



ORIGINAL ARTICLE

How do collectives of amateurs handle complexity on financial markets when deciding? An ethnography of investment clubs

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This paper questions how investment clubs small groups of amateur investors that pool their money, handle complexity when making decisions about their joint investment portfolio. The paper argues that investment clubs have to define which understanding of the complex environment is true to establish common-ground for decision-making. Oftentimes, this is challenging because investment decisions are characterised by informational complexity, an uncertain future, and double contingency.

The article is based upon an ongoing ethnography of investment clubs in Germany starting in 2015. Thus far, nine clubs have been analysed. This paper outlines the underlying structure and operating principles of investment clubs by examining two cases in detail. Investment clubs are a revealing research object for understanding how amateurs decide under conditions of uncertainty because their situation is characterized by hyper-complexity.

After introducing the research objective and the theoretical framework, the complexity of the situation investment clubs face is described. Then, two ways of reducing complexity in negotiations about 'what is true' are traced. Some groups reduce complexity from the beginning by using techniques to uncover the true value of a stock. In these groups, negotiations are less relevant. However, for the others, negotiations are an essential part of their meetings and are used to develop a shared definition of the situation. These groups question if truth can be uncovered on financial markets. These ways of coping with complexity will be linked to organisational conditions such as organisational structure, types of members, and interaction order.

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1. Introduction

This paper makes the social production of decision-making in complex financial markets a subject of discussion and relates it to concepts of truth. Complexity is a crucial point for actors in financial markets to address because decisions about investments are based on evaluations of stocks. These challenges stem from the way in which financial markets trade promises about a future outcome (Knorr Cetina, 2010, pp. 329-331). Hence, prices reflect the valuation of others about the prospective outcome in the context of this uncertainty. Additionally, the investor aims to anticipate prices and trends faster than others to receive a high earning. In the sum, financial markets are hyper-complex (Schimank, 2010, pp. 111-112). Some investors then distinguish between prices and true values, which are thought to be underlying. True values, however, are often not uncovered in the evaluation process, which proceeds decision-making. Decisions made in this context have to be grounded in an understanding of truth, or what is the case. Therefore, financial markets are a revealing site at which to examine links between truth and complexity.

The research subject of this paper is investment clubs, or associations of amateur investors that pool their money and decide together on where to invest it. For this purpose, they have to evaluate the value of a security as the basis of their collective decision-making. Returning to hyper-complexity, this seems problematic because, as amateurs, they lack a professional education and time resources (Schimank & Stopper, 2012, p. 249). Therefore, studying how investment clubs handle complexity offers new insights to the social production of decision-making, which is the overall research subject of my study. To do this, the paper addressed the following research questions: how do investment clubs handle hyper-complexity while deciding; and how do they determine a basis for valuation?

The paper begins with a Luhmanian view on truth, which he defines as a statement of a second-order observer about a state of the world (what is the case) that can be distinguished as true or untrue. Setting aside how the selection is made, the ability to make this distinction enables communication to proceed (Luhmann, 1992, pp. 8, 175-176). I adapt this concept to analyse the generation of truth in investment clubs. I assume that statements about a state of the world are discussed in terms of their fitting to the state of the world. If they are accepted, the evaluation or decision can proceed. If not, new statements are deployed. This seems relevant for investment clubs because the creation of truth is central to their task, for their decision-making is grounded in an evaluation based on ideas of what constitutes a particular state of the world. Furthermore, I assume that this negotiation is influenced by group characteristics, such as size and membership. More precisely, I ask: what do their ways of handling of complexity reveal about ideas of truth; and what does truth mean in this hyper-complex environment? Employing ethnographic data from investment clubs, it will be shown that certain investment clubs address this challenge by decoding a “fair value” (IC_BC1) of a stock on the basis of calculation. Like professionals (Beunza & Stark, 2004), these clubs use mathematical means to determine the true value of a stock and decide on that basis if they want to invest. Until now, how amateur investors make themselves capable of deciding in hyper-complex situations has not been studied in detail; my research starts here.

The paper is structured as follows. In the next section, I will introduce the research objective and design. Then, in the third part of the paper, the theoretical framework and its assumptions are presented. The fourth section presents the findings of the two case studies, which show the way in which these groups achieve a shared understanding of truth in the situation as well as how this points to true value in financial markets. This is also linked to the organisational structure of the clubs. The paper concludes with final remarks and open questions for further consideration.

2. What is an investment club and how to study them?

Investment clubs are almost unknown as an object of research in the social science. In the Anglo-Saxon context, there are a few studies (Barber & Odean, 2000; Harrington, 2008; Bourne, 2015). Until now, they haven't been studied in Germany. It is also not clear how many investment clubs exist in Germany. This may indicate that it is a marginal phenomenon² and can be neglected. An alternative explanation may lie in the legal regulation of investment clubs; due to legal changes, investment clubs hesitate to advertise their activities. As a result, it is difficult to find a multitude of investment clubs. The legislation also narrows the field of what is considered to be an investment club.

¹ The abbreviation refers to anonymised names of investment clubs, here the club “Big Community”. The anonymization is oriented to their real-life names which refer to aspects of their identity.

² In 2017, just as an impression, nearly 10 million people were invested in stocks or funds, later-on called securities, in Germany (DAI, 2018, p. 3). Hence, participation in financial markets is less usual in Germany. The number of people who choose investment clubs as a mode to enter financial markets is thus beneath that amount but it give an insight into the upper limit. Nevertheless, the interest group for investment clubs refers to 7.000 clubs in Germany (DSW, 2018).

Nowadays, investment clubs that have less than fifty members or an investment volume beneath half a million Euros can operate without a professional executive (Bafin, 2013), where every member works on a voluntary basis. In my study, I focus on these amateur clubs and explore how they make decisions in a hyper-complex environment. The small group context offers the opportunity for study because, as opposed to individual, the process of decision-making can be observed. Furthermore, this allows for the decision-making of amateurs to be contrasted to professionals. I assume that amateurs are more severely affected by uncertainty as an aspect of hyper-complexity when compared to professionals because they have more limited time resources and less professional knowledge. In fact, most members of the observed investment clubs do not have a professional background in the investment sector. The groups meet in their leisure time, usually once a month. The executives work on a voluntary basis. Looking at their socioeconomic position, members of investment clubs are better off financially, many are female, and in contrast to my starting assumption, they have adequate time to do research because most are retired. This is paralleled by the age of the group; the majority of clubs I analysed have existed for decades, and unexpectedly, there is a low level of personnel changes in these groups overtime.

Although bound by contracts, most clubs started as a group guided by mutual trust rather than a highly organised association. Eighteen to thirty years later, the majority of clubs I observed were organised as a private corporation with defined membership obligations. That is why I conceptualise investment clubs as formal organisations (as done before by Harrington, 2008, pp. 21-22) and as small groups. In this way I am able to capture effects of organising as well as more social-psychological aspects of grouping. Furthermore, it is possible to grasp insights into the border between organisation and small group as well as to capture the structuring of a financial organisation of amateurs. Therefore, analysing investment clubs offers new insights for organisational and small group research.

It is important to describe key aspects of investment clubs. Each club has an executive board because of their legal structure. In some cases, this cannot be observed directly. In these groups, the interaction order is less regulated but accompanied by a smaller amount of people attending. Members are asked to participate actively. In these groups, usually ten to fifteen members attend the meetings. In groups where differentiation between the executive board and other members is visible, this is either because of the number of attendees or the interaction order. In the first case, just the few members of the executive board meet, and then the interaction order is similar to the groups where the executive board is less visible. In the latter case, the interaction order is strongly regulated, whereas at the same time more members attend these meetings, usually up to fifty people. The level of participation differs strongly between members.

Thus far, I have accompanied nine investment clubs in my ethnography³, which is ongoing. The field work is guided by Grounded Theory methodology. After a first exploration, the sampling started with cases which were a maximum contrast (Strauss & Corbin, 1996, pp. 148-165) in size (many/fewer attendees), language used (technical/everyday), group composition (female/mixed-gender) and differentiation (all equal/differentiated organisational parts). Now it is led by minimal contrast. Still there are some gaps in the sampling like newly-founded clubs. This is just one aspect how the field access affects sampling. Another is that the data sources and types vary between clubs, which influences the intensity of the analysis. I stayed with each club as long as in-depth insights were

³ The study was initiated through my participation in the research project “Decision-making practices of small investors – between making themselves experts and experiences of helplessness”. It was conducted at the University of Bremen between 2015 till 2018 (Schimank, Walter & Welbers, 2017; Walter & Welbers, 2017). The project was funded by the Bundesministerium für Bildung und Forschung.

being gained about how the club reaches decisions and makes rules regarding how to decide on investments (decision premises). Because of my interest in decision-making under condition of uncertainty and hyper-complexity, I returned to three clubs after the Brexit referendum. Looking back, this was a revealing time to study that because my return also coincided with the presidential election campaign in the U.S., which was important for small investors in Germany. Moreover, subsequent to Trump's election, the situation was experienced as even more highly uncertain. Nevertheless, despite some small price decreases, a significant crisis was not observed during my observation period. In sum, over a period of six to eighteen months, these natural groups were observed in fulfilling their task of investing their collectively pooled money on the financial market. In addition to forty-five participatory observation of the meetings, I conducted five group discussions and thirteen in-depth interviews with members of the investment clubs and also took part in group activities like museum visits. By using a variety of data sources, I intend to access the level of practices and study the underlying orientations and perceptions of both group members and the group as a collective.

The data is interpreted by documentary method (Bohnsack, 2010). This method distinguishes what is said from the way it is said through a sequential analysis, providing an in-depth evaluation method for interpreting data word-by-word. Through this method, the contingency of the situation in which the choice is made becomes an essential part of the analysis, ensuring that method and theory match-up. By analysing the options perceived by the groups and their selections, their collectively shared perceptions of the world and collective knowledge (Bohnsack, 2010, p. 106) become apparent. As a result, ideal types can be developed, and statements about orientations and habitus can be made. To analyse the discursive negotiation, I use the modification developed by Przyborski (2004). Correspondingly, my research aims at generalisation instead of representativeness, and I aim to analyse the cases in-depth. In this paper, I refer to two cases in particular. The presentation of the case, as well as the quote, is to illustrate (instead of proving) the meshing of structural aspects, interaction order, and perceptions of the world. Regarding limitations, I observed investment clubs in northern and western Germany for pragmatic reasons. The study would benefit from participatory observations in the south of Germany given the different socioeconomic conditions and from observations in other countries where the welfare system is organised differently⁴, like UK.

In sum, I am studying investment clubs largely because of the theoretical contributions this examination can bring. Investigating investment clubs enables me to study all aspects of the decision-making process, like the establishment of a shared definition of the situation as the basis of deciding, the evaluation practises that precede the decision as well as the evolution of decision premises to ease deciding in future. Even though investment club member may fall back on their organisational structure like professionals do, they are still engaged with their own financial reserve, which is an essential aspect of financial decisions made in a hyper-complex environment. Furthermore, as amateur investors, these groups find ways to discern true value in the absence of professional education. Hence, I assume that for these amateur investors it is much more crucial to create an idea of truth before deciding.

3. In which way are financial markets complex and what is truth?

Retail investors face a complex financial market as a frame condition for their decision-making. This complexity can be differentiated in three dimensions. On the material dimension, investors can

⁴ As Harrington (2008, pp. 19, 180-182) had shown for the U.S., inter alia, the organisation of the retirement provision influence the appeal of investment clubs, thereby membership and decision-making, because additional income can be generated there.

consider a variety of information and face multiple options. Additionally, the financial products themselves are complex. Given the fact of an unknown future and time pressure to process this information faster than others, complexity occurs on the time dimension. This is especially challenging considering the social dimension. In comparison to situations characterized by double contingency⁵, financial markets are dominated by triadic reflexive constellations; everybody observes the other investors while being observed (Schimank, 2011, p. 114). Whereas alter and ego observe each other to anticipate their next decisions, tertius, as a third observer, observes them to and tries to anticipate their expectations about the fair price of a share to sell or buy earlier. This social production of financial markets is also reflected in the price formation. Share prices are the result of the buying and selling of other actors. As a consequence, the development of financial markets is unpredictable. This leads to uncertainty which can result in feelings of helplessness (Schimank, 2011), especially for retail investors. Correspondingly, a concept like truth does not seem suitable to analyse decision-making on financial markets, because of a constantly changing foundation of decision-making as a process. Nevertheless on the individual level, it is necessary to develop an idea about a true or fair value⁶ of a security that can be compared with the current price of it to decide about an investment. The initial problem for investors is that for a hyper-complex surrounding it is problematic to discover the true value of a security, especially for amateurs. Investment clubs may solve this problem via mutual encouragement (Schimank & Stopper, 2012, p. 253).

The next step is to clarify what truth implies in this paper and how it can be linked to collective decision-making. Luhmann understands truth as a generalised symbolic media in the science system where it enables the acceptance of new knowledge produced by scientific methods and theories. It is produced by an observer who observes an observation. By this, the interest changes from what is the case to in which way does the observer observe (Baraldi et al., 1997, p. 102). These statements about a state of the world can then be divided in true/untrue. In doing so, complexity can be reduced and then further heightened by following statements. Truth enables communication and facilitates continuity (Luhmann, 1971). As a system, science responds to its own operations, and it observes its environment instead of coming into contact with it. Therefore, phenomena only exist when a system has a term for it and can communicate about it. In this way observations depend on the construction of things in science, instead of their correspondence with an external reality (Baraldi et al., 1997, pp. 100-103; Moeller, 2012, p. 49). Consequently, to understand Luhmann's concept of truth, it is necessary to discuss Luhmann's conception of reality. Reality is each society's "own achievement" when society is understood as a system, and it is produced by communicative distinctions (Moeller, 2012, p. 80). "Real is what the society regards as real because and to the extent that society talks about" (Paul, 2001, p. 377). At this point, the common root of social constructivist approaches and Luhmann's systems theory in Husserl's phenomenology manifest itself (Schützeichel, 2008, pp. 177-178; Nassehi, 2008, p. 169). Whereas other scholars are more interested in the process of construction of reality itself (Berger & Luckmann 1967), Luhmann focusses on its effects. "Melting polar icecaps would not be a problem if people didn't talk about them" (Paul, 2001, p. 377). In this respect, Luhmann's system theory can be linked to a phenomenological understanding of the construction of reality (Paul, 2001, pp. 376-377). It is also possible to think about multiple realities if "reality emerges

⁵ How is social order possible? For Luhmann, the answer is *double contingency*. It refers to a dyadic constellation of (social or psychic) systems. *Ego* observes (a conscious) *alter* and creates, thus, an *alter ego* that has expectations about egos behaviour. By taking any possible behaviour of their alter ego into account, complexity on the social dimension raises (Baraldi, Corsi & Esposito, 1997, pp. 37-39). Because this can lead to exhaustion while facing an overwhelming number of options, their expectations, e.g. formed by norms, reduce complexity at the same time.

⁶ Words presented in italic indicate wordings from the field or emphases.

as an effect of contingent modes of cognitive observation” (Moeller, 2012, p. 83). In other words, there is no observer who knows the truth, because each observer has a blind spot – something that she or he doesn’t see because of his or her position. However, this blind spot is not arbitrary; reality works as a filter to dismiss wrong hypotheses (Baraldi et al., 1997, pp. 102-103).

Luhmann’s concept of truth required adaptation in order to be used in the context of truth production in investment clubs. Investment clubs as economic organisations operate within the economic system. Payments are their primary focus when deciding but within a hyper-complex surrounding a profitable investment cannot be assured. To simplify amid this complexity, investment clubs produce truth as social systems to facilitate decision-making. How do they achieve this? From the perspective of a first order observer, all knowledge seems to be true. Therefore, only a second-order observer can distinguish knowledge and truth (Luhmann, 1992, p. 167). Each member of the investment club may consider his or her knowledge as truth, but the group as a supervisory body distinguishes between true and untrue statements during negotiations. In this way, clubs can create their own reality and hence their own truth. As a result, the ‘production’ of truth and payments are linked. Here, I hypothesize that clubs are able to decide about an investment after distinguishing between observations as true/untrue. Second, even if “illusions of reality” (Paul, 2001, p. 377) are created⁷, for the social system, the connectivity created by agreeing on what is true, matters.

Moreover, I draw a line from Luhmann to the Thomas’ theorem⁸ to combine the idea of selections based on recognition (Baraldi, Corsi & Esposito, 1997, p. 205) with one of a collective development of a shared definition of the situation⁹ (Martens, 2013). I hypothesize that while the group argues about the value of a security and the appraisal of recent developments (defines the situation), the organisation as a system produces its truth. I assume that the means to meet the challenge of handling complexity differ between investment clubs as organisations. Assumptions of how the stock market works should be more similar within a club than between them because „[n]o system could tolerate constant deviation unless, in fact, it was not a system at all“ (Paul, 2001, p. 385).

4. Producing truth or a shared definition of the situation on complex financial markets?

In this section, I will outline how investment clubs deal with the complexity of financial markets. I begin with ideas concerning general principles of financial markets I found in all investment clubs and then show how a shared definition of the situation can be achieved.

4.1 Preliminary remarks

By discussing ideas, I found in each of the clubs I analysed, insights into the basic conditions in the field, that influence the ‘production of truth’, can be gained.

⁷ Here it should be annotated that the researcher, as someone who observes this, can claim that the knowledge club members refer to is untrue. Scientific analysis shouldn’t stop at this point. It can be revealing how others connect to (untrue) knowledge. Beyond that, the evaluation standard of a scientific observer is normally product rationality that can only be defined afterwards. It may be more fruitful to use the concept of process rationality to analyse decision-making in a hyper-complex surrounding (Harrington, 2008, p. 194). In this sense, searching for truth may therefore be understood as heightening procedural rationality.

⁸ “If men define situations as real, they are real in their consequences.” (Thomas & Thomas, 1928, p. 572)

⁹ It may seem useful to apply to concepts of the definition of the situation widely used in rational choice theories. This does not seem appropriate because collective sense-making is understood there as the sum of individual actions (Greve, 2006, pp. 28-29).

To make decisions investment clubs have to solve major problem. As collectives of amateurs, investment clubs have limited time resources to decide because of the frequency and duration of their meetings. One club refers to it mentioning that “As an investment club we are a tanker. We move really slowly” (IC_RI). This lack of time is reflected in certain approaches.

All analysed investment clubs aim to professionalise their members by producing and passing on collective knowledge. Devices like heuristics that are typically used by individual retail investors to speed up decision-making (Walter & Welbers, 2017), are used in investment clubs to heighten procedural rationality by bringing the complexity of the decision-making situation into members minds. They are, besides other tools, also used to increase discipline. Members get in touch with group norms. They learn how to act during meetings and how to scrutinise information. When applied to truth, a ‘scientific’ member is formed in the process. This is necessary for the organisation to function because of time constrains. On the organisational level, I find programs, like decision-making premises, that try to speed up the decision-making process. This is accompanied on the small group level by a long-term orientation, which was emphasized by each analysed club. By this, recurring conflicts about decisions already made are avoided. As a result there is more time to analyse and discuss the value of a security.

I also found the idea of play-money, or money that one willingly accepts losing, to be common across investment clubs. During an observation in the club “Adventurer” a member recounts that during their very first meeting the director of the club threw money in the bin. In so doing, the chair framed the invested money as lost money. This framing is a cornerstone of reducing complexity in investment clubs. It facilitates a long-term orientation that is necessary to wait for the happy ending (Harrington, 2008, p. 70) in future. Moreover, it enables fading out uncertainty about the future because it extends the time horizon.

4.2 Ways how to achieve a shared definitions of the situation

In this sub-section, I show how investment clubs jointly produce truth via establishing a shared definition of what is the case. For this purpose, I present two case-studies that represent two distinct types identified. At first, the level of interaction is considered; later, organisational aspects are also considered to portray the functioning of the types. I accompanied both clubs for nearly eighteen months. Both gave me full access to their activities and allowed me to type-record their meetings.

4.2.1. Cultivators

I will retrace the handling of complexity and the production of truth by referring to a transcript of a club meeting. In the section transcribed below, the new topic, BYD – a manufacturer of electronic cars, is introduced.

Investment club “Cooperative”

Lawyer: Byd?

Co- Yeah, well, we-
Chair

Lawyer: ((laughing))¹⁰ invested since a while. I already stocked up. ((laughs)). Well

¹⁰ Paralinguistic signals are displayed ((this way)). An “=” indicates an immediate start or end of the speech act. Capitalised words are spoken out in a stressed way.

Chair: =Byd, Chinese Tesla, to pull it forward. It's Chinese Tesla. Tesla wastes a lot of money – We jump a bit in the securities account-

Co- =Nevertheless wicked ((laughing))

Chair:

Chair: Endless money, well, but earns nothing. Well BYD is the opposite. More clients, more earnings. Well I knew you would ask me, that is why I contrasted both shares.

Lawyer: Who is who?

Chair: Tesla is the blue one. Look. If you elongate it at a longer period of time, you see the increase of Tesla. You also see how conservative Byd actually is. And if you switch to a shorter period, you see it changing. Then Tesla is down and Byd is up. Well consequently ((short break)) Byd is known? Build your dreams is the translated name of the company. A Chinese manufacturer of e-cars and so on. That's a nice idea if you want to go in e-cars without buying Tesla. At least a bit of dividend.

Lawyer: They do a lot of stuff. They're also busy in Australia. They're doing different stuff, also railway systems. But cars is China, that's- with that increase of mobility and pollution, that's a huge topic there.

Chair: Absolutely.

Lawyer: A HUGE topic! And they spread it into the world, you have to notice that!

Chair: It would bring cars, e-tech and trends together. I'm not that informed about it but you two ((points to co-chair and lawyer)), you nudged me and I saw it last weeks.

Board: The Chinese?

Chair: Yes. I know to don't like- ((laughs))

This passage is instructive because the interaction order, the social dimension, is less regulated compared to other clubs. This is indicated by the introduction of a new topic by a 'normal' member, which is an exception in my analysis. Usually, investment club executives, chairs and co-chairs, introduce a new topic and in the course of the negotiation, they interact with each other, which enable (with varying intensity between the types) a somewhat controlled framing of the discussion (a mechanism described before by Mills, 1969).

On the material dimension, the chair and another member offer information. In so doing, they draw attention to certain aspects of the stock. It appears as a diversified enterprise that works in a promising segment. BYD's story is also connected to Tesla's known success story. This highlights stories as another way to develop a shared definition of the situation. By referring to trends and narratives of progress like the mentioned story about e-cars, stories reduce the (perceived) future uncertainty. Future uncertainty as an aspect of temporal complexity is positively connected here. On the material level, they are used as glue to bring sense into pieces of information (Harrington, 2008, p. 48-60), even though they are contradictory. They do so by forcing the attendants to argue about the value of certain information and how they fit into the evolving picture. Also, the reference to

charts¹¹, which is a common evaluation type, enables a homogenisation of interpretations. The chair establishes an understanding of which security is overvalued or undervalued by addressing the optic nerve of the attendees. In the sum, complexity is reduced after being heightened at the beginning. The definition of the situation never seems ambiguous. This can be linked to production of truth. During the presentation the share is checked from various perspectives and (at first) there is no resistance. BYD looks like a promising and solid investment. This is also caused by the interaction order; it looks like the lawyer and the chair play ping-pong in three moves, completed by a final, positive conclusion. The evaluation setting doesn't look complex, contradictory aspects are missing. Nevertheless, uncertainty appears when the chair refers to possible ambiguous interpretation of the charts depending upon the presented timeline. By offering information and interpretations to the attendants, both members lay the foundation for the development of a shared definition of the underlying, true value of the security.

One can also spot the biggest challenge in developing a shared definition of a situation – contradicting world views like the board-member who denies in investing in China in general. Though interestingly, he does not question the evolving evaluation. In the proceeding negotiation, the group is not able to convince him argumentatively to invest in BYD. Hence, the group bargains, and the board member then agrees to the investment. Making concessions is therefore an important solution when a conflict occurs. Accordingly, evaluation and decision-making go hand-in-hand, and the negotiation is an essential part of the process for some groups.

Even though any information, for a second order observer, seems to be recognized within the evaluation process, groups that belong to this kind of investment club further enrich the information base and stress at the end that the future is uncertain. Therefore, I call them cultivators. The heightening of complexity at the beginning is used to develop a shared definition of the situation and increase procedural rationality. Nevertheless, on the club level, members do not believe that there is one right answer because of future uncertainty, as illustrated in this short quote: “You never know what will happen or what the other shares do.” (Treasurer of “Adventurer”). Forecasting isn't possible on financial markets. This indicates that nobody knows. Hence, truth cannot be known. Notwithstanding, they scrutinize available information, and in so doing, the situation. In this way, they work like scientists. This scrutinising is reflected in extensive negotiations in these groups. In parallel, these groups aim to decide consensually, which is why it is important to create a shared definition of the situation.

This way of evaluation and deciding is also bound to certain organisational characteristics. Fewer people attend the meetings of clubs in which the interaction order is less regulated. Clubs allocated to this ideal-type exclude certain groups, formally or informally. As a result, members are similar to each other concerning their socio-economic statuses, habitus and orientations. Beneath the selection at the entry, there is a selection over time. This also creates a sheltered space for group members (Meuser, 2001) to address uncertainty. For these groups, negotiating intensely the definition of the situation, and by this other possible interpretations, is necessary to decide in a hyper-complex environment. Besides membership and group size, clubs of this type have a relatively flat or equal social structure. Every member is expected to participate actively; hence, the clubs aren't highly differentiated.

¹¹ Charts are visual objectifications of the price trend in the past.

4.2.2. Accelerators

For sociologists, comparison is one major component of analysis in order to illuminate differences. Hence, I introduce another way that investment clubs solve the problem of generating truth in financial markets. Again I start with a quote:

Investment club “Big Community”

Chair: That led to a dramatic collapse of prices for DeVry that seems hmhm well a bit overstated. Ahem meanwhile also calculational overstated. Well one could say it will get worse, but you see that the share price almost halved. [...] and if you remember, the business works in the US and also in Brazil, just the numbers weren't that good because of currency translations. And therefore the question is if DeVry is a bargain. Ahem there hangs the proposal in the air to re-enter there. The question is, straightaway, with stop-buy or not. Opinions?

((4 seconds pause))

Board 1: hmhm hmhm

Member 1: Probably rather by stop-buy I would say

Chair: ((3 seconds pause)) It depends always on what you want to show. If one want to say, it is time to take the chance one will show the five-day-chart. ((most laugh)) If one says it is a good opportunity to buy anticyclical a cheap share, one shows the five-years-chart.

In this case, the chair introduced the new topic, DeVry – a for-profit educational institute. Like in the first passage, the chair offered information about the stock to the attendees. In so doing, he laid the groundwork for the development of a shared definition of the situation. This description led him to problems of the above-mentioned company that he evaluated as less important by referring to calculations. At the end, he asks the attendees if the share is a bargain. The attendees respond with silence. After a while, Member 1 dares to have a hesitant opinion, shown by using three conditional wordings. In the last part of the quote, it becomes apparent how the chair guides the audience and lays the foundation for a definition for the situation. He lays bare that charts are a visual technique where the designated range depends on the objective one seeks to achieve. This note may seem risky in a club that believes in models. This reading underestimates the influence of world views. The club “Big Community” believes in the impact of real economy indicators, the fundamental value, on the pricing of a share. Charts are only used for the timing of buying and selling. By unveiling this constructiveness he delegitimises another world view, reinforces the adequacy of the chosen means and pursues grouping. Beyond that, both readings confirm his proposal.

Already this short sketch illustrates another effect of interaction order. As demonstrated in this passage, conversations in investment clubs where the interaction order is more regulated centre much more on the chair. The chair normally adds the most information to the evaluation and is rarely interrupted. The evaluation process itself is, above all, a mathematical one where they try to find the fair value of a share. This reference to the fair or true value points to the idea that the market reveals truth because pricing reflects estimations of investors (Foucault, 2006, pp. 52-55), which is a typical orientation of professionals. This orientation mirrors the background of some of the club's members. In contrast to the cultivator groups, they operate on the assumption that truth can be revealed. In investment clubs with more regulated interaction orders, mathematical models are meant to incorporate relevant aspects of evaluation, and hence, are thought to pictures the world

correctly, thereby laying the foundation for decision-making. Therefore, the model can be understood as a functional equivalent to the development of a shared definition of the situation by negotiation. While both clubs refer to charts as a means to reduce complexity on the material level, here, complexity is not heightened by enriching the discussion with information. Although social and temporal complexity isn't obvious in the transcript above, the hesitancy of the member and their silence may suggest that the decision isn't determined. This suggests that perceiving a situation as complex may also be accompanied by certain ideas about the possibility to reveal truth.

Some of these assumptions can be explained by referring to organisational structures of this club. These groups are more often organisationally differentiated. The increasing differentiation of the social system in turn enables an increase of its complexity (Paul, 2001). Through a differentiation of membership in normal and investment committee members, it is possible to include more members. In these clubs up to fifty people attend. The case indicates that then it is also possible to include more heterogeneous members. In other words, group size and systems differentiation may be connected. Both also influence the interaction order. Usually the board members and especially the chairs inform the members about a security, and interactions are guided by this framing. Normal members participate less actively. This strictly regulated interaction order is functional for these clubs, because too much diverging information, as well as increased awareness of future uncertainty as an aspect of hyper-complexity, can hamper collective decision-making. All these factors shape the process of decision-making, based on the definition of the situation and its evaluation. The overall-goal is then to enable swift decision-making, which is facilitated by formula-based calculations and decision premises. The process is oriented to reduce complexity from the beginning; therefore, I refer to these groups as accelerators. In these groups, it is less likely that the situation is perceived as complex.

In the sum, both kinds of clubs are trying to enhance different aspects of the handling of complexity. Whereas cultivator-groups focus on a good opening, enriching the evaluation process with diverse information, other groups focus on a good closing (Klapp, 1978, pp. 154-167), an early reduction of complexity by relying on mathematical reductions and a fast decision-making.

As already shown for the cultivators, there are certain disadvantages that go along with such a way of organising decision-making. Already in the above-mentioned quote, leeway for interpretations is looming, but they do not become apparent due to steering. The situation may seem complex, but the complexity is then reduced.

Now I want to introduce another quote where irritations in developing a shared definition of the situation come to light:

Investment club “Big Community”

Math: I think, well ((3 seconds pause)) I recognise I'm isolated. It would be of any use at all.

Chair: Who thinks that all future short positions¹² should be sold?

Board 2: You [Math] suggest, selling everything? You want to close everything?

¹² A future is a binding obligation to buy or sell a financial instrument at a specific time. It can be used to speculate or to secure investments.

Math: Yes, nearly everything. I would calculate what did I earn? ((someone laughs)) [...] Because at the end it will end like every time. Everything that goes down will increase again. Most of the time we haven't benefited from securing tools.

Chair: I think that's WRONG! This approach is wrong!

Board 3: Can I say something? I think we have a different meaning of hedging, what it yields for and what it shall cost. When we don't have the same understanding of it that leads to fundamental debates again and again. We have to reach an agreement, really!

Math: Well, it isn't correct saying that I have a wrong understanding.

Board 3: No I haven't-

Chair: Yes I do!

Math: When someone says I have a wrong understanding, then I am wrong here. I know what hedging is. I don't want to hold up someone. I am quiet now and things are done.

Chair: ((3 seconds pause)) Well yes, we stick with our strategy.

This quote is taken from a meeting of the investment committee of the case "Big Community". A dispute between the chair and a board member, Math, arises about how to determine the point of selling. Previously, Math asked for the purchase price. At first, the chair answered that this isn't calculable, hence, on the material level, complex. Then, he denied that it is important for the decision-making. At this point, the discussion was heated, and a lot of other issues manifest, like the level of engagement of board members (social complexity) and, in a sub-clause, future uncertainty. So it was indeed complex. The above-mentioned quote now gives insights why complexity could not be reduced. Besides illustrating the relationship between the definition of the situation and perceived options, this quote points to the interrelation of world-views that influence the definition of the situation, and concept of truth as well. Both members refer to different theories how financial instruments should be used. Whereas the chair sees futures as a means to hedge risks, Math aims to earn money with futures. An analogy can be drawn to scientific disputes about whether or not a theory mirrors a state of the world adequately. This negotiation seems to pop up repeatedly. That is why Board 3 pleads for solving this dispute to ease decision-making. Both parties ignore it. On the contrary, the conflict intensifies. This can be explained referring to conflict theory, where separable and impartible conflicts are distinguished (Thiel, 2003, pp. 18-22). Whereas the conflict in the club "Cooperative" turned out to be a separable conflict, the conflict above-mentioned seems to be linked to orientations and identities which hampers its resolution. Another explanation may lie in the interaction order, which is not designed in this club to facilitate the interaction. The presence of opposition, which is more probable in a hyper-complex environment, is not handled valuing; hence, the development of a shared definition of the situation seems to be more stressful for some groups than for others. Most irritating is the tone of this conversation; disputes rarely break out to this level of intensity. More often, conflicts pop up with a sense of humour. This can be explained by an interest in continuing cooperation. This may also explain the longevity of the analysed clubs; they managed to work through such disputes and have survived. This may also explain the found homogeneity between members, as disputes about differing world views may either be resolved, or solve themselves by members dropping out.

5. How small groups handle truth while decision-making on complex financial markets

In this paper, the production of truth on hyper-complex financial markets has been explored. This has been done by employing ethnographic data from investment clubs in Germany. The argument is based on the comparison of two, ideal-type case studies that were then extended to other analysed cases. One group of clubs can be described as accelerators. These clubs try to speed up decision-making and therefore to reduce complexity from the beginning. This is mirrored in their organisational structure; the organisation is differentiated and members have different position within the investment club. I hypothesize that this enables membership from more diverse personal backgrounds. The interaction order is strictly regulated. Members of the investment committee board, especially the executives, talk more often. Typically, the chair guides the conversation. Temporal complexity sometimes becomes apparent in the form of future uncertainty. On the material level, information is discussed, but in a structured manner. Accelerator groups share an idea of an underlying true or fair value of a security. The fact that financial markets can be perceived as hyper-complex does not seem to impact their decision-making. Complexity can always be. Conflicts occur how to define a situation. Negotiations on how contradictory ideas can be handled are not well tested.

Alternatively, the other group of investment clubs can be described as cultivators. At the beginning of a negotiation they heighten complexity on the material level by adding more and more information to enrich the evaluation of a situation and a security. In the paper, I hypothesised that this relies on member that are more similar to each other referring to their orientations and habitus. The situation and information are scrutinized but in a smaller group than the accelerators. Otherwise making a decision would be too complex, especially because they are oriented towards consensual deciding that is grounded in a shared definition of the situation. This ideal of community is mirrored in an organisational structure oriented towards equality; every member has to participate actively. Their reference to future uncertainty while deciding is essential for this type; “You cannot predict.” (Investment club “Adventurer”). Consequently, they do not believe that they can uncover a true value of a security. Especially in contrast to accelerator groups, this seems to be linked to an understanding of financial markets as hyper-complex. But while arguing about a shared definition of the situation they examine the situation in-depth. In this way it is possible to link their approach to a scientific approach.

The attempt to adapt Luhmann’s concept of truth to decision-making of small groups on complex financial markets lead to insights how the group context influences the production of truth or more exactly the development of a shared definition of the situation. Notwithstanding such adaptations are limited. Especially tracing the production of truth on the organisational level is difficult. Luhmann’s concept was rather thought as a theoretical framework than an analytical tool to trace its production in small groups. Whether the approach to combine his framework with the concept of a definition of the situation is smart or not has to be discussed elsewhere. Nevertheless it was analytically useful to differentiate between the small group that creates their shared definition of a situation and the organisation investment club that can produce (their) truth (or not). For future research it would be interesting to analyse the phenomenon with Weick’s concept of sense-making.

Similar orientations, like the mention of play money, and the influence of legal regulation point to the relative importance of basic conditions for all investment clubs I analysed. In this way, investment clubs work as a basic unit of analysis for studying effects of the environment on (amateur) organisation. This can be studied by comparing investment clubs with each other but also with organisations of professional investors. This could be even more instructive when focussing on

processes within organisations. Referring to the communities of practice-approach, it would be interesting if and how the production and the transfer of knowledge differ between organisations of amateurs and professionals. Contrasting decision-making in organisations of amateurs with decision-making within professional organisations on the financial market is also outstanding. This could sharpen theoretical assumptions of the role of organisations, e.g., for the production and the transfer of knowledge within organisation as well as for decision-making.

In this paper, I focused on two case studies. Although this might not show the rich database of my research this approach demonstrate the varying influences of certain group characteristics on the development of a shared definition of a situation. The meshing of these aspects should be further examined elsewhere. How groups work together is influenced by their members' background, the size of the group and the differentiation of the organisation that points to hierarchies in groups.

Even though my interpretation might be read as a value judgement, it just takes note of different ways in handling complexity and inclusion in the decision-making process. All executives and most members of the observed clubs are satisfied with their group structure. Both ways represent different organisational aims that are reflected in different organisational structures; hence both ways seem to be functional for the group. If the aim is to include many different people to the financial market, then a more restricted interaction order that is reflected in a more hierarchical group structure is functional. If the aim is to achieve an active membership and processes of making themselves experts, it is functional to establish a context where participation and interchange is eased although this extends the decision-making process. Therefore, good closing and good opening refer to different organisational aims and handlings of complexity, as well as styles of engagement. Looking at the overarching topic of this journal, members of cultivator-groups seem to develop a greater consciousness of the uncertainties that accompany complexity. They question more often if the truth can be known. That influences their definitions of the situation and statements about truth in financial markets. In this sense, they become more aware of the space of non-knowledge, or of what they do not know.

Most surprising for me, as an economic sociologist that address the production of truth while working on this paper, was the possible analogy between the ideal types to the position of truth as a concept in science. Although there is a shift, accelerators seem to resemble a classical understanding of truth; there is truth and it can be uncovered. I also see an analogy from cultivators to an understanding of truth in cultural studies (Singer 2005) or some areas of social science; no singular truth can be uncovered, but methods enable a negative reduction of untrue statements. It remains unknown if this analogy can also be extended to other characteristics.

References

- Barber, B. M., & Odean, T. (2000). Too Many Cooks Spoil the Profits: Investment Club Performance. *Financial Analysts Journal*, 56(1), 17–25.
- Baraldi, C., Corsi, G., & Esposito, E. (1997). *GLU: Glossar zu Niklas Luhmanns Theorie sozialer Systeme* [Glossary to Niklas Luhmanns Theory of Social Systems]. Frankfurt am Main: Suhrkamp.
- Berger, P.L., & Luckmann, T. (1967). *The social construction of reality. A treatise in the sociology of knowledge*. London: Penguin Press.

- Beunza, D., & Stark, D. (2004). Tools of the trade: the socio-technology of arbitrage in a Wall Street trading room. *Industrial and Corporate Change* 13(2), 369–400.
- Bohnsack, R. (2010). Documentary Method and Group Discussions. In R. Bohnsack, N. Pfaff & W. Weller (Eds.), *Qualitative Analysis and Documentary Method in International Educational Research* (p. 99–124). Opladen: Budrich.
- Bourne, C. D. (2015). Sense-Making in an online community after financial loss: Enterprising Jamaican investors and the fall of a financial messiah. *New Media & Society*, 19(6), 843–860. <https://doi.org/10.1177/1461444815621511>
- Bundesanstalt für Finanzdienstleistungsaufsicht (Bafin). (2013). Merkblatt Investmentclubs: Merkblatt - Hinweise zur finanzaufsichtsrechtlichen Erlaubnispflicht von Investmentclubs und ihrer Geschäftsführer [Leaflet investment clubs. Notes about prudential financial requirements of investment clubs and their directors]. Retrieved from https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Merkblatt/mb_110609_investmentclubs.html
- Deutsche Schutzvereinigung für Wertpapierbesitzer (DSW). (2018). Investmentclubs: Eine Idee geht um die Welt [Investment clubs] [Website]. Retrieved from <https://www.dsw-info.de/services/investmentclubs/>
- Fey, G., & Hohlmeier, M. (2018). AKTIONÄRSZAHLEN DES DEUTSCHEN AKTIENINSTITUTS 2017: ANZAHL DER AKTIENBESITZER IN DEUTSCHLAND STEIGT DEUTLICH AUF ÜBER 10 MILLIONEN [Statistics of shareholders from the Deutsches Aktieninstitut 2017]. Retrieved from https://www.dai.de/files/dai_usercontent/dokumente/studien/2018-02-19%20Aktieninstitut%20Aktionaerszahlen%202017%20Web.pdf
- Foucault, Michel (2006): Die Geburt der Biopolitik [Naissance of bio-politic]. In: M. Sennelart & j. Schröder (ed.): *Geschichte der Gouvernementalität II. Vorlesung am Collège de France 1978 - 1979*. Frankfurt a. M.: Suhrkamp.
- Greve, J. (2006). Logik der Situation, Definition der Situation, framing und Logik der Aggregation bei Esser und Luhmann [Logic of situation, definition of the situation, framing and logic of aggregation in Esser and Luhmanns works]. In R. Greshoff & U. Schimank (Eds.), *Integrative Sozialtheorie? - Esser - Luhmann - Weber* (pp. 13–38). Wiesbaden: Springer VS.ma
- Harrington, B. (2008). *Pop Finance: Investment Clubs and the New Investor Populism*. Princeton, NJ: Princeton University Press.
- Klapp, O. E. (1978). *Opening and closing: Strategies of information adaption in society*. Cambridge: Cambridge Univ. Press.
- Knorr Cetina, K. (2010). What is a Financial Market? In J. Beckert & C. Deutschmann (Eds.), *Wirtschaftssoziologie [Special Issue]*. *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 49, 326–343. Opladen: Westdt. Verl.

- Luhmann, N. (1971). Wahrheit als Kommunikationsmedium [Truth as a medium of communication]. In J. Habermas & N. Luhmann (Eds.), *Theorie der Gesellschaft oder Sozialtechnologie - Was leistet die Systemforschung?* (pp. 342–360). Frankfurt am Main: Suhrkamp.
- Luhmann, N. (1992). *Die Wissenschaft der Gesellschaft [Science of society]*. Frankfurt a. M.: Suhrkamp.
- Martens, W. (2013). Kollektive Intention und Definition der Situation [Collective intention and definition of the situation]. In A. Ziemann (Eds.), *Offene Ordnung? Philosophie und Soziologie der Situation* (pp. 183–207). Wiesbaden: Springer VS.
- Meuser, M. (2001). Männerwelten: Zur kollektiven Konstruktion hegemonialer Männlichkeit [Worlds of men. About the collective construction of hegemonic masculinity] [Working paper]. Retrieved from https://www.uni-due.de/imperia/md/content/ekfg/michael_meuser_maennerwelten.pdf
- Mills, T. M. (1967). *Sociology of small groups*. Englewood Cliffs, New Jersey: Prentice Hall Inc.
- Möller, H.-G. (2012). *The Radical Luhmann*. New York, NY: Columbia Univ. Press.
- Nassehi, A. (2008). Phänomenologie und Systemtheorie [Phenomenology and systems theory]. In J. Raab, J. Dreher, M. Pfadenhauer, B. Schnettler, & P. Stegmaier (Eds.), *Phänomenologie und Soziologie: Theoretische Positionen, aktuelle Problemfelder und empirische Umsetzungen* (pp. 163–173). Wiesbaden: Springer VS.
- Paul, A. T. (2001). Organizing Husserl: On the Phenomenological Foundation of Luhmann's Systems Theory. *Journal of Classical Sociology*, 1(3), 371–394.
- Przyborski, A. (2004). *Gesprächsanalyse und dokumentarische Methode: Qualitative Auswertung von Gesprächen, Gruppendiskussionen und anderen Diskursen [Conversation analysis and documentary method. Qualitative analysis of conversations, group discussions and other discourses]*. Wiesbaden: Springer Fachmedien.
- Schimank, U. (2010). Against all odds: The 'loyalty' of small investors. *Socio-Economic Review*, 9(1), 107–135. <https://doi.org/10.1093/ser/mwq023>
- Schimank, U. (2011). Die „Hyperkomplexität“ des Finanzmarkts und die Hilflosigkeit der Kleinanleger [The hyper-complexity of the financial market and the helplessness of small investors]. *Leviathan*, 39(4), 499–517.
- Schimank, U., & Stopper, S. (2012). Kleinanleger auf dem Finanzmarkt: Praktiken der Hilflosigkeitsabsorption [Small investors on the financial market: Practices of helplessness absorption]. In K. Kraemer & S. Nessel (Eds.), *Entfesselte Finanzmärkte: Soziologische Analysen des modernen Kapitalismus* (pp. 243–261). Frankfurt a. M.: Campus.

- Schützeichel, R. (2008). Transzendente, mundane und operative (systemtheoretische) Phänomenologie [Transcendental, mundane and operative (systems theoretical) phenomenology]. In J. Raab, J. Dreher, M. Pfadenhauer, B. Schnettler, & P. Stegmaier (Eds.), *Phänomenologie und Soziologie: Theoretische Positionen, aktuelle Problemfelder und empirische Umsetzungen (175-183)*. Wiesbaden: Springer VS.
- Singer, M. (2005). *Geteilte Wahrheit: Feministische Epistemologie, Wissenssoziologie und cultural studies [Divided truth. Feminist epistemology, sociology of knowledge and cultural studies]*. Wien: Löcker.
- Strauss, A. L., & Corbin, J. M. (1996). *Grounded Theory: Grundlagen qualitativer Sozialforschung [Grounded Theory. Basics in qualitative research]*. Weinheim: Beltz
- Thiel, A. (2003). *Soziale Konflikte [Social conflicts]*. Bielefeld: transcript.
- Thomas, W. I., & Thomas, D. (1928). *The Child in America: Behavior Problems and Programs*. New York: Knopf.