched. In particular, more attention is due to an elaboration and extension of the few existing multi- and cross-level concepts which have been applied to trust, such as "facework" (Giddens, 1990).

What are channels or "vectors for trust" (Besson et al., 2008) through which system trust is diffused among actors and organizations? For instance, what is the trust discourse in relevant inter-organizational networks and industry associations? Are there important "faceworkers" or "trust brokers" (Della Giusta, 2008) here, too, who are particularly relevant for extending and spreading system trust within expert systems?

A great number of fruitful empirical questions could build on the foundation sketched here. For instance, staying with the example of the financial system, in the multiple areas of investment banking: How do market-makers come to trust the

ratings and the models used for these ratings by rating agencies? Is this trust passed on through their advisory relationships with other organizations? What is the role of regulators in this context?

In particular, the greatest shortcoming of the analysis sketched here – i.e., its highly general nature – is intended to be simultaneously its greatest strength: are there other social and economic subsystems that this sequence can be applied to? Where else can system trust escalate, with the potential danger of collapse, as a result of systems introduced to rationalize and eliminate the role of interpersonal trust? A number of societal sectors spring to mind where decision-making based on interpersonal experience is increasingly crowded out by rule-based bureaucratic systems, such as medicine, education, or social work. What are other paths towards a collapse of system trust in different sectors? Can we create a "catalogue" of different mechanisms creating this risk?

Lastly, from a more practical or advisory angle: what can be done to prevent cataclysmic breakdowns of system trust, such as the one underlying the recent financial crisis, from reoccurring? Giddens sketched the development from interpersonal to system trust as a dominant development in late modernity. Considering the contemporary crisis of trust in expert systems, what are likely future developments and solutions? Are there ways of making system trust once more a more active achievement? For instance, is there an argument for exploring ways of re-integrating interpersonal trust relations into rationalized modern institutions?

Obviously, much still remains to be done. However, it is hoped that the present outline can make a meaningful contribution and provide a fruitful basis for further investigation of this important phenomenon.

ENDNOTES

[1] Carruthers (2009), too, describes this historical transformation in borrowing and lending in the Anglo-American world. Interpersonal trust still plays a central role in many societies with less extensive or less complex systems of financial trading (see, e.g., Lyon & Porter, 2010). The arguments presented refer to highly differentiated "Western" financial systems.

[2] For one fundamental example see the assumption that descriptive statistics of the recent past are accurate proxies for predicting the immediate future. Behavioral finance has started to convincingly disprove this premise for a range of financial contexts (Baker & Nofsinger, 2010).

[3] While I use the same image of escalating spirals as Shapiro's (1987) classic contribution on the escalation of trust, note that the present argument differs fundamentally from her observation that bestowing impersonal trust leads to a need for trust in further agents (or "guardians of trust"). (E.g., taking out an insurance against an abuse of trust requires trust in the insurance company.) Where her argument is concerned with the institutionalization of distrust and a consequent escalation of the circle of *trustees*, the present argument focuses on the spread of (patterns or logics of) trusting and ever-expanding circles of *trustors*.

REFERENCES

Acharya, V.V., Philippon, T., Richardson, M., & Roubini, N. (2009). The Financial Crisis of 2007-2009: Causes and Remedies. In V.V. Acharya & M. Richardson (Eds.), *Restoring Financial Stability: How to Repair a Failed System* (pp. 1-56). Hoboken, NJ: Wiley.

Armstrong, A. (2012). Restoring Trust in Banking. *National Institute Economic Review* 221, R4-R10.

Bacharach, M., & Gambetta, D. (2001). Trust in Signs. In K.S. Cook (Ed.), *Trust in Society* (pp. 148-84). New York: Russell Sage.

Bachmann, R. (1998). Conclusion: Trust – Conceptual Aspects of a Complex Phenomenon. In C. Lane & R. Bachmann (Eds.), *Trust Within and Between Organizations: Conceptual Issues and Empirical Applications* (pp. 298-322). Oxford: Oxford University Press.

Bachmann, R. (2001). Trust, Power and Control in Trans-Organizational Relations. *Organization Studies* 22, 337-365.

Bachmann, R. & Hanappi-Egger, E. (2014). Can trust flourish where institutionalized distrust reigns? In Harris, J.D. et al. (Eds.). *Public Trust in Business* (pp. 266-289). Cambridge: Cambridge University Press.

Baker, H.K., & Nofsinger, J.R. (Eds.) (2010). *Behavioral Finance: Investors, Corporations, and Markets*. Chichester: Wiley.

Barr, A., Ensminger, J. & Johnson, J.C. (2009). Social Networks and Trust in Cross-Cultural Economic Experiments. In Cook, K.S. et al. (Eds.) (2009). *Whom can we trust?* (pp. 65-90). New York: Russell Sage.

Braithwaite, J. (1998). Institutionalizing Distrust, Enculturating Trust. In Braithwaite, V. & Levi, M. (Eds.). *Trust and governance* (pp. 343-375). New York: Russell Sage.

Braithwaite, V. & Levi, M. (Eds.) (1998). *Trust and governance*. New York: Russell Sage.

Besson, M., Löning, H., & Mendoza, C. (2008). Sticking together under pressure: The risk-sharing approach and trust-building in sales management. *European Management Journal* 26, 11-23.

Bigley, G.A., & Pearce, J.L. (1998). Straining for Shared Meaning in Organization Science: Problems of Trust and Distrust. *Academy of Management Review* 23, 405-421.

Bollaert, H., & Petit, V. (2010). Beyond the dark side of executive psychology: Current research and new directions. *European Management Journal* 28, 362-376.

Brunnermeier, M., Crocket, A., Goodhart, C., Persaud, A.D., & Shin, H. (2009). *The Fundamental Principles of Financial Regulation.* (Geneva Reports on the World Economy 11.) Geneva: ICMB.

Burt, R.S., & Knez, M. (1996). Trust and Third-Party Gossip. In R.M. Kramer & T.R. Tyler (Eds), *Trust in Organizations: Frontiers of Theory and Research* (pp. 68-89). London: Sage.

Carruthers, B.G. (2009). Trust and Credit. In Cook, K.S. et al. (Eds.) (2009). *Whom can we trust?* (pp. 219-248). New York: Russell Sage.

Cialdini, R. (1993). *Influence.* New York: Morrow.

Cook, K.S., Levi, M. & Hardin, R. (Eds.) (2009). *Whom can we trust? How groups, networks, and institutions make trust possible.* New York: Russell Sage.

Criado, S., & Van Rixtel, A. (2008). Structured Finance and the Financial Turmoil of 2007-2008: An Introductory Overview. Banco de Espana Occasional Paper No. 0808.

Danielsson, J. (2008). Blame the Models. *Journal of Financial Stability* 4, 321-328.

Della Giusta, M. (2008). A theory of trust based systems of intermediation. *Cambridge Journal of Economics* 32, 65-81.

Deutschlandradio (2014). Bayerische Landesbank: Wussten sie, was sie tun? Zum Prozess gegen die frühere Führung der Bayerischen Landesbank. Available at http://www.deutschlandradiokultur.de/bayerische-landesbank-wussten-sie-was-sie-tun.1001.de.html?dram:article_id=275488

Edelman Trust Barometer (2013). *The Edelman Trust Barometer 2013: Executive Summary.* Available at www.edelman.com

Edelman Trust Barometer (2015). *The Edelman Trust Barometer 2015: Global Results.* Available at www.edelman.com

Epstein, G.A. (Ed.) (2005). *Financialization and the World Economy*. Cheltenham: Edward Elgar.

Farrell, H. (2009). Institutions and Midlevel Explanations of Trust. In Cook, K.S. et al. (Eds.) (2009). *Whom can we trust?* (pp. 127-148). New York: Russell Sage.

Fergusson, A. (2010). *When Money Dies: The Nightmare of Deficit Spending, Devaluation and Hyperinflation in Weimar Germany.* New York: Public Affairs.

Format (2013). BayernLB-Prozess - Schieder: Hypo-Verstaatlichung unter EZB-Druck. Available at http://www.format.at/news/oesterreich/bayernlb-prozess-schieder-hypo-verstaatlichung-ezb-druck-356325

Gambetta, D., & Hamill, H. (2005). *Streetwise: How Taxi Drivers Establish Their Customers' Trustworthiness*. New York: Russell Sage Foundation.

Giddens, A. (1990). *The Consequences of Modernity.* Stanford: Stanford University Press.

Gill, J., & Butler, R. (1996). Cycles of Trust and Distrust in Joint-ventures. *European Management Journal* 14, 81-89.

Gillespie, N.A., & Dietz, G. (2009). Trust repair after an organization-level failure. *Academy of Management Review* 34, 127-145.

Gillespie, N.A., & Hurley, R. (2013). Trust and the global financial crisis. In R. Bachmann & A. Zaheer (Eds), *Handbook of Advances in Trust Research* (pp. 177-203). Cheltenham: Edward Elgar.

Gillespie, N.A., Hurley, R., Dietz, G., & Bachmann, R. (2012). Restoring institutional trust after the global financial crisis: A systemic approach. In R.M. Kramer & T-L. Pittinsky (Eds.), *Restoring trust in organizations and leaders: Enduring challenges and emerging answers*. Oxford: Oxford University Press.

Goffman, E. (1959). *The Presentation of Self in Everyday Life.* Harmondsworth: Penguin.

Goldin, I., & Vogel, T. (2010). Global Governance and Systemic Risk in the 21st Century: Lessons from the Financial Crisis. *Global Policy* 1, 4-15.

Gounaris, K.M., & Prout, M.F. (2009). Repairing Relationships and Restoring Trust: Behavioral Finance and the Economic Crisis. *Journal of Financial Service Professionals* 63, 75-84.

Grover, S.L., Hasel, M.C., Manville, C., Serrano-Archimi, C. (2014). Follower reactions to leader trust violations: A grounded theory of violation types, likelihood of recovery, and recovery process. *European Management Journal* 32, 689-702.

Hardin, R. (2002). *Trust and trustworthiness*. New York: Russell Sage.

Harris, J.D., Moriarty, B.T. & Wicks, A.C. (Eds.) (2014). *Public Trust in Business.* Cambridge: Cambridge University Press.

Hensman, A., & Sadler-Smith, E. (2011). Intuitive decision making in banking and finance. *European Management Journal* 29, 51-66.

Holland, J. (1985). Corporate Finance and Strategy: A European View. *European Management Journal* 3, 94-102.

Josang, A. (2007). Trust and Reputation Systems. In A. Aldini & R. Gorrieri (Eds.), *Foundations of Security Analysis and Design IV* (pp. 209-245). Berlin: Springer.

Khodyakov, D. (2007). Trust as a Process: A Three-Dimensional Approach. *Sociology* 41, 115-132.

Kroeger, F. (2012). Trusting organizations: the institutionalization of trust in interorganizational relationships. *Organization* 19, 743-763.

Kroeger, F. (2013). How is trust institutionalised? Understanding collective and long-term trust orientations. In R. Bachmann, & A. Zaheer (Eds.), *Handbook of Advances in Trust Research* (pp. 261-284). Cheltenham: Elgar.

Kroeger, F. (forthcoming). "Facework" and the creation of organisational and system trust: A review of the literature and outline of new conceptual foundations. *Cambridge Journal of Economics*.

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, 991-1022.

Luhmann, N. (1979). *Trust and Power.* Chichester: Wiley.

Luhmann, N. (1988). Familiarity, Confidence, Trust: Problems and Alternatives. In D. Gambetta (Ed.), *Trust: Making and Breaking Cooperative Relations* (pp. 94-107). Oxford: Blackwell.

Lyon, F. & Porter, G. (2010). Evolving institutions of trust: Personalized and institutional bases of trust in Nigerian and Ghanaian food trading. In Saunders, M.N.K., Skinner, D., Dietz, G., Gillespie, N. & Lewicki, R.J. (Eds.) *Organizational Trust: A Cultural Perspective* (pp. 255-278). Cambridge: Cambridge University Press.

MacKenzie, D. (2006). *An Engine, Not a Camera: How Financial Models Shape Markets.* Cambridge, MA: MIT Press.

Mayer, C. (2008). Trust in Financial Markets. *European Financial Management* 14, 617-632.

Mayer, R.C., Davis, J.H., & Schoorman, D.F. (1995). An Integrative Model of Organizational Trust. *Academy of Management Review* 20, 709-734.

Mazumder, M.I., & Ahmad, N. (2010). Greed, financial innovation or laxity of regulation? A close look into the 2007-2009 financial crisis and stock market volatility. *Studies in Economics and Finance* 27, 110-134.

McEvily, B., Perrone, V., & Zaheer, A. (2003). Trust as an Organizing Principle. *Organization Science* 14, 91-103.

McEvily, B. & Zaheer, A. (2004). Architects of Trust: The Role of Network Facilitators in Geographical Clusters. In Kramer, R.M. & Cook, K.S. (Eds.). *Trust and distrust in organizations: Dilemmas and approaches* (pp. 189-213). New York: Russell Sage.

McKnight, D.H., Cummings, L.L., & Chervany, N.L. (1998). Initial Trust Formation in New Organizational Relationships. *Academy of Management Review* 23, 473-490.

Mellewigt, T., Madhok, A., & Weibel, A. (2007). Trust and formal contracts in interorganizational relationships – substitutes and complements. *Managerial and Decision Economics* 28, 833-847.

Merton, R.K. (1940). Bureaucratic Structure and Personality. *Social Forces* 18, 560-568.

Meyerson, D., Weick, K.E., & Kramer, R.M. (1996). Swift Trust and Contemporary Groups. In R.M. Kramer & T.R. Tyler (Eds.), *Trust in Organizations: Frontiers of Theory and Research* (pp. 166-195). London: Sage.

Möllering, G. (2006). Trust, Institutions, Agency: Towards a Neoinstitutional Theory of Trust. In R. Bachmann & A. Zaheer (Eds.), *Handbook of Trust Research* (pp. 355-376). Cheltenham: Edward Elgar.

Möllering, G. (2013). Process views of trusting and crises. In R. Bachmann & A. Zaheer (Eds.), *Handbook of Advances in Trust Research* (pp. 285-305). Cheltenham: Edward Elgar.

Noteboom, B. (2002). *Trust: Forms, foundations, functions, failures, and figures*. Cheltenham: Edward Elgar.

Papakostas, A. (2012). *Civilizing the Public Sphere: Distrust, Trust and Corruption*. London: Palgrave Macmillan.

Perks, H., & Halliday, S.V. (2003). Sources, Signs and Signalling for Fast Trust Creation in Organizational Relationships. *European Management Journal* 21, 338-350.

Pixley, J. (2004). *Emotions in Finance: Distrust and Uncertainty in Global Markets*. Cambridge: Cambridge University Press.

Reinhart, C.M., & Rogoff, K.S. (2008). Is the 2007 US Sub-Prime Financial Crisis So Different? An International Historical Comparison. *American Economic Review: Papers & Proceedings* 98, 339-344.

Ritzer, G. (1996). *The McDonaldization of Society*. Los Angeles: Pine Forge Press.

Sabel, C.F. (1993). Studied Trust: Building New Forms of Cooperation in a Volatile Economy. In R. Swedberg (Ed.), *Explorations in Economic Sociology* (pp. 104-144). New York: Russell Sage.

Sapienza, P. (2009). Trust and Financial Markets. In D.D. Evanoff, P. Hartmann & G.G. Kaufman (Eds.), *The First Credit Market Turmoil of the 21st Century* (pp. 29-38). Singapore: World Scientific Publishing.

Schoorman, F.D., Mayer, R.C., & Davis, J.H. (2007). An Integrative Model of Organizational Trust: Past, Present, and Future. *Academy of Management Review* 32, 344-354.

Shapiro, S. (1987). The Social Control of Impersonal Trust. *American Journal of Sociology* 93, 623-658.

Shiller, R.J. (2008). *The Subprime Solution: How Today's Global Financial Criis Happened, and What to Do about It.* Princeton: Princeton University Press.

Shin, H.S. (2009). Reflections on Northern Rock: The Bank Run that Heralded the Global Financial Crisis. *Journal of Economic Perspectives* 23, 101-119.

Simmel, G. (1990 [1900]). *The Philosophy of Money.* London: Routledge.

Six, F. (2007). Building interpersonal trust within organizations: A relational signalling perspective. *Journal of Management and Governance* 11, 285-309.

Stevenson, B., & Wolfers, J. (2011). Trust in Public Institutions over the Business Cycle. *American Economic Review* 101, 281-287.

Sueddeutsche Zeitung (2010). Ministerpräsident zu BayernLB-Krise: Beckstein: Schmidt ist schuld. Available at http://www.sueddeutsche.de/bayern/ministerpraesident-zu-bayernlb-krise-beckstein-schmidt-ist-schuld-1.262200

Sydow, J. (1998). Understanding the Constitution of Interorganizational Trust. In C. Lane & R. Bachmann (Eds.), *Trust Within and Between Organizations: Conceptual Issues and Empirical Applications* (pp. 31-63). Oxford: Oxford University Press.

Sztompka, P. (1999). *Trust: A Sociological Theory.* Cambridge: Cambridge University Press.

Teubner, G. (Ed.) (1987). *The Juridification of Social Spheres.* New York: De Gruyter.

The Guardian (2013a). "Spooks: A matter of trust." Available at http://www.theguardian.com/uk/defence-and-securityblog/2013/jun/13/intelligence-gchq-communications

The Guardian (2013b). "Tesco hires farmers' voice to restore trust lost in horsemeat scandal." Available at http://www.theguardian.com/business/2013/jul/03/tesco-tom-hind-nfu-horsemeat-scandal

The Guardian (2013c). "The days of believing spy chiefs who say 'Trust us' are over." Available at http://www.theguardian.com/commentisfree/2013/nov/20/days-believing-spy-chiefs-over

The Guardian (2014a). "The Chris Christie scandal proves it: strong leaders are dangerous." Available at http://www.theguardian.com/commentisfree/2014/jan/10/chris-christie-scandal-strong-leaders-dangerous

The Guardian (2014b). "Fake-food scandal revealed as tests show third of products mislabelled." Available at http://www.theguardian.com/world/2014/feb/07/fake-food-scandal-revealed-tests-products-mislabelled

Walls, J., Pidgeon, N., Weyman, A., & Horlick-Jones, T. (2004). Critical trust: understanding lay perceptions of health and safety risk regulation. *Health, Risk & Society* 6, 133-150.

Weber, M. (1968 [1922]). *Economy and Society: An Outline of Interpretive Sociology.* New York: Bedminster.

Wicks, A.C., Moriarty, B.T. & Harris, J.D. (2014). Public trust in business: What's the problem and why does it matter? In Harris, J.D. et al. (Eds.). *Public Trust in Business* (pp. 1-16). Cambridge: Cambridge University Press.

Williamson, O. (1975). *Markets and Hierarchies*. New York: Free Press.

Williamson, O. (1993). Calculativeness, Trust, and Economic Organization. *Journal of Law and Economics* 36, 453-486.

Williamson, O. (1996). *The Mechanisms of Governance*. Oxford: Oxford University Press.