DOCTORATE in BUSINESS ADMINISTRATION

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WHAT MATTERS TO INVESTMENT PROFESSIONALS IN DECISION MAKING?
THE ROLE OF SOFT FACTORS IN STOCK SELECTION

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Abstract

Much effort has been devoted by both academics and practitioners to understanding which factors drive share prices. Nevertheless, there are still sharp moves in stock markets that are difficult to explain. Obviously, factors that are hard or impossible to measure and subject to interpretation, are relevant for moving share prices, as well. However, there seems to be little research on how important these so-called soft factors actually are for investment professionals in their decision-making process. Likewise, there is fairly little empirical knowledge on which of them are deemed most important. The data assessed for this thesis are based on a survey among investment professionals and hence contribute to the limited body of literature drawing on empirical polls. The survey data analysis shows that soft factors are contributing nearly 50% to the decision making of an investment professional. There are some indications that this proportion is understated. As suspected, the actual decision making by investment professionals is not consistent with the efficient market hypothesis, but we find some support that sensemaking plays a role. Though the description used for soft factors in the thesis is accepted by the survey participants, the lack of a standard definition poses an issue. Soft factors that stand out as particular important according to the survey are conviction and reputation. The latter is clearly driven by management quality and strategy. Another aspect that emerged as an important factor is the business model. Though rather seen as a hard factor, it seems to include a considerable soft component. We also note the role that trust is playing in the actual decision making of market participants. On the other hand, environmental or social aspects are seen as hardly relevant by survey participants and as not helpful in mitigating risk. Corporate governance only matters in its most "capitalistic" interpretation to the investment professionals. On the face of it, the survey data would suggest a mostly rational approach to decision making. However, there are a number of findings that raise doubts about this conclusion.

Keywords: soft factors, share price, decision making, investment professionals, psychological aspects, non-financial information, reputation, corporate culture

1 Preface

2016 was a great example of how volatile capital markets are and that even making the right predictions about the outcome of a situation, in this case the Brexit referendum and the US presidential elections, would have been by no means a guarantee to be able to predict the market reaction correctly. The omnipresence of news on stock markets, and the fact that a good part of global wealth is tied up in stock markets, probably explains why so much effort is devoted to understanding which factors drive share prices and why so many attempts are made to find out where they move next. Nevertheless, there are still sharp moves in stock markets that are difficult to explain. This holds true for (regional) markets as a whole, but also for single shares.

Big strides were made to explain market situations where the neoclassic economic theory failed by borrowing from psychology. Behavioural economics sheds light for example on attitude towards risk (Kahneman & Tversky, 1979), overconfidence (Fischhoff, Slovic, & Lichtenstein, 1977) or overreaction (De Bondt & Thaler, 1985). Interestingly, the knowledge of and training on behavioural finance seems to have yielded only little change in investment decisions, at least regarding German fund managers (Nikiforow, 2010). Likewise, there is a huge body of academic literature on the role of non-financial information, namely environmental, social and governance (ESG) aspects or socially responsible investments (SRI). Within this group, corporate governance receives relatively more attention (Gompers, Ishii, & Metrick, 2003; Jensen & Meckling, 1976; Shleifer & Vishny, 1997a). In addition, there is evidence for the influence of reputation on company success (P. W. Roberts & Dowling, 2002) and that corporate culture can impact the development of a company (Edmans, 2011; Guiso, Sapienza, & Zingales, 2015). All this would suggest that factors that are difficult to measure and subject to interpretation, are relevant for moving share prices. At the same time there seems to be little research dealing with the question of how big the role of these hard or impossible to measure factors – so-called soft factors – is for investment professionals. Likewise, there is fairly little empirical knowledge concerning the question which of them are deemed important when making an investment decision or recommendation.

We will show in this thesis that soft factors are contributing nearly 50% to the decision making of an investment professional when developing a recommendation or the decision

to invest into a stock. There are some indications that this number is understated and that pressure from the demand side is likely to drive the proportion even higher. We find that decision making is not consistent with the efficient market hypothesis, as suspected, but find some support that it is driven by sensemaking. The description used for soft factors in the thesis is accepted by the investment professionals participating in this survey. Like with a number of factors considered in the thesis, the lack of a standard definition poses an issue.

There are soft factors that stand out, like conviction and reputation. In the case of conviction, literature and empirical data support its importance (Chong & Tuckett, 2015; Taffler, Spence, & Eshraghi, 2017). However, investment professionals tend to disagree with the view in literature according to which conviction is rooted in emotion (Barbalet, 2009; Chong & Tuckett, 2015; Taffler et al., 2017) which would mark it more clearly as a soft factor. The high reading for reputation is only partly consistent with the view of research (Anginer & Statman, 2010). When drilling down on the drivers for it we find that management quality is highly important for investment professionals where literature would not necessarily agree (Agarwal, Taffler, & Brown, 2011; Breton & Taffler, 2001; Cheung, Naidu, Navissi, & Ranjeeni, 2017; Malmendier & Tate, 2009). Another important aspect, the business model, is rather seen as a hard factor, but seems to include a considerable soft component. We also note the role of trust in decision making due to the importance placed on management meetings (Taffler et al., 2017), the need for clarity of disclosure and the ability to substitute corporate governance (Pevzner, Xie, & Xin, 2015).

On the other hand, environmental or social aspects are seen as irrelevant in accordance with literature (Aouadi & Marsat, 2016; Peloza, 2009; Wang, Qiu, & Kong, 2011) but is inconsistent with the message from the financial industry to the public. Likewise, investment professionals disagree that factors related to corporate social responsibility (CSR) are helpful to mitigate risk (Jo & Na, 2012; Luo & Bhattacharya, 2009). Corporate governance is not seen as particularly important, where literature finds a positive impact on financial outcomes (Ammann, Oesch, & Schmid, 2011; Gompers et al., 2003). In addition, it only matters in its most "capitalistic" interpretation to investment professionals. On the face of it, the low importance assigned to aspects related to behavioural finance and emotion would suggest a rational approach to decision making. However, the low attention paid to findings of behavioural finance research, being unconscious of the

influence of emotionality or simply unwillingness to admit its relevance raises doubts on the conclusion.

The data assessed for this thesis are based on a survey among investment professionals. As such the thesis contributes to the limited body of literature that is based on actual surveys among investment professionals (Taffler et al., 2017). The factors reviewed are based on literature, informal discussions with market participants and own experience.

1.1 Motivation

The neoclassical capital market theory has reached its limits. The concept of homo oeconomicus, on which it is based, assumes that individuals have unlimited cognitive abilities, infinite willpower, no preferences or biases and act solely in their own interest (Thaler, 2016). This approach leaves little room for emotion, creativity, irrational behaviour, ethics, trust or other facets that describe humans. How far the result of a neoclassical approach might deviate from reality suggests a definition by Fischer Black according to which a stock market where prices are in a range of double or half their fair value in at least 90% of the time would still qualify as an efficient market (F. Black, 1986). In addition, though the efficient market hypothesis is central to asset pricing theories, it is ultimately not testable (Fama, 1991). This is obviously not a great starting point to make a decision on owning a stock.

Behavioural finance shows that investors deviate systematically from rational decision-making (Lord, Ross, & Lepper, 1979; Tversky & Kahneman, 1974; Weinstein, 1980). Investors' interest in non-financial information disclosed by companies is growing (Association of Chartered Certified Accountants, 2013) and if reputation impacts the economic success of a company, it also has a bearing on the share price. The same holds true for corporate culture as it is important for the development of a firm and can be seen as an important intangible asset (Edmans, 2011; Guiso et al., 2015). At the same time, qualitative information matters for sell-side analysts (analysts working at an investment bank, broker or research boutique rendering a service to institutional investors) determining a rating of a company more than financial information (Breton & Taffler, 2001). While rare, there are market participants that have a quite good feeling for the market and their investment decisions might be simply made on gut feeling. All these points would suggest that soft factors do matter for share price formation.

The more precise and harder a factor, data point or information is, the more likely can it be coded into an algorithm driving buy- and sell decisions. With that it becomes a commodity on which basis no extra return can be expected. Going forward, soft factors might become the primary basis for successful investments into stocks. Against this backdrop it is highly interesting to get a better grip on the role of soft factors as a whole in decision making and which factors might be of importance.

1.2 Research question(s) and objectives

Soft factors seem to be relevant for the movements of share prices. However, there seems to be fairly little literature that deals with the questions how much weight is assigned to soft factors and which soft factors are key in the decision making of active capital market participants. Though investment professionals are typically portrayed as being very rational or at least bounded rational, the question arises to which extent investment decisions are driven by hard factors. Or to flip the question around, how much of the decisions relies on soft factors that are not quantifiable and contain a subjective element.

The main question is whether soft factors play a significant role in the stock selection process.

Questions that are related to the main question are:

- What weight do investment professionals assign to soft factors?
- Is there a common definition used for soft factors?
- Are there certain factors that stand out as important or irrelevant?
- What answers provides the literature regarding the logic of looking at certain soft factors and are there significant differences to practitioners' assessments?

The thesis aims to contribute to the debate which soft factors are relevant for the decision-making process of investment professionals and, hence, stock pricing. It should illustrate that soft factors are playing an important role in that context and attempts to explain their contribution to the valuation realized in stock markets vis-à-vis the neoclassical capital market theory. While the thesis aims to shed light on which and why factors are seen as important, it will not yield any results on the contribution of certain factors to the absolute or relative performance of a stock. The work aims to help fill the analytical gap concerning soft factors as a group in science. In addition, it should also contribute to the

understanding of the work of investment professionals. There are only few studies that take a closer look how investment professionals arrive at their investment decision and which factors are important to them (Taffler et al., 2017). Though sell-side analysts are only one subgroup within the sample, the results should give some insights on what is going on inside the black box of analyst work (Brown, Call, Clement, & Sharp, 2015). The thesis should be also of interest to experienced investment professionals and other people interested in the mechanisms of the equity market.

1.3 Structure of the thesis

Summaries, findings or conclusions will generally lead the individual segments or sub-segments of the thesis as we apply the pyramid principle introduced by Barbara Minto (Minto, 2009). Though not particular common in scientific papers, it appears to be an acceptable structure for a DBA thesis.

The thesis starts with an overview of the equity markets and its participants. A focus is on investment (management) professionals and why it is relevant to get an answer on how they are using soft factors in the process to form an opinion on a stock. Section 2 will also look at the different agendas that the various players in the market have, potentially impacting share prices and which approaches to decision making are at play. The following section gives an overview of the main groups of soft factors that potentially influence the relative attractiveness of a stock for an investor. In the thesis the groups of soft factors are limited to the field of psychology relevant for market participants as well as management teams of the respective stock corporations, non-financial information and the role of reputation and corporate culture. The section also provides an introduction on why these factors could impact share prices. Chapter 4 outlines the empirical work to establish the importance of soft factors for investment professionals and which of them they are actually using. The analysis of the survey data will be followed by a presentation of the main findings and a discussion of the results. The chapter concludes with the limitations. The final chapter provides the conclusion and the resulting management recommendations.

2 A brief look at equity markets and market participants

The size of global equity markets reached US$69 trillion by the end of 2018, nearly three times the size 20 years ago and more than seven times the size 30 years ago (World Bank, 2019a). Over the same periods, annual, trading volumes have increased three and eleven fold, respectively, to more than US$68 trillion (World Bank, 2019b). Stock markets can be a very exciting space when share prices double or halve in a short period of time, not always for an obvious reason.

The focus on the development of share prices and, hence, the impact on personal wealth, sometimes blocks the view of the fact that equity is first and foremost a mean to finance a company. Broadly speaking the (historic) starting point is the concept of simply seeking risk capital for a project or venture and investors that were interested in the profit. In the course of time, the perspective on equity investments has evolved and the view on the risk and the price return of a stock became an important element. The number of market participants has multiplied and we face now a wide range of market participants including retail and institutional investors, service providers and algorithms. Ultimately it is individuals that are making decisions, even with algorithms as they have been invented and coded by humans. Institutional investors and analysts working at a broker company are in a good position to assess stocks and are therefore an interesting target group. The various market participants have different objectives and the definition of success varies considerably. Unsurprisingly, the objectives of the market participants are not always aligned. Though bounded rationality is frequently referred to as characterizing the decision making of investment professionals, sensemaking seems to be more adequate to describe the behaviour of them.

2.1 The role of equity markets

Equity is strictly speaking all means of funding where the shareholder of a venture is providing the financing on a permanent basis (Bieg, Kußmaul, & Waschbusch, 2016). The term equity covers therefore a wide range of legal structures (e.g. joint partnership, limited company or stock corporation). Also, the ownership status can differ materially, i.e. companies that are privately owned, by one or more individuals or institutions, or that are publicly listed on the stock market. Though considerations on soft factors also apply to other forms of equity, the thesis looks only at the stock market.

A stock, also called share, represents a fractional ownership of a company and as such a claim on the assets and residual earnings. Ordinary shares, also called common stock, entail a voting right. The financial risk of a shareholder is limited to the investment made into the shares (Bodie, Kane, & Marcus, 2014). It is worth noting that a share has a dual role as instrument to finance a venture and is at the same time an investment for the owner of the share.

The acting persons might have quite different objectives. From the perspective of the corporation the cost and the ability to fund a project is likely the predominant consideration, let alone any personal agenda the management might have to achieve their own goals. As an investment, the predominant objective is usually to earn a return on the money deployed. As such the structure of a joint stock corporation was originally used to finance large projects and share profits. The existence of a stock market was and still is not a necessary condition for equity investments, even if they take the form of an ordinary share. The foundation of what can be considered the first modern stock exchange happened only a couple of hundred years after shares made the first documented appearance (Petram, 2011).

From an investment perspective, the objective is to earn an adequate return for the risk taken. Return would include payments to shareholders like dividends and a positive or negative change in the share price. Since the share price development is uncertain, the actual return is unknown ex ante and the decision criterion is the expected return, the mean. The actual return might deviate more or less strongly from the expected return, which constitutes the risk described by the variance. The higher the deviation and/ or frequency of deviations from the expected return, the higher the risk. The mean-variance theory (Markowitz, 1952) is one of the main concepts used in decision theory and an important building block for the capital asset pricing model (CAPM) (Sharpe, 1964), one generally accepted model describing the relationship between return and risk.

Criticism of the mean-variance concept includes that portfolios constructed on this basis do not perform relatively well; the concept needs a certain type of return distribution or a particular preference function of investors and the correctness of the input parameters is highly critical (Low, Faff, & Aas, 2016). Even though the CAPM fails empirical tests (Fama & French, 2004) and has a number of shortcomings (Banz, 1981; Elton, Gruber,

Brown, & Goetzmann, 2009; Fama & French, 1993; Roll, 1977; Walkshäusl, 2013) it is still widely used by practitioners to get to grips with the fair value of a stock.

A common starting point to form a view on whether a stock is more likely to rise or to fall from its current value is a fundamental analysis. Based on publicly available financial data, non-financial information, subjective judgement and forecasts of future financial performance, the objective is to establish the fair value of a share (Heidorn & Schäffler, 2017). In this context it is interesting to note that depending on the concept used the answer to the usefulness of that exercise can be quite different. From the perspective of the strong version of the efficient market hypothesis all available information is at once fully and correctly reflected in the share price (Fama, 1991), hence, efforts to analyse a stock are useless. Behavioural finance offers a somewhat more encouraging view. While the intrinsic value is unknown, it supports the view that a stock can deviate from its fair value (Thaler, 2016) and thus makes efforts to seek information that can move the share price worthwhile.

2.2 Participants in equity markets

Stock markets have come a long way from their starting point and in doing so the number of market participants has increased, considerably. In the meantime, we look at retail investors, institutional investors (organizations like insurance companies, pension funds, sovereign wealth funds, asset management companies, wealth management firms, hedge funds etc.) with a very wide set of objectives. Furthermore, there are investment banks or brokers that facilitate the trading, computer programs screening markets or company data, information providers, company managements being paid to meet targets and there are side-effects of business operations on the world in which we live. There are distinct differences between companies using shares as a funding instrument, market participants rendering a service around them and finally investors considering shares for their portfolio. Unsurprisingly, the interests of all these groups (and individuals) are not aligned and consequently the definition of success varies significantly depending on the individual perspective.

There are several ways to group participants in equity markets. One can for example subdivide them into capital providers and seekers, financial investors and intermediaries or by the objective to make profit or to manage risk (Albrecht & Maurer, 2016). Ultimately,

it is always human beings that form an opinion on a stock or make an investment decision; this also applies for algorithms that are written by humans. The people at institutional investors and banks that are most directly linked to an investment decision are investment professionals like portfolio managers, financial advisors and analysts. Generally, retail investors are considered less well informed than institutional investors (R. B. Cohen, Gompers, & Vuolteenaho, 2002; Gibson, Safieddine, & Sonti, 2004).

Institutional investors dominate trading volume; however, it is worth keeping in mind that passive mandates (i.e. funds simply replicating an equity index) and computer trading for profit contribute massively to trading volumes. In Germany about 13% of stocks are held by retail investors, which compares to 18% held by domestic institutional investors and 48% by foreign investors which are predominantly institutional investors (Deutsche Bundesbank, 2015). It is also interesting to note that retail ownership in the US fell from 48% in 1980 to about 22% in 2007 while mutual funds rose to 32% (French, 2008). Institutional investors include the groups portfolio managers, buy-side analysts and investment advisors. Other groups considered well informed are sell-side analysts and insiders (Piotroski & Roulstone, 2004). The latter are excluded from further investigation in this thesis.

The retail part of investors spans a very heterogeneous group of investors ranging from small direct investments to a set-up that strongly resembles an institutional investor. Broadly speaking retail investors are not subject to an agency problem as they act for their own wealth (Kelley & Tetlock, 2013). Retail investors are typically segmented by the amount they have invested in capital markets. While that is not a great definition and most likely based on business opportunity and client needs, the size of the portfolio might correlate with the degree of sophistication. Retail investors are typically characterised as not sophisticated, biased and uninformed. However, there are a number of papers suggesting this notion might be wrong (Kaniel, Liu, Saar, & Titman, 2012; Kelley & Tetlock, 2013). The upper end of the segmentation is termed ultra high net worth investors. Sophistication, set-up and size might put them into the bucket of institutional investors. Another point to be aware of is that retail investors might well delegate the decision-making and investments to a financial intermediary, e.g. a (private) bank. In that case an investment professional manages the assets.

The institutional investor part of the market uses a very wide range of approaches to investing money from aggressive to defensive, extremely short-term to very long-term or purely quantitative to fundamental. All have in common that they seek to generate a return on the assets. The definition of success might vary, but all will have some sort of hurdle rate for the return or a benchmark they wish to beat. In addition, the risk taken plays typically a key role. The people working at an institutional investor that are most involved with the investment decisions are portfolio managers, buy-side analysts and also financial advisors. The whole group is usually termed buy-side. They have an ideal setting for decision-making in terms of access to resources, information or access to the management of the companies they invest into. That certainly does not mean that decisions are always right, but the starting point is very good. Arguably also asset, fund, portfolio or investment managers are subject to errors in judging a situation or forming expectations. In addition they are subject to the principal-agent problem that can hurt performance (Kelley & Tetlock, 2013).

Though service providers like brokers typically don't manage money, they are usually an integral part of the investment process. Like their counterparts on the investor side (buy-side), analysts working for a broker (sell-side) are specialist on the stocks they cover. Contrary to common wisdom their ratings and price targets set on a stock are probably least important for investors. A sell-side analyst can be always wrong on stock recommendations but still highly regarded by investors. Likewise the tendency to herd around consensus forecasts might challenge the usefulness of sell-side analysts (Rangvid, Schmeling, & Schrimpf, 2013). An analyst provides information and gives his interpretation. In doing so, the professional knowledge of the person, his experience and possibly his network are of value. An investor does not have to own the intellectual capital but only needs access to it and needs to know how to use it. The main critical issue also in this context is an agency problem. Objectives of the analyst and targets set by his employer might not be in the interest of the buy-side (Lin, Tan, & Zhang, 2016). An analyst might choose to set an extreme rating, price target and forecasts just for the sake of being heard in the market and not necessarily because of conviction about the forecasts. Nevertheless, like for other investment professionals, due to time spent with markets, training, experience etc. it is probably worth listening to what they have to say about factors driving their decision on a stock.

Somewhat exceptional are algorithms driving decisions on buying or selling stocks. In their simplest form they only execute a trade within certain parameters. The most extreme version is when the algorithm actually trades on his own with the objective to generate a profit. The latter form of algorithms screens e.g. company data or simply stock prices (in very small time intervals) and trades on the basis of the coded rule. There is no interference of a human being and the algorithm will continue to act according to the coded rules, be it for the execution of a client order or something more complex, even if it means that losses skyrocket[1]. A subset of algorithm is high frequency trading (HFT) that trades in milliseconds, as such seeks to exploit an advantage. HFT represents the biggest part of traded volume on stock markets. The SEC refers to a share of 50% or more (U.S. Securities and Exchange Commission, 2014) and the European Securities and Market Authority sees the HFT share of volume traded at a stock markets at 24-76%, depending on the approach (Bouveret, Guillaumie, Aparicio Roqueiro, Winkler, & Nauhaus, 2014). In extreme market conditions HFT seems to have a negative impact on markets by leading to more extreme moves and increase the risk of feedback-loops that could lead into a crash (Goldstein, Kumar, & Graves, 2014).

Interestingly HFT activity and profits seem to have come of its peaks (Popper, 2012). Part of the reason might be the rising costs for infrastructure, proximity to exchanges (colocation) and investments into new technology (Biais, Foucault, & Moinas, 2015). The falling profits of HFT might also suggest that it is becoming a commodity. This might be because current algorithms and the use of hard data do not generate an advantage anymore, since they might be common knowledge and everybody can access it. Even though a computer is trading, ultimately someone must have had developed the underlying trading strategy. Creativity is needed to come up with a new idea that in turn could generate returns that are superior to those of existing versions. It would be certainly interesting to get a better idea on how ideas for new algorithms are developed and which factors are deemed relevant, however, this is not in the scope of this thesis.

[1] Knight Capital incurred on August 1st, 2012, pre-tax losses to the tune of US$ 0.44 bn within 45 minutes due to the release of a faulty algorithm into production.

2.3 Objectives for participation in equity markets

The first thought coming to mind is clearly the target to earn money when investing into stocks. An appropriate return on the deployed capital is expected. The return would include the change in the share price but also the dividend received. In an environment of negative interest rates for risk free investments and a liquidity glut, it is certainly very contesting to define what adequate return actually means. The other issue is, that stocks do not tend to appreciate in a linear way. Stock price movements can be rather volatile. As a result, the adequate return might only materialize over a longer period of time.

Another approach to judge the outcome of an investment is to compare the return of the stock to a benchmark. A stock rising faster than the benchmark would count as a success. Obviously share prices can also drop and a stock delivering a negative return would still count as a positive outcome if the value of the respective benchmark dropped even faster. This logic might be well accepted among investment professionals. However, retail investors would probably struggle with the notion that a drop of 20% in a stock value would count as a success even when it compares very well against global equity markets or the respective benchmark being down 30%.

Things get a bit more complicated when taking into account the risk of a stock. Risk is another important factor for an equity investment. The willingness to take risk and the perception of risk is a very individual issue, let alone the emotional characteristic of a person. The classic mean-variance concept reduces risk to the deviation from the expected return. Obviously, investors attitude towards risk, both on the institutional and retail side, range from extremely risk adverse to risk seeking. However, the classical theory demands that investors choose the combination of the lowest variance for a given expected return. A stock with a higher risk-profile is demanded to deliver a higher return to compensate for the incremental risk taken on. This does not cover investors that actually like risk, because for them the flipside of risk is chance. Some (retail) investors might even see participation in equity markets as an entertainment. For investment professionals the amount of risk taken matters in various ways. For one it is used to judge the success an investment. Did the stock only beat the benchmark because of the higher risk, or did it also do well on a risk adjusted basis? Furthermore, portfolios are often subject to limits in terms of total risk to be taken. Typically, risk measures increase when share prices are

falling. In turn, this might mean that portfolios have to sell stocks, when stock markets fall. This would be perfectly rational from the perspective of a mathematically optimised portfolio. The conclusion might be less flattering, when the timing coincides with markets being in panic mode, since it is usually not a good time to sell.

The reasons for the selection of a particular stock or sector can be very investor specific and depend on the qualities of a company. The position in a particular stock might, for example, simply be meant to serve as a protection for a position in another stock, in case something goes wrong. It might be only a hedge. The damage from one position is supposed to be offset by the positive development of another stock. The only relevant quality that actually matters in this case, is the correlation between the two stocks.

Some investors might only look at dividend yield using stocks with a sustainably higher yield than the rest of the market as a substitute for a bond. Interestingly stocks with these qualities hardly react to the development of the operating business as long as the dividend is not at risk. Given that company managements also try to make the stocks of their company attractive to investors, management could be inclined to cater to the wishes of investors and protect or grow the dividend instead of investing. It is somewhat questionable whether this management behaviour can be called rational. This mechanism also explains why some telecommunication companies ended up with horrible balance sheets in the early 2000s.

Pension funds or insurance companies certainly keep an eye on their liabilities. The fact that they are tied into long-term commitments might well have implications on the way they look at stocks or individual investment decisions. Short-term trading for a quick gain might be less appealing than the long-term perspectives of a company. On the other hand, some investors might have also a very short-term investment horizon. Some HFT trading strategies for example can work without any knowledge about a company at all. The long-term perspective of a company might be totally irrelevant for the investment decision. They might simply rely on the momentum of a share price. An approach that is not at all compatible with the hypothesis of efficient markets.

Again, a totally different motivation have activist investors. By taking a relatively small stake in a company they seek to influence or force managements of a company to take certain measures. These measures are targeted to increase the value of the stock, which

might not be taken by the management when left alone. One could argue that activists create their own information that impacts the development of the share price.

Beside aiming at a financial return investors could also be keen to act in a socially responsible way. They might seek to minimize the potential negative impact on e.g. environment or contribute positively towards society. Some investors might even seek to shape the society towards their personal ideas, like improving education levels or research to conquer a certain disease. The definition of success differs, as it does not only reflect on the monetary return and the financial risk involved, but also looks at what benefit e.g. towards the society is achieved.

From the perspective of an investment bank or a broker earning revenues from trading shares for their clients, the return of a stock might be less relevant. What matters might be the trading volume and less the direction share prices take, though arguably volumes tend to be higher in a rising market. An advice on a stock can be very genuinely in the best interest of the client. Measures to make transparent for which service a client pays, certainly increases awareness. However, advice might also be influenced by the interest of the investment bank.

Just that non-exhaustive list of examples demonstrates that the motivations of investors for buying or selling stocks and issuing recommendations vary considerably. Definition of success can be very different and decisions are certainly influenced by hard and soft factors.

2.4 Approaches to decision making

Investment professionals would by and large portray themselves as being very rational in their decision process. The neoclassical theory assumes that individuals have unlimited cognitive abilities, infinite willpower, no preferences or biases and act solely in their own interest (Thaler, 2016). However, there remains the issue that the task of successfully picking stocks is ultimately too complex to stand a chance of fully and properly processing all available data to predict share price moves always correctly. The very basic problem is, that the neoclassical theory certainly helps to describe how investment professionals should make a decision but it does not help to describe how they actually make one (Thaler, 2016). There are limitations to how much information an individual investment professional can process, they typically operate under time constraints and after all

they are humans. Bounded rationality is a theory proposed to incorporate the fact that there are limitations to rationality and that decisions taken are not necessarily optimal, but rather satisfice (March & Simon, 1958; Simon, 1955).

As a consequence, bounded rationality is a possible approach to look at the decision process of investment professionals. An asset management organisation would typically claim that the investment process is robust and can produce results in a consistent way. As an aside, the organisation implicitly claims that it has built structural capital. In particular institutional investors would point out that the investment process is independent of individuals, like the portfolio manager responsible for managing an individual fund. The reality might turn out to be quite different and the departure of a portfolio manager might well impact the performance of a fund. Bounded rationality implicitly reflects the findings of behavioural finance as heuristics and biases are consistent with the concept of bounded rationality (Tversky & Kahneman, 1974). However, it does not cover behaviour that is deemed irrational by common wisdom where an individual intentionally takes a decision that is suboptimal. To put it a bit broader, decisions driven by emotion, intuition or creativity are not covered by the theory. Creativity can be a valued quality, as it allows to uncover new ways or angles to use or interpret existing information. Also, the consideration of a new type of information to assess a stock can be a welcomed addition to the debate on an investment decision. At least when the new or different way to tackle a problem allows to generate (out-) performance. On a different note, bounded rationality does not appear to be fully compatible with socially responsible activities. If environmental damage bears no cost for the organisation, it could be read as irrational to incur the cost for better environmental protection. Arguably, incurring higher cost hurts the competitiveness of a company. Even if management would subscribe to the view that environmental protection is good for society and costs can be easily absorbed by sacrificing part of the profit, shareholders might well force them to avoid the costs, even if there is an economic case to be made in favour of the environment. The same would apply to a portfolio manager that invests in companies with a strong commitment to the environment, if there is no proof that the stocks will outperform. The decision would count as irrational. Likewise, it might not be seen as supportive to society to avoid taxes in a high tax country. However, fiduciary duties to shareholders will force management teams to minimize tax payments, even though that might mean ceasing tax payments in countries

where a good part of the revenues is generated. The debate around taxing of multinational internet companies nicely illustrates the point.

The work of sell-side analysts is often perceived as a black box (Brown et al., 2015). As a result, the garbage can model is partly seen as relevant. The model deals with organisations that can be described as organized anarchy. They feature unclear and inconsistent preferences, employees not being aware of the processes and procedures and an unstable level of contribution by the members of an organisation. Decisions can occur when problems, solutions and participants create a choice opportunity, but don't have to (M. D. Cohen, March, & Olsen, 1972). Applied to sell-side analysts, the garbage can model describes a situation where it is not possible to observe how the input factors lead to an output (Fogarty & Rogers, 2005). However, the proposal is probably largely driven by the fact, that there is not enough known about how sell-side analyst process the data to reach a recommendation or price target. Part of the problem seems to be that there is a misperception about what the primary output of a sell-side analyst is. Sell-side analysts' primary objective is to help the buy side to make investment decisions. The formulation of a price target or a rating is actually one of the least relevant factors (Imam & Spence, 2016). Aggressive price targets, anti-consensus ratings or even aggressive forecasts might simply be set to be heard in the market. In this case, it is unlikely that the sell-side analyst is actually convinced that the issued forecasts are a likely future outcome. They are meant to give investors a reason to discuss the view of the issuing analyst on a stock or sector. However, since sell-side analysts' aim is ultimately to help investment decisions of the buyside, also sell-side analysts have to process the same information, data or hints to make their assessment on where a stock is most likely to move next. The same applies for the financial forecast that incorporates all information available to them. In that process they are subject to pretty much the same framework and restrictions that is faced by the buyside, in particular when it comes to cognitive abilities, biases or time. The main difference is that they have typically more time per stock to form an opinion on.

Though sensemaking is rather a concept than a theory in decision making, it probably describes the daily doing of a professional market participant rather well even though it is difficult to pin down how it is at work or to prove that it is at play. Sensemaking describes a process where individuals make sense out of the information they receive and experiences they make. It comes to the fore when the actual situation differs materially

from the expected development. By developing a reasonable interpretation of the observed situation, they become enabled to react to the change in their observation of the world (Weick, Sutcliffe, & Obstfeld, 2005). Investment professionals are very often confronted with situations that are new and not entirely compatible with their expectations. New information, an interpretation that differs materially from the own read and obviously the reaction of a share or the broader market that does not make sense to them are examples. That is even more true in an environment where the outcome is unpredictable (Eshraghi & Taffler, 2015). Obviously, it is not particular rational to try to react to a situation, where one does not understand what is going on. The individual needs to make sense of the situation before determining the right path of action. A quote from a recent publication of one of the biggest hedge funds globally nicely illustrates the role of sensemaking for them: "Over the past decade, our "Template for Understanding What Is Going On" has been an important frame of reference for making sense of things and anticipating what is likely to come next" (Bridgewater Associates, 2020). Even a situation that looks identical to a situation witnessed before does not mean it will yield the same reaction in the share price. Based on existing knowledge a decision that looks perfectly rational might result in a totally unexpected result. The primary task is to figure out what has changed and why the share reacts in that particular way. It is part of the job to process information in a way that they make sense for themselves. This is also relevant in a context where new sectors or business models are being developed and a new framework is required (Beunza & Garud, 2007). While sensemaking might be good concept to describe the decision process of investment professionals, it does not mean that applying sensemaking yields an accurate assessment of the situation, let alone a successful investment decision. For example, sensemaking might simply result in rumours that in turn detract from trading success (DiFonzo & Bordia, 1997).

3 Which soft factors matter?

Over and above hard data, factors that are difficult to capture or not quantifiable play an important role, as regards share price moves. This very nature of soft factors makes it difficult to deal with them, since by definition, they can't be measured. While a distinction between soft and hard factors is commonly used in literature, there is no generally accepted definition. That adds to the problem of handling soft factors, as the definition for individual aspects might vary considerably between onlookers. The border between hard and soft factors or information is also not in all cases clean cut. Forward financial guidance or outlook given by company management might appear at first glance hard data, since it consists of hard numbers or at least ranges of hard numbers. However, it should be considered soft data as it can't be verified (Bertomeu & Marinovic, 2016), at least not beforehand. The qualification of the guidance given and/or financial targets set is needed in the sense of whether it can be trusted. The track record in meeting targets or the assessment of the likelihood of making the numbers is needed to qualify the financial targets. That part is rather soft.

Key features of soft factors are that they can't be measured, can hardly be verified, are difficult to grasp and are rather subjective. This description for soft factors will be used in this thesis. The description is also consistent with definitions used for soft information (Kraft, 2015; Rajan & Reichelstein, 2009). Generally, market participants take these soft factors into account to a varying degree and in a more or less structured way when forming an opinion on a stock.

One of the issues in dealing with soft factors is that they comprise a wide range of subtopics. In addition, the subtopics are interlinked. Therefore, the starting point had to be the collection of the key aspects that might be relevant for share price formation. Work with literature was an important source to find and collect factors that might have an impact on the decision making of investment professionals. There is a rich body of research for example on behavioural finance, socially responsible investments, corporate culture and reputation.

Beyond factors covered in literature, there are factors whose contribution is not yet documented or where market participants hold a different view on the role than what research suggests. Therefore, the mobilization of literature was complemented by informal

discussions with investment professionals to pin down factors that might matter beyond the ones found during the work with literature. Aspects that surfaced in those discussions were also reflected to formulate the main aspects. These conversations also served to filter out factors that are unlikely to contribute to the debate. Though there is certainly a subjective element based on the experience of the people involved in this process, the approach should have helped to minimize the risk that key factors are not covered in the initial framework. In addition to that, the own experience of the author and his subjective assessment which factors should be included in the research, contributed to draw up the main aspects. Where possible, the literature on factors identified in informal discussions and derived from own experience were likewise considered in the literature review. The selection of the main groups and the grouping into what is for the thesis considered to be the main blocks contains likewise a subjective element. Also, decisions on the aggregation into individual chapters, e.g. sustainability being folded into social and environmental aspects, was on a subjective basis. The following chapter seeks to establish were research stands on the influence and logic of individual factors for decision making.

Recurring themes for most factors identified are the lack of a generally accepted definition and scarcity of empirical data. Though that is common denominator for the group it still makes it difficult to deal with them in a structured way. To overcome this problem, they needed to be divided into subgroups. There are probably various ways to cut the aspects into subgroups. Ultimately, it was a subjective decision how to group the individual factors into bigger areas for this thesis. For the thesis the main groups selected cover psychological aspects, non-financial information and reputation/ corporate culture.

Factors that seem to matter for the stock price development in the field of psychology fall largely into behavioural economics, emotion, market sentiment and personality. From behavioural finance the systematic deviation from rational decision-making (Tversky & Kahneman, 1974), stance towards risk, the presentation of the problem (Kahneman & Tversky, 1979) and herding as one explanation for momentum (Nofsinger & Sias, 1999) seem to matter. When it comes to emotion, the influence on risk tolerance of market participants and stock selection seem to stand out (Breaban & Noussair, 2018; Kempf, Merkle, & Niessen-Ruenzi, 2014). Emotion is also very important for trust and conviction (Barbalet, 2009; Chong & Tuckett, 2015). Stock markets are impacted by market sentiment and hard to value stocks are most impacted (Baker & Wurgler, 2006). There is also

evidence that personality of individuals matter for the economic results of a company (Gow, Kaplan, Larcker, & Zakolyukina, 2016).

Non-financial information centres mainly on ESG and SRI factors with corporate governance receiving more attention both in literature and also for practitioners. Efforts for the environment can benefit financial performance and cost of capital of a company (Klassen & McLaughlin, 1996; Sharfman & Fernando, 2008). Findings on the role of social measures are mixed (Aouadi & Marsat, 2016; Wang et al., 2011), though diversity and employee satisfaction have a positive impact (Carter, Simkins, & Simpson, 2003; Edmans, 2011). In addition, there is a lack of evidence for causality for environmental and social projects and the financial outcome for a firm (Aouadi & Marsat, 2016; Peloza, 2009). Within the ESG block, the picture regarding corporate governance is clearer. Good corporate governance results in a better financial performance of a company (Ammann et al., 2011; Gompers et al., 2003) and the structure of the board, management compensation and anti-takeover measures have the biggest impact (Ammann et al., 2011; Brown & Caylor, 2006).

The area reputation/ corporate culture deals mainly with human capital, strategic direction of a company, ethics and ultimately trust. In this field, management quality and strategy receive the greatest attention from practitioners (Breton & Taffler, 2001). Good reputation supports the financial performance of a firm, makes financial results more sustainable and can be seen as an intangible asset constituting a competitive advantage (Barney, 1991; Fombrun & Shanley, 1990; P. W. Roberts & Dowling, 2002). However, endeavours to protect reputation and a strong corporate culture can stand in the way of adapting to significant changes in the environment (Fombrun & Shanley, 1990; Sørensen, 2002). Corporate culture is important for the development of a firm and can be an important intangible asset (Edmans, 2011; Guiso et al., 2015). Factors standing out are management integrity and employee satisfaction (Edmans, 2011; Guiso et al., 2015). National culture is even more powerful than corporate culture and helps to explain stock market phenomena (Ahern, Daminelli, & Fracassi, 2015; Guiso, Sapienza, & Zingales, 2008). Trustworthiness of management, an aspect of corporate culture, helps the development of a firm (Guiso et al., 2015) and can be a substitute for corporate governance (Pevzner et al., 2015). Trust, a facet of reputation, also matters in the context of the importance assigned to management meetings by investment professionals (Taffler et al., 2017).

Clearly, progress has been made to understand the role of soft factors, even to the extent that they work now less well as a source for outperformance (McLean & Pontiff, 2016). But there are still factors whose exploitation can generate outperformance like momentum strategies that are associated with behavioural finance, market sentiment or the track record of a management team.

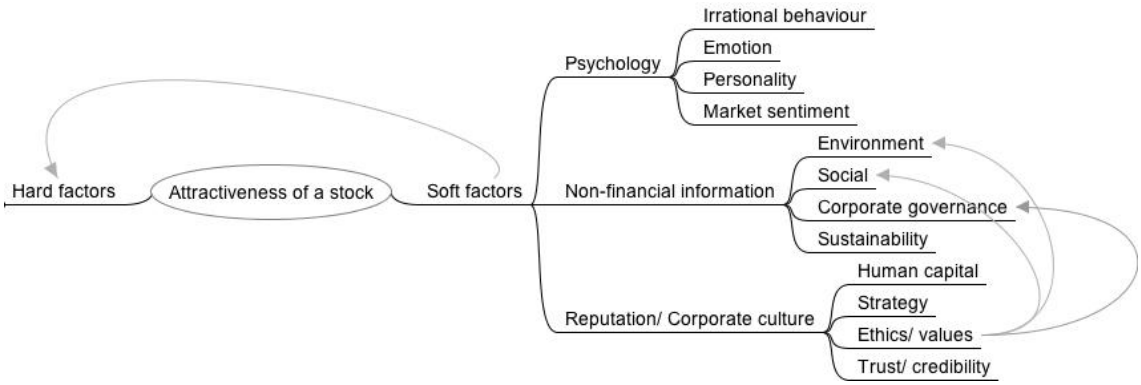

Figure 1. Overview of soft factors influencing the attractiveness of a stock

Another way of looking at the influence of soft factors on the valuation of a stock is the ratio of the market capitalisation (stock price times the number of shares) of a listed company to the book value of the equity (price/book = P/B), in other words the value the equity market assigns to a stock and what hard accounting data is recorded on the balance sheet. If all soft factors were recorded accurately in the balance sheet accounts, market value and book value of the equity should be very similar. This is clearly not the case, but might occur occasionally.

The market value can deviate materially from the value recorded on the balance sheet. For example, the S&P 500 index was trading at an average P/B ratio of 3.6x at the end of 2019 demonstrating how meaningful factors not captured by accounting are. Though the ratio should be treated with some degree of caution, it is intuitive that intellectual capital plays a significant role in valuing stocks. Intellectual capital breaks down into human capital, structural capital and relational capital. Soft factors can be linked to these groups as shown in Table 1. It is worth noting in this context that while the bulk of factors relate to the intellectual capital of the stock company considered, some also deal with market participants.

Intellectual capital	Soft factors		
	Psychology	**Non-financial information**	**Corporate culture and reputation**
Human capital	Emotion	Social	Ethics/ values
	Irrational		Human capital
	Personality		Strategy
Structural capital		Environment	Ethics/ values
		Corporate governance	Strategy
		Sustainability	
Relational capital	Emotion	Environment	Trust/ credibility
	Market sentiment	Social	
		Sustainability	

Table 1. Link between intellectual capital and soft factors

3.1 Psychological aspects

While early economic theory had a distinct behavioural tilt and accepted psychology as a potentially important element, the second half of the last century was characterised by efforts to give economic theory a mathematical foundation. This development somewhat ignores that economics is a social science. The neoclassical theory helps to understand what optimal behaviour would be, but fails to predict actual human behaviour (Thaler, 2016). Behavioural finance provided rich evidence that heuristics and biases cause the systematic deviation from rational decision-making (Tversky & Kahneman, 1974), that investors show different attitudes towards risk depending on whether the choice deals with gain or loss, and that decisions depend on the presentation of the problem (Kahneman & Tversky, 1979). Research shows that investment professionals put on the same trades, which is a possible explanation for share momentum, i.e. shares continuing to move into the previous direction (Nofsinger & Sias, 1999). Insights provided by psychoanalysis indicate that emotion influences risk tolerance of market participants and the selection of stocks (Breaban & Noussair, 2018; Kempf et al., 2014). Emotion is also central for building trust and developing conviction regarding an investment (Barbalet, 2009; Chong & Tuckett, 2015). On a different note, emotions also matter as investment professionals have to deal with their own emotions resulting from their work (Taffler et al.,

2017). Aggregating emotion up to sentiment, one can observe that stock markets are impacted by market sentiment, however, the predictive power of sentiment indicators is still debated (Huang, Jiang, Tu, & Zhou, 2015). Hard to value stocks are influenced most by sentiment and during periods with positive sentiment, overvalued stocks can open up an opportunity to generate a profit (Baker & Wurgler, 2006; Yang, Goh, & Chiyachantana, 2016). Finally, the personality of an individual is of interest, since based on the personality traits a person can be expected to produce a certain response (B. W. Roberts, 2009). In the context of a company that means, the personality of management has a bearing on the economic results of the company (Gow et al., 2016), hence it does impact the valuation of a company. When looking at equity markets, it is documented that personality traits impact risk aversion, however, the effect on financial results from investing is less clear (Durand, Newby, & Sanghani, 2008; Lo, Repin, & Steenbarger, 2005). Empirical work on personality traits of investment professionals and the potential impact on investment success is very sparse which might be down to unwillingness of the target group to participate in surveys.

While stock price developments are not all about psychology, the latter helps to explain patterns observed in financial markets. In this context, one needs to differentiate between share price drivers that originate within the company, and factors that originate outside like the behaviour of market participants. Investors show, among other psychology related aspects, emotional behaviour, they are subject to heuristics and biases and, hence psychological factors play their role when investment decisions are made.

3.1.1 Behavioural finance

Relying largely on cognitive psychology, behavioural finance helps to explain why investors make irrational decisions (Barberis & Thaler, 2002). Deviations from the expected decision-making process can be broadly grouped into the following areas: stance towards risk, deviation from the probability theory and influence of the presentation of a problem (Shleifer, 2000). There is rich evidence that investors deviate systematically from rational decision-making (Lord et al., 1979; Tversky & Kahneman, 1974; Weinstein, 1980). People use heuristics to overcome the issue of a potentially too complex situation and are biased going into a decision (Tversky & Kahneman, 1974). Tversky & Kahneman (1974) started with just three heuristics, however, the list of biases has

increased significantly over time (Thaler, 2016). Broadly speaking, markets will seek to exploit biases and systematic errors (Thaler, 2016). If there is a known and stable pattern on implementing irrational investment decisions, market participants aware of this will try to capitalize on the error. That doesn't mean that they will always trade against irrational behaviour and bring back stock price to a correct level in the sense of efficient markets. It simply means they try to figure out where the stock is moving next. That can also include a strategy that banks on the irrational behaviour to continue. It is therefore not surprising that for some of the factors that investors might consider, behavioural finance can at least offer a plausible explanation where the neoclassical theory fails.

The existence of heuristics and biases cause the systematic violation of rational decision making (Tversky & Kahneman, 1974). Investors are risk averse in the area of gains but turn keen on risk when it comes to losses; and decisions also depend on the way they are presented, how they are framed (Kahneman & Tversky, 1979). We can observe that investment professionals are subject to herding, i.e. they are implementing the same trades, which in turn is an explanation for share price momentum, meaning that a stock continues to move into the previous direction without additional impetus from incremental news (Nofsinger & Sias, 1999).

Heuristics like representativeness, availability or adjustment and anchoring (Tversky & Kahneman, 1974) also manifest in financial markets. For example, there is evidence that share price returns are influenced by the name of the stock. Adding "dot com" to the name of the company led to outperformance independent of the underlying business activity before the tech bubble burst (Cooper, Dimitrov, & Rau, 2001). Investors deduced from the name of the company the growth profile or other attributes without checking the actual business of the company. By the same token, removing "dot com" also helped the performance of the stock after the tech bubble collapsed (Cooper, Khorana, Osobov, Patel, & Rau, 2005). In a similar vein, changing the name of the style of a fund supposedly follows leads to improved flow of money into the fund (Cooper, Gulen, & Rau, 2005). Again, investors seem to have taken a shortcut by looking at the name of the fund to gauge what kind of strategy is used to construct the portfolio.

The availability heuristic can lead to overstatement of information in forming an investment decision that is readily available, for example frequent press reports on a particular

company. They come easier to mind when thinking about the next investment to make. As a result, stocks tend to underperform after they had very intensive press coverage (Barber & Odean, 2008). Akin to the availability heuristic is the familiarity or home bias. Investors tend to overweight regions that they believe they know well, i.e. their home market, resulting in inefficient portfolios (French & Poterba, 1991). In addition, the same observation holds also for single stock names. This can lead to investors holding stocks in their portfolio they are familiar with (Pool, Stoffman, & Yonker, 2012).

Perception of risk is another factor that can influence share price formation. Investors might simply refrain from investing into a stock, if they feel that a situation is unpredictable. The downside risk doesn't have to be bigger than the upside chance to keep investors away. This ties in with the prospect theory that shows among other things loss aversion (Kahneman & Tversky, 1979). The prospect theory also sheds some light on the pattern that in a correction, investors tend to take profits in stocks that have performed best. Investors are more worried to lose part of the gains they have made, than loosing even more money on trades that were unfavourable. Market participants also tend to add more risk at the beginning of the year to their positions as it is the start of a new measurement period and they start again at zero. There is also more time to recover losses, possibly by taking more risk. In addition, the willingness of decision makers to take risk increases with the gains made and risk aversion becomes more pronounced in the face of losses (Thaler & Johnson, 1990).

Also framing – i.e. how a problem or information is presented – is impacting decisions of investors (Kahneman & Tversky, 1979). Sell side and company management will pitch their version of the truth. Likewise, portfolio manager and investment advisors might feel inclined to present themselves in the best light in front of their customers. Inevitably investment professionals will present the information in a way that most likely triggers the desired behaviour of their counterpart. Trust can matter in this context, as a less trustful individual might be less inclined to accept the presented frame.

While the neoclassical theory is clear about information processing – fully and correctly reflected in prices – and implicitly the lack of errors in applying the probability theory, market participants might find it more difficult to answer the question whether an information is not or more than fully reflected in a share price. Post-earnings announcement

drift, i.e. a stock that showed surprisingly strong quarterly earnings continues to outperform the market, is an example of the first. The market takes time to fully and correctly absorb new information and incorporate it in the share price. On the other hand, crowded trades, a lot of investors chasing the same opportunity, might be a symptom of the latter (Nofsinger & Sias, 1999).

Crowded trades are result of herding, due to following the same indicators or simply replicating the behaviour of other market participants (Nofsinger & Sias, 1999). Investors implement the same trades and are positioned towards the market in the same way. Social interaction also matters when the same trades are implemented by different portfolio managers (Pool, Stoffman, & Yonker, 2015). It might still be a rational decision to pile into a crowded trade if there is a high probability of an outcome that would move the stock in the expected direction. Interestingly, stocks sometimes move in the opposite direction when the outcome materializes as expected. In that case, the information was more than reflected in the share price. If the outcome is unexpected, stocks tend to react fairly fiercely.

Herding also links up with momentum strategies (Nofsinger & Sias, 1999). More and more investors implementing the same investment decision will see the stock continue to move in the same direction - the stock shows momentum. Momentum is interesting in the sense that it is an example for how the insights of behavioural finance seem to have uncovered ways to earn money. Even though returns seem to decline post discovering and publishing them (Maclean 2016), there seems to be still money to be made based on human behaviour.

Interestingly, some of the patterns brought to light by behavioural finance found their way into approaches to manage money like momentum or size. The insights are usually implemented using quantitative approaches. That means, investment decisions are only based on screens of financial data of a company or price data of the stock. There are a couple of interesting observations to be made: the decision to buy or sell a stock is based on an algorithm, a computer-based process relying only on numbers. The data processed by the algorithm are estimates by sell-side analysts, historical financial data or simply share price data. The latter contain no information according to the neoclassical view. And finally, all more or less successful strategies have been invented or discovered by

humans. This opens a field of debate, how hard or soft quantitative approaches to managing money are.

One explanation behavioural finance offers for momentum is underreaction, followed by overreaction triggering a reversal (Barberis, Shleifer, & Vishny, 1998). The market does not react fully to new information and slowly incorporates the information into the share prices. If new information points into the same direction, the stock continues to move in the same direction, however, the market eventually overreacts to the information (Barberis et al., 1998). An alternative explanation is overconfidence of investors in private information (Daniel, Hirshleifer, & Subrahmanyam, 1998). An investor is overconfident in the information on the stock and/ or the interpretation of the available information – he believes he knows better than the market. This is compounded by attributing the good development to the own abilities. The confidence in the investment decision is enforced, leading to further short-term momentum (Daniel et al., 1998). Overconfidence is stronger with experts and partly driven by self-attribution and hindsight bias (Barberis & Thaler, 2002). Interestingly, overconfidence applies to company management as well (Thaler, 2016).

But even robust strategies like momentum, which has been working well, had some performance issues temporarily (Jegadeesh & Titman, 2011). To a certain extent, a case can be made for share price momentum being driven by information outside the share price data only. Share price momentum is closely correlated to earnings momentum and there is actually a fundamental case to be made, i.e. a strong trend in the development in earnings expectations. Earnings expectations continue to move up, which can be a meaningful contributor to the share price development. But also here, the point comes up that expectations of market participants are not updated correctly, or at least not in a timely fashion. The lack of properly updating estimates can in turn be linked to anchoring (Tversky & Kahneman, 1974). An additional factor benefiting momentum strategies is, that the more people trade on the pattern, the better it will work, at least initially. Over time there is a risk of overshooting, formation of a bubble and a crash. However, it would be wrong to assume that even the strongest pattern detected by behavioural finance will always work. Again, judgement is required when and ideally why something can be used.

Though the formation of a bubble on the back of momentum, feedback-loops or overconfidence is irrational, it can be perfectly rational and profitable to play a bubble, until the music stops to play (Abreu & Brunnermeier, 2003). The identification of a bubble is only partly helpful. It is helpful to know that a stock or market is overvalued and might therefore be prone to a possibly sharp downward correction. However, it does not help to predict the right point in time to exit. Since institutions are measured against a benchmark, an investor might hold on to overvalued positions against better knowledge. If they sell and underperform they get punished, basically a mispricing getting worse leading to a loss (Shleifer & Vishny, 1997b).

3.1.2 Emotion

While behavioural finance largely roots in cognitive psychology, research on emotions deals more with the unconscious side in decision making and draws on psychoanalysis (Taffler et al., 2017). The borders between affect, emotion, feelings and moods are somewhat blurred and not always clearly separated in their use. Though measurement is difficult, research has shown that emotion influences the direction of markets, risk tolerance of individuals and also the return of equity markets (Breaban & Noussair, 2018; Kamstra, Kramer, & Levi, 2003). Likewise, emotions influence stock selection (Kempf et al., 2014). Emotion is also a building block to encourage trust, e.g. in the management of a company, and develop conviction into an investment decision (Barbalet, 2009; Chong & Tuckett, 2015). In addition, investment professionals certainly face daily challenges and structural issues that impact their feelings and they have to deal with these when doing their job (Taffler et al., 2017). In the context of behavioural finance the consideration of emotions is largely limited to the affect heuristic (Finucane, Alhakami, Slovic, & Johnson, 2000). Though emotion is relevant for price formation, investment professionals are unlikely to admit that their decisions are influenced by emotion. On the other hand, research suggests that trust does matter to them (Taffler et al., 2017). There is a link to reputation, as e.g. emotional appeal is included in some measures for reputation (Fombrun, Gardberg, & Sever, 2000).

A study with day-traders suggests that the stronger an emotional response is, the more detrimental it is to trading results (Lo et al., 2005). That nicely ties in with the concept that investment professionals have a purely rational approach to decision-making.

However, this would be too narrowly considered. The fast emotional response might trump a measured conscious decision which suggests that a decision-making process dominated by emotion can be harmful (Lo et al., 2005). Also experienced traders show emotional response to strong shifts in market conditions, but apparently that response does not keep them from doing their jobs or might be even part of the required skillset (Lo & Repin, 2002). Likewsie, there is evidence that the emotional state of a trader is positively correlated to trading direction, e.g. a positive state will lead to purchases; however, this only applies to traders applying a momentum strategy (Breaban & Noussair, 2018). It is worth noting that momentum strategies are rooted in behavioural finance and are one of the more robust trading strategies. Strictly speaking, momentum strategies are not compatible with the neoclassical view on markets. Nevertheless, findings do support the notion that emotion does have an impact of the direction a market takes (Breaban & Noussair, 2018). Breaban & Noussair (2018) also find that fear and loss aversion are highly correlated. To put it more bluntly, if market participants are panicking, everybody will head to the exit.

There is also research indicating that the weather impacts equity returns and that seasonal affective disorder (depression induced by fewer hours of daylight) has a bearing on the seasonal returns of stock markets, respectively (Dehaan, Madsen, & Piotroski, 2017; Kamstra et al., 2003). When it comes down to the individual stock level, liking a firm at least partly outweighs negative information on a company and also leads to a more positive view on expected return and perceived risk of the stock (Ackert & Church, 2006; Kempf et al., 2014). There is even evidence that the first letter of the own name influences stock selection (Knewtson & Sias, 2010). While some of the findings might be seen as somewhat unusual, they do illustrate how far emotions and feelings reach into the decision making of market participants. None of the phenomena described is likely to be particular conscious by its nature. It is therefore rather unlikely that investment professionals are aware of the influence on their decision-making process.

Another aspect of the role of emotions is that it is essential for the building of trust (Barbalet, 2009). Trust in turn plays multiple roles that can influence e.g. the performance of the company and the reputation. In the context of corporate culture, the trustworthiness of management influences the performance of a company (Guiso et al., 2015). Trust can also work as a substitute for corporate governance (Pevzner et al., 2015) and can be linked

to reputation (Chun, 2005). In broader terms, trust can also be seen as part of the relational capital (Nahapiet & Ghoshal, 1998).

Likewise, emotions are very important in the context of conviction, which plays a critical role for investment decisions (Chong & Tuckett, 2015). Investment professionals need to be convinced that the decision they take is well founded and will play out in line with their expectations. The conviction can be attained on the basis of hard data, subjective assessment of the company, but also by arranging available data in a way that the information makes sense to them. Practically, the latter case means that a sell-side analyst does not have to be right in calling a stock, or a management team accurate in the presentation of their company, they only have to find enough people making investment decisions that believe they are right.

Finally, it is important to keep in mind that portfolio managers face pressure to beat their benchmark - they are challenged with the task to be better than the market. The hurdle is even somewhat higher as they have to also make good on the costs that are charged to the fund they manage. As a result, only a small part of actively managed funds beat their benchmark and it is not always the same fund managers achieving that. It is easy to imagine that portfolio managers face internal conflicts and anxiety (Taffler et al., 2017). There are a number of also unconscious mechanisms for mental defence at work, to cope with a challenge that is hard or nearly impossible to meet. One of these mechanisms is resorting into the use of financial calculation and modelling to inject rationality in a world that is unpredictable; tools that are supposedly a sign of rational decision making are only used to solve an emotional problem (Taffler et al., 2017). Another mechanism describes that investment professionals seek a trustful relationship to company management and thereby delegate the task to generate performance to the management of the company (Taffler et al., 2017). The approach also offers an explanation why investment professionals seek regular contact with company management. They seek to build trust in the management and their ability to deliver a favourable outcome following the decision they took. It is worth noting in this context that trust is a facet of reputation. Another approach for portfolio managers to make sense of what they do in the face of an impossible task is to create narratives to justify their work (Eshraghi & Taffler, 2015). They tell stories about what they do and what is happening to themselves and to others in a way, that their work makes sense to them and others. Narratives are also important to gain conviction in an

investment decision (Chong & Tuckett, 2015). Though narratives seem to be important to justify the own job, it also links back to the point, that sensemaking gives a decent description of the actual decision process.

3.1.3 Market sentiment

Moving from the emotion of an individual and the possible influence on investment decisions to the collective feeling of a group, we now look at the emotional status of the market as a whole. The impact of emotions is aggregated up to market sentiment. Market sentiment describes how the whole community of market participants feel about the market, whether they are scared, complacent or greedy. The terms "risk-on" and "risk-off" are often used to shortly describe the risk appetite of the market participants. Though there are a number of papers that show that stocks and stock markets are impacted by sentiment, there is an ongoing debate about the predictive power of sentiment indicators when calculated monthly (Huang et al., 2015). Against the backdrop of at times very frequent changes, the stability of the sentiment might be one of the issues.

Market sentiment is usually viewed in the context of uninformed demand or noise traders (Barberis et al., 1998). The transmission mechanism is based on the fact that people in a positive mood are overly optimistic and people with a negative sentiment are too pessimistic (Huang et al., 2015). Since investor sentiment cannot be measured directly, metrics have to be selected that can serve as proxies. The range of proxies to get to grips with the current market sentiment is very broad and controversial (Baker & Wurgler, 2006). The list of proxies contains, but is not limited to, trading volume, development of IPOs, confidence data, stance of individuals and also measurements taken on social media. There is evidence that hard to value stocks are sensitive to sentiment, co-movements with high retail ownership can be explained by retail investor sentiment, sentiment has an impact on the risk perception and that overvaluations of stocks during high sentiment periods can be profitably exploited (Baker & Wurgler, 2006; Kumar & Lee, 2006; Yang et al., 2016; Yu & Yuan, 2011).

Unsurprisingly, the stocks that are hardest to value are the most impacted by sentiment. This would for example apply to companies with a short financial history on the stock market, smaller companies, enterprises promising very high growth or companies that are unprofitable or financially distressed (Baker & Wurgler, 2006). For all of these company

types it is harder to collect a comprehensive set of data to start with, and the interpretation of the data is more challenging. It is also worth noting that stocks with these or similar characteristics tend to be unloved by the market on the way down, but also show the strongest recovery when the market turns.

Since valuations for hard-to-value stocks are more subjective, there is a relatively wide valuation range that can be still seen as reasonable by investors, hence, the stocks are more prone to overvaluation (Baker & Wurgler, 2006) but also to undervaluation. The other transmission channel Baker and Wurgler (2006) see is that this class of stocks is hardest to arbitrage. It is more difficult to sell overvalued stocks short, as borrowing the stocks might be impossible or too expensive. In addition, it might prove difficult to find an appropriate hedge. As a consequence, an overvaluation is more likely to build and persist, as even when identified the ability to exploit the situation might be very limited. They also see some explanation from wrong earnings expectations (Baker & Wurgler, 2006). This might well go back to the tendency of sell-side analysts to be too optimistic in their forecasts, and sentiment, besides economic interests of a broker, might well play also a role in this context. Sentiment, as expression of optimism or emotion, is the most important driver of an overpricing of stocks with high valuation uncertainty (Baker & Wurgler, 2006). In other words, feeling dominates in the absence of facts or might even dominate facts.

Baker and Wurgler (2006) show that when sentiment is low the return on hard-to-value stocks is high, and when sentiment is high the return on these stocks is low. Hard-to-value stocks appeal to optimistic investors in periods of high sentiment, while they become unattractive for rational investors and vice versa. Implicitly, this means that under- and overvaluation have developed in the respective periods driven by the prevailing sentiment. When the mispricing unwinds, positive returns can be generated. The only tricky point is to get the timing right. With sentiment building in the same direction, mispricing can still get bigger. Yang et al. (2016) suggest that institutional investors can benefit from overvaluation during high sentiment periods by selling. Obviously, that would apply to all market participants that realize there is a mispricing, act accordingly and are not caught out by the formation of a bubble. Interestingly the transactions of institutional investors have a high predictive power for future returns, suggesting that institutional investors are better informed than their retail peers (Yang et al., 2016). This would also offer another

explanation on why stocks that performed very well are hit hardest in a crash, as institutional investors sell overvalued stocks first. Another read would be that sentiment shifts (to negative) are important to drive down valuation. If sentiment is low, the confidence or trust that a company will achieve its financial targets is low and hence a higher equity risk premium is demanded. When sentiment shifts and confidence in the positive development of the operating business of the company rebuilds, the equity premium demanded drops. The stock moves up and, at times, quite sharply. The change in sentiment can be tied to an underlying improvement in the macroeconomic environment that gives rise to the hope that the operating business improves. But it can also be down to the view of market participants that a stock or a sector has been simply hit too hard on the way down and looks now attractive. An important point is that sentiment shifts can be tied to new information but can also occur without them. If a big enough number of market participants have changed their assessment of the situation, it will move a stock or market.

3.1.4 Personality

Personality can be relevant for the assessment of behaviour of investment professionals and also impact the behaviour of company management. Personality traits are considered to be fairly stable and to produce a certain response under given circumstances (B. W. Roberts, 2009). A point to consider is that traits can be modified over longer periods of time (Almlund, Duckworth, Heckman, & Kautz, 2011). Personality of the members of company management has an impact on the economic outcome for the company (Gow et al., 2016). In the context of equity markets, personality traits influence risk aversion but the impact on results from investing into financial markets is less clear (Durand et al., 2008; Lo et al., 2005). Empirical work on investment professionals is very sparse which might be down to a potential unwillingness of the target group to participate in surveys. However, the limited data would point among other factors to introversion and openness to experience (Fenton-O'Creevy, Nicholson, Soane, & Willman, 2005).

Given that the relationship between personality traits of CEO/ management staff and success of the company seems to be well established (Gow et al., 2016), the personality of company management staff should certainly be of interest to people making investment decisions. If personality has an impact on the operation of a company, it also has an impact on financials and, hence, on the valuation of a stock. Knowing or at least having a

rough idea of the personality of the decision makers would also make it easier to predict the behaviour of management, since personality is seen as stable and should produce a similar response to certain circumstances (B. W. Roberts, 2009). This might also illustrate why experience can be central to successful investing. The ability to assess the personality of management and/ or knowing how management is likely to react when the environment shifts into a certain direction, can make it easier to guess what the share price is likely to do. Management might for example use M&A extensively to foster growth to the point of empire building. Knowing that acquisition activity will continue to be high, gives a pretty good idea on what to expect. Interestingly the personality of management seems to play an important role for provider of venture capital when deciding on an investment (Macmillan, Siegel, & Narasimha, 1985), suggesting that the lack of a long financial track record of a company encourages the use of soft factors. The role of personality traits of company management for the economic outcome might also explain why financial analysts and portfolio managers are keen to get to know the management of the respective company. Some will not recommend or take a position in a stock without knowing the top management. Forming an opinion of the personality on the individuals taking management decisions within the company, can be quite central for the view on the future development.

In the context of equity markets the personality of market participants could be relevant since five factor models (or big five) to describe a personality (Costa & McCrae, 1992; Goldberg, 1990) seem to have about the same predictive power as cognitive abilities for economic outcomes (Almlund et al., 2011). As such, personality profiles of market participants could be a criterion to select employees or make a prediction about the potential future success in making investment decisions. An issue is, that little is known about the personality profiles of successful market participants. There seems to be also a debate on whether traits or rather behaviour is context dependent (Almlund et al., 2011; Lo et al., 2005). That would raise the risk that the behaviour might shift in new, different or critical situations, which would make it a less useful predictor for the reaction the individual shows. Nevertheless, personality traits have an influence on the willingness to take risk, stock market participation and investment behaviour, however, the impact on results from investing into financial markets seem to be controversial (Bucciol & Zarri, 2017; Conlin

et al., 2015; Durand et al., 2008; Lo et al., 2005); limited time frame, a small sample or the sample being students might have influenced results.

Another field potentially of interest is whether people playing an active role in capital markets have a certain personality. Though there are established regimes to measure personality traits, the amount of time required for a survey and the willingness of subjects to participate in surveys can pose problems for empirical studies. As a result, the number of studies dealing with the personality of investment professionals are very limited. Nevertheless, a study involving 118 traders at four investment banks would suggest that introversion, emotional stability and openness to experience are the key to being a successful trader (Fenton-O'Creevy et al., 2005). The last trait is important as openness is often linked to intelligence (McCrae & Costa, 1997; Noftle & Robins, 2007). If intellect, or more precisely intelligence, is indeed the driving facet within openness, it might shed a different light on the role of personality traits. In terms of generalisation it is also worth noting that by definition a trader moves in a market in a different way than a long-term investor. Also, strictly speaking the number of traders has declined considerably. Computers play a bigger role and proprietary trading has become less important. Nevertheless, it is probably fair to assume that more short-term oriented market participants, i.e. smart money/ hedge funds, have similar qualities.

3.2 Non-financial information

Non-financial information is increasingly prevalent in company disclosures and is typically subsumed under the label of environmental, social and corporate governance (ESG), though the list of relevant non-financial information is probably a lot longer. ESG and socially responsible investments have developed over the last couple of years into one of the most prominent trends in the financial industry. Environmental measures can help financial performance and lower cost of capital (Klassen & McLaughlin, 1996; Sharfman & Fernando, 2008), whereas research results on the impact of social efforts are mixed (Aouadi & Marsat, 2016; Wang et al., 2011). Among social aspects, diversity and employee satisfaction have a positive economic impact (Carter et al., 2003; Edmans, 2011). However, while there might be correlation, there is no evidence for causality for environmental and social projects on financial performance (Aouadi & Marsat, 2016; Peloza, 2009). There is a near-term reaction to environmental and social events in term of share

price and institutional investor attention, respectively (Krüger, 2015; Wang et al., 2011). Corporate social responsibility activities can work in some situation as a support for the share price (Godfrey, Merrill, & Hansen, 2009). Though corporate governance might have today a more ethical tilt, it is rooted in an agency problem as ownership of the capital and control of the firm are separated and providers of capital seek to ensure that the bulk of the profit is paid out to them (Shleifer & Vishny, 1997a). Good corporate governance leads to a better financial performance (Ammann et al., 2011; Gompers et al., 2003). The main aspects are the board structure, management compensation and provisions around anti-takeover mechanisms (Ammann et al., 2011; Brown & Caylor, 2006).

ESG deals with the main dimensions in this field a company has to consider in running the operating business. At the same time investment professionals take these factors potentially into account in their decision making. Socially responsible investment (SRI) is often used as a synonym for ESG; however, even though both fall into the bucket of responsible investment and share key aspects, SRI can be more rigorous in the investment implementation. The more extreme form of SRI is impact investing where there is also a clear social and/ or environmental objective to be achieved (Clarkin & Cangioni, 2016). Corporate social responsibility (CSR: broadly speaking efforts to serve society, covering social and environmental aspects) deals with the efforts a company makes to act in a responsible way towards society. It is worth noting that the area corporate governance is typically not part of SRI, CSR or sustainability issues.

ESG factors can certainly be integrated into a valuation process by factoring a higher or lower risk premium, a contingent liability or simply expecting a different financial performance. Existence of instruments to block an unfriendly takeover, activity in emerging markets or potential environmental damage are neither uncommon nor something new for a financial professional when considering an investment. Consequently, it can be argued that considering ESG factors in investment decisions is not different from fundamental analysis (van Duuren, Plantinga, & Scholtens, 2016). The key problem is that it is a lot harder to put a number on it. Knowing that a company produces in an emerging market is likely to show up in the accounts in term of production cost as a hard number. The reputational and financial damage when something seriously goes wrong, because production standards are lower or anti-corruption rules are not followed, is unpredictable. Interestingly, central to the debate seems to be still the question whether ESG is

detrimental to returns since negative side effects and cost to implement e.g. governance measures could outweigh the potential value gains (Bruno & Claessens, 2010). Looking at the performance of indices seeking to incorporate ESG features would suggest that these are at least outperforming slightly most of the time relative to their parent index. Implicitly, this means that screening the investment universe for superior ESG exposure will not always lead to a better performance, since it is based on a mechanism that will over time probably be replicated.

The way in which companies deal with ESG issues has found its way into the general assessment of stocks by investment professionals (Luo, Wang, Raithel, & Zheng, 2015; van Duuren et al., 2016). ESG provides additional insights into the future development of a company. As such, it has implications for the valuation of a firm, even though the data is usually qualitative and difficult to compare. For example, there is no standard for measuring corporate governance yet and the data from rating providers does not appear to be stable and consistent (Larcker, Richardson, & Tuna, 2007). Likewise, the term SRI does not seem to be used consistently by investors (Berry & Junkus, 2013). Though there are scoring models for ESG/ SRI factors, the points outlined above would suggest that the information is at least subject to interpretation.

Common approaches to ESG integration cover negative screening/ exclusion, positive screening or best in class (van Duuren et al., 2016). Exclusion is the simplest and probably oldest form to deal with ESG issues. Sectors or individual stocks are removed from the investable universe as they carry unwanted properties. Typical examples would be alcohol, tobacco or weapons. Positive screening would concentrate investments into companies or sectors fulfilling certain criteria. In a best-in-class approach, sectors are not necessarily excluded. Instead, companies are selected that have a positive or at least a better score compared to alternative investments. Practically that means, companies active in the fossil energy space might not be wanted in an ESG context, but companies within this sector dealing best with the negative side effects of their operation on the environment might still be integrated in a portfolio.

ESG specialists are often separate from the investment team. On the positive side it allows specialisation but raises the problem how to integrate ESG information into the investment process. On the other hand, the range of ESG factors to consider might be too

diverse to be fully considered by a portfolio manager. The minimum that looking at ESG data does is that one becomes more conscious of a factor.

ESG factors are sometimes seen as an instrument to manage tail risk or more precisely the risk that a stock makes an outsized move down. An oil spill is not very likely but when it happens it can have severe financial consequences for a company. Consequently, the share price can react dramatically to the event. The likelihood of an occurrence and the potential damage are difficult to predict. A sanity check is to think what a headline in the news would do to the stock. The financial consequences might be difficult to assess even after such an event occurred or remain unclear for an extended period of time. From an investor professional's point of view the likelihood of an event matters, the ability of a company to deal with it and ultimately the amount of stock price risk taken. Indeed, CSR reduces the risk of a company (Luo & Bhattacharya, 2009) and the risk reduction is more pronounced in controversial sectors (Jo & Na, 2012).

3.2.1 Environment

A good example of how real environmental considerations can become is the recent experience of the auto industry with the diesel emissions issues. A material financial damage resulted and there are also reputational consequences. It has also materially shifted the public and political debate around the future of mobility, impacting the whole industry. On the same note, not only public attention to climate change has increased significantly but also that of investment professionals. Efforts to protect the environment can help financial performance via more efficient use of resources and lower cost of capital as the risk from environmental issues can be lowered (Klassen & McLaughlin, 1996; Sharfman & Fernando, 2008). Unsurprisingly, share prices react negatively to bad environmental news but also positive news show slightly negative impact short-term (Klassen & McLaughlin, 1996; Krüger, 2015). While there seems to be a weak positive correlation between environmental, and also social projects, and financial outcome, there is a lack of evidence for causality (Peloza, 2009). The other issue in pinning down the impact of environmental measures is reverse causality, i.e. whether good environmental performance leads good financial performance or the other way round (Krüger, 2015). There seems to be an unstable link of efforts to protect the environment to reputation and increased efforts can enhance reputation (Brammer & Pavelin, 2006; Krüger, 2015).

Environmental issues include among others pollution, water scarcity, energy consumption and climate change. Generally, the specific environmental issues depend on the industry, for example water scarcity is more relevant for the food, paper and semiconductor sectors. Most environmental issues are likely to be seen as a risk or a contingent liability. As long as there is no accident or shift in assessment of the associated damage to the environment, it has no bearing on the financials. Financial consequences only arise if an event occurs.

On the other hand, environmental issues can also create a business opportunity for companies. These are typically driven by government intervention or a shift in public opinion. Tightened legal frameworks to lower pollution, limit energy consumption or reduce the carbon footprint require responses from the companies impacted. These responses mean increased opportunities for companies that offer solutions to meet new standards. Alternatively, innovation can create new industries. The consequences are debatable, but alternative energy sources can serve as an example.

Starting point of the debate around the financial impact of a more environmentally friendly approach to production was the assumption that it results in higher costs. As a consequence, the incurred incremental costs hurt the financial results. A common approach to show the benefits of environment protection to the financial results is based on the concept that an environmentally friendly production it is a more efficient way of using resources. In other words, it is generating cost savings. Better financial results would therefore be driven by lowering the costs. Generating larger revenues could also support the financial performance of a firm. Even if measures to protect the environment could lead to higher costs, i.e. hurting margins, the increase in revenues could still lead to an absolute increase in earnings. Empirical data suggests that strong environmental management leads to positive stock price performance, while negative environmental events lead to negative returns (Klassen & McLaughlin, 1996). In addition, the engagement into the management of environmental risks reduces the cost of capital. The company has lower cost of equity, can run higher debt levels which in turn is creating a tax benefit. That means the risk perceived by equity markets is lowered by these measures. (Sharfman & Fernando, 2008). However, the debt market seems to draw a different conclusion, as the cost of debt actually increases (Sharfman & Fernando, 2008). Measures taken by management might help to lower the risk of environmental damage occurring in the first place

or limit the damage if an event should happen. Alternatively, the potential financial damage from environmental misconduct could put earnings under pressure. One way or the other, efforts to lower environmental risks limits the financial risk and, hence, the downside risk to the share price. An open issue remains that the measures taken by the company are most likely not proven since they can't be tested. An alternative explanation for a lower equity risk premium might be the willingness of market participants to pay up for companies fitting an environmentally friendly profile. This willingness can be totally unrelated to the risk profile of the operation, but rather the preferences of the investor.

Unsurprisingly stocks react negatively to events that are damaging the environment (Klassen & McLaughlin, 1996). Likewise the short-term reaction of share prices is negative to bad news in the broader context of CSR, with environment showing up among the most pronounced reactions (Krüger, 2015). The finding is intuitive, since the harm to environment is likely to result in incremental costs for containing or repairing the damage. Medium- to long-term, the accident might also impair the business. Quantification will still be an issue and can prove to be evolving over time. Exceptions to a negative share price reaction can occur if market participants have already anticipated that an adverse event might happen. This is probably only applicable to small scale accidents. Interestingly, the short-term reaction to positive CSR news is also slightly negative, since there is the perception that expenses are borne by the shareholders while the reputational benefit accrues to the management (Krüger, 2015).

Though socially responsible behaviour, including environmental efforts, has an influence on reputation, it might not only vary between different sectors but also within sectors. It is also worth noting that the impact of environmental actions on reputation depends on the viewpoint of the stakeholder. It can turn out to be enhancing or damaging to reputation (Brammer & Pavelin, 2006). Share prices do show a positive near-term reaction to positive news on the CSR front when a company displayed a socially irresponsible behaviour in the past and has therefore issues in their stakeholder relationships (Krüger, 2015). In this context CSR might work as an instrument to enhance reputation.

In addition to being covered in surveys, consumers might be appealed by environmentally friendly measures of a company catering to the preferences of their customers. The same goes for investors that favor stocks of companies showing a socially responsible behavior.

A rather soft aspect then becomes a selection criterion for an investment. Interesting in that context is the question to which extent companies engage in environmental activities as a marketing instrument, in particular since they have an incentive to greenwash their activities (Krüger, 2015).

3.2.2 Social

The differentiation of social issues from environment is not always clear cut, in particular, since environment and social (and at times even corporate governance) are lumped together in the terms SRI, CSR or sustainability. As a consequence, there is hardly literature dealing only with social aspects. On the other hand, there are a significant number of articles looking at SRI, CSR or corporate social performance (CSP). By and large, social factors deal with the human capital including the supply chain. Factors that are relevant are for example human rights, diversity, employee satisfaction and working conditions in a company and also in the supply chain. Some sectors like mining, apparel or retail might be more prone to risks related to that field than other sectors. Findings on the impact of social initiatives on financial performance are mixed and a causal relationship seems difficult to find (Aouadi & Marsat, 2016; Wang et al., 2011). Research suggests that CSR receives increased attention from institutional investors short-term after an event and that it can work in some circumstances as an insurance (Godfrey et al., 2009; Wang et al., 2011). Diversity and employee satisfaction are areas in the wider group of social related items that can benefit financial performance (Carter et al., 2003; Edmans, 2011).

Investments into social, and likewise environmental, projects can be viewed as the creation of an intangible asset that are of interest to investment professionals like sell-side analysts (Luo et al., 2015). As such, they could contribute to explaining the sometimes big difference between book value and market value of equity. However, the findings on the impact of social factors on the financial performance of stocks are rather mixed (Aouadi & Marsat, 2016; Wang et al., 2011). Likewise, research struggles to find a causal link between CSR efforts and the impact on financials (Aouadi & Marsat, 2016). An observed positive correlation might therefore only reflect a coincidence. In addition, the positive impact of corporate social responsibility seems to be conditional on good corporate governance (Ammann et al., 2011), raising the question whether corporate governance or social responsibility are behind the positive impact. A general issue in this context

is that the cost for socially positive efforts materialize immediately and burden the financial result, while benefits on the earnings might only show later (Wang et al., 2011).

The economic case to be made for the consideration of social factors is largely based on the thought that social misbehaviour, like violation of human rights and poor working conditions, might destabilise the production process and can result in high staff turnover. The impact on misconduct might be delayed and only occur, when employees have an alternative. The consequence is an inefficient and/ or more costly production process. For one part it could result in shortage of staff simply derailing production and for another part it could mean increased hiring costs. If employees don't have an alternative to pick up, motivation is likely to be substandard in situations with social issues, hurting efficiency of the production process. Another aspect is, that problems in the field of social factors can hurt reputation since corporate social responsibility is one driver of reputation (Godfrey et al., 2009).

The melamine incident in China shows that at least in this region retail and institutional investors don't pay very much attention to social factors, at least until a negative event happens. Institutional investors take social aspects into account after an event occurred, at least near-term. Retail investor do not show a change in behaviour at all. The findings suggest that the relevance of social factors for institutional investors is contingent on an event (Wang et al., 2011). It is probably fair to assume that an event at least reminds investment professionals on the inherent risks to the share price if misconduct is detected. This would also tie in with the finding that investors avoid companies with a CSR performance below a certain threshold. The risk of a negative event is perceived as too high. On the other hand, also stocks with a high CSR performance are avoided, as the company might be simply overspending (Wang et al., 2011). There might be still a positive impact to reputation, however, that benefit might accrue to the management of the company and not to the operation of the company (Krüger, 2015).

Besides a direct impact on the financial performance, CSR activities can also serve to create goodwill for a company that limits the negative impact in case of an incident and serves therefore as insurance (Godfrey et al., 2009). Efforts on social aspects can work as an insurance and can mitigate the damage to share price. However, this refers to secondary stakeholder like regulators, media or general public. Only the types of activities like

philanthropy, which creates moral capital, do help a company to develop an insurance-like protection. However, it does only work with large firms for primary stakeholders like shareholders or employees (Godfrey et al., 2009). The flipside is that if there is malpractice, it is detrimental to both reputation and financial performance. As such, it is very relevant to be aware of the risk.

Diversity, though sometimes also captured under corporate governance, is another factor to mention that has a positive impact on firm value (Carter et al., 2003). The proportion of women in management functions is often seen as a proxy of diversity. The key question is whether there is causality, correlation or only the objective of a company to appear to the outside world, as if standards are met. Also in this context companies might be tempted to greenwash their activities (Krüger, 2015). Diversity might also simply be a result of a good corporate culture that embraces the concept of a broad range of experiences, backgrounds and characters contributing to a better outcome.

Tackling the topic of working conditions in a different way is to look at job satisfaction. Job satisfaction is typically captured in external surveys on how attractive an employer is. Insights in the results from internal employee surveys would be certainly very interesting but probably difficult to obtain. The general issue of biased answers is likely to prevail in both cases. Nevertheless, research suggests that the job satisfaction of employees is positively correlated to the development of the stock price (Edmans, 2011). The finding is also linked to corporate culture and job satisfaction is also a facet of reputation in surveys. Edmans (2011) also suggest that SRI screens might be an appropriate tool to improve investment returns. It is not difficult to imagine, that employees being happy in their job are more likely to contribute positive to the development of the company than employees disliking their job.

3.2.3 Corporate governance

Corporate governance probably receives relatively more attention than environmental and social issues, both in literature and among practitioners. Though corporate governance might have today more of an ethical or sustainability tilt, it actually originated in the agency problem created by external finance to a firm. Ownership of the capital and control of the firm are separated (Shleifer & Vishny, 1997a). Monitoring mechanisms, like board of directors or institutional shareholder (Larcker et al., 2007), are required to ensure

that management is not acting solely in their own interest. Good corporate governance is usually linked to cashflows and profits being paid out to provider of capital (Jensen & Meckling, 1976; Shleifer & Vishny, 1997a). There is evidence that good corporate governance is associated with a stronger performance (Ammann et al., 2011; Gompers et al., 2003) and that institutional investors are one factor that can drive change in corporate governance (Aggarwal, Erel, Ferreira, & Matos, 2011). Though there is no commonly accepted measurement of corporate governance, factors like board structure, management compensation and "poison pills" explain the bulk of the positive impact of corporate governance to financial performance (Ammann et al., 2011; Brown & Caylor, 2006). A strong shareholder protection legislation in the respective country is an important element of corporate governance, but companies still need to ensure the implementation of corporate governance measures (Bruno & Claessens, 2010; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000).

In the context of an agency problem, good governance is predominantly associated with a higher share of the cash flows returned in the form of dividends or interest and lower cost of capital and not being used by management for their own purposes (Jensen & Meckling, 1976; Shleifer & Vishny, 1997a). Implementation of corporate governance measures can come at a direct cost, e.g. to monitor the management, or indirect cost, e.g. discouraging management to develop new business initiatives. The cost incurred to improve corporate governance can also outweigh the benefits achieved by better governance (Bruno & Claessens, 2010). Corporate governance measures are largely targeted at the protection of minority shareholders and creditors against the expropriation by management or controlling shareholders (La Porta et al., 2000). Corporate governance also covers nowadays fields like anti-takeover rules, anti-corruption policy, cyber security or tax avoidance.

Even though there is a significant body of research that covers the relationship of corporate governance and the value of a company, there is no commonly accepted mechanism to measure corporate governance (Ammann et al., 2011). Consequently, findings should be treated with some degree of caution which makes the assessment of corporate governance complicated - like other soft factors. Not only the measurement of the strength of corporate governance and the respective interpretation is a challenge; but also how the proxy or combination of proxies is selected. Investment professionals might have very

different views what entails good corporate governance. In academic research single indicators as well as a mix of several internal or external indicators were used. When combining several indicators, these are typically weighted equally (Ammann et al., 2011). Elements of corporate governance that explain the bulk of the correlation between good governance and financial success include the board size and composition, board compensation and anti-takeover measures (Ammann et al., 2011; Brown & Caylor, 2006). There seems to be little connection between corporate governance and the occurrence of irregularities in accounting, like abnormal accruals or accounting restatements (Larcker et al., 2007).

Examples of damaging wealth of minority shareholders are selling products, assets or securities at too low prices, employ unqualified family members or friends and empire building (La Porta et al., 2000). Investor protection through a strong legal framework in a country is both an important element of corporate governance and an explanation for a number of regional differences ranging from the development of capital markets to dividend policies (La Porta et al., 2000). A strong legal framework can also mean that too high costs are incurred by the company to implement corporate governance measures and the regime might not be optimal for a company. On the other hand, a strong legal framework does not release companies from the requirement to establish a minimum of corporate governance measures, as these companies would still carry a valuation discount (Bruno & Claessens, 2010).

A typical example of the agency problems associated with separation of ownership and control are companies where management receives outsized compensation. This raises the question whether it is still in the interest of shareholders to employ the management team. Relatively high compensation of management can occur because of weak governance. The structure and composition of the board and also the shareholder structure matter in this context. In addition, weak corporate governance also fosters weak operating performance of the company and, hence, hurts the development of the share price (Core, Holthausen, & Larcker, 1999). When investors realize that management teams seek only to maximize their own wealth, it typically reflects badly on the company and the development of the stock price. High institutional ownership can remedy corporate governance issues and address e.g. the board structure. At the same time high institutional ownership

makes it more likely that CEOs not performing well are being ousted (Aggarwal et al., 2011).

The existence of a controlling shareholder is also a very relevant factor for the valuation of a stock. In case the controlling shareholder dominates the strategy of the company, the future of the operating business and its financial performance might hinge on the decision of that particular investor. In such a situation, the assessment of the controlling shareholder becomes a very important factor. In this context there is also an agency problem, as a controlling shareholder might well use his dominant position to disadvantage minority shareholders (La Porta et al., 2000; Lemmon & Lins, 2003). The presence of a controlling shareholder also highlights that voting rights are another example of hard-to-value factors. There is certainly a value attached to a voting right as the unstable discount of non-voting preference shares illustrates. However, there are exceptions to that rule when the preference shares are significantly more liquid or voting rights are essentially useless in the face of a controlling shareholder.

3.3 Corporate culture and reputation

There seems to be little doubt that reputation and corporate culture have the potential to create (or destroy) value. Reputation matters both in the context of the operations of the company and the implications for the economic outcome, but also for how a stock is seen from an external investor. It is worth noting that the definition is not clear cut and differs between the academic disciplines (Chun, 2005). Culture matters for the behaviour of individuals but also in the context of the culture within a company. Reputation is positive for the financial performance and can constitute an intangible asset that results in a competitive advantage (Barney, 1991; Fombrun & Shanley, 1990). Good reputation makes better financial results more sustainable (P. W. Roberts & Dowling, 2002). However, efforts by management to protect reputation can hinder the adaption to a change in the environment (Fombrun & Shanley, 1990). For practitioners management quality and strategy stand out for decision making (Breton & Taffler, 2001). Corporate culture can make a difference for the progress of a company and can also be seen as an important intangible asset (Edmans, 2011; Guiso et al., 2015). The main contributors to the financial performance are management integrity and employee satisfaction (Edmans, 2011; Guiso et al., 2015). A strong corporate culture can also be a hinderance for the development of

a company (Sørensen, 2002). National culture has even a bigger impact on decisions than corporate culture as evidenced in the prevalence of cross-border transactions (Ahern et al., 2015; Guiso et al., 2008). Trust matters in several ways. Trustworthiness of management has positive influence for the development of a company (Guiso et al., 2015) and can be a substitute for corporate governance (Pevzner et al., 2015). Trust also provides an explanation why investment professionals see regular management meeting as highly important (Taffler et al., 2017) and how financial results are taken by market participants (Brown, Call, Clement, & Sharp, 2016).

There is an overlap of corporate culture with ESG, mainly in the field of social, and there is an affinity between trust and corporate governance. Most measures of reputation and/or culture seem to rely on external surveys. In (at least) one case analysts are among the surveyed persons and one could argue that this is the channel how the factor/ information is transported from the experience of investment professionals into the public sphere.

3.3.1 Reputation

Reputation has a positive impact on financial performance and can be seen as an intangible asset that can constitute a sustainable competitive advantage (Barney, 1991; Fombrun & Shanley, 1990). It is usually considered to lower the cost of capital and attract investors. A good reputation also allows a company to maintain better financial outcomes longer than peers that fare worse in terms of reputation (P. W. Roberts & Dowling, 2002). The benefits of a good reputation - that it can be important for value creation and that it is difficult to replicate - makes it an important intangible asset (P. W. Roberts & Dowling, 2002). As such, it is another example why the market value of a firm's equity can be significantly higher than the book value. As management usually sees good reputation as a valuable asset, companies are likely to try to protect their reputation. This can in turn limit management's ability to respond to changes in their environment (Fombrun & Shanley, 1990). Nevertheless, also that aspect of reputation offers insights to investors, how management teams are likely to steer the company. For part of investment professionals, management quality and strategy play an important role for investment decisions (Breton & Taffler, 2001). However, research showed mixed results when it comes to the connection between reputation and returns in the stock market (Anginer & Statman, 2010).

Measurements of reputation typically rely on surveys. One of the issues is, to which extent good reputation is simply a function of past financial success. Research points towards a meaningful component of reputation that is related to non-financial performance having an impact (P. W. Roberts & Dowling, 2002). Reputation contains broadly speaking a more rational component and an emotional one. Depending on the framework used, these measures are more or less pronounced. Fombrun et al. (2010) found that all items but one they use, load into one rational factor whereas emotional appeal constitutes a separate factor. Reputation is mostly looked at in a monolithic way, while a split into a factual and an emotional component makes measurement and management of reputation easier for a corporate (Schwaiger, 2004).

Strictly speaking reputation is the aggregate view that various internal and external stakeholders hold about a company (Fombrun et al., 2000). As a consequence, a company has many reputations (Chun, 2005). Obviously, investment professionals are just one group of stakeholders where the company acquires reputation when dealing with them. It is worth keeping in mind that even within the group of investment professionals the requirements differ and, hence, the view on the reputation of company might not be identical. Investment professionals might well assign a premium or a discount depending on the reputation a company has acquired. The reputation is a function of the extent a company has fulfilled the expectations of the investment professional. A company that has a reputation for not making their financial targets will realize a lower valuation and vice versa. Reputation is built through the activities of the company which are being observed and judged by its stakeholders and can be seen as signalling by the management to their stakeholders (Basdeo, Smith, Grimm, Rindova, & Derfus, 2006). Basically, stakeholders are gathering experience with the company and the management over time. Based on this experience, they form a view on the company and on what to expect going forward. The measures taken by companies go well beyond strategic decisions, but also show in their competitive behaviour and how they respond to actions from other market participants (Basdeo et al., 2006).

The other channel for the impact of reputation is that a company can achieve and possibly maintain a better financial performance due to its reputation with other stakeholders, like employees, suppliers and customers (P. W. Roberts & Dowling, 2002). This constitutes another example where a soft factor will eventually reflect in hard financial data and

warrants a higher fair value. However, the problem is to pin down an indicator for reputation that still has value. Generally, this challenge holds true for all soft or hard items possibly influencing the share price. Once a survey result on reputation is published, there might be no outperformance left (Anginer & Statman, 2010). Work on the connection of reputation and the performance of stocks has yielded mixed results, also in the sense that companies being labelled with a strong reputation showed in earlier studies outperformance, while later studies showed low returns (Anginer & Statman, 2010). Once the market has realized that an item can be a driver for the share price, it will seek to use it. When it becomes common knowledge and the information advantage is gone, it will cease to work or start to work in the opposite direction. It depends again on the creativity of the investment professional to find an indicator for reputation that is not yet exploited. In most cases the reputation of a company or management is generated over time and will have to do with the personal experience. A pitfall is that the sample size, e.g. quarterly reporting, is too small and might induce investors to believe that something is systematic while it is actually still pure chance. This circles back to the law of small numbers known from behavioural finance (Barberis & Thaler, 2002). Alternatively, one can "borrow" the experience from someone else, like colleagues or brokers, which could create the issue of herding. In addition, reputation could stand in the way of accurately updating expectations once new information is available, again a pattern that falls into the domain of behavioural finance.

There is a link between socially responsible behavior and the reputation of a company, since SRI related issues are usually a dimension of reputation surveys. However, the link seems to be unstable as the impact of social measures vary not only across sectors but also within sectors (Brammer & Pavelin, 2006).

3.3.1.1 Management quality

A specific subgroup within reputation is the quality of management. That facet is highly correlated to the other aspects in the commonly used surveys (Agarwal et al., 2011), but it seems to stand out from the perspective of market participants. For example, analysts working at broker houses pay attention to management quality (Breton & Taffler, 2001). One potential explanation for the importance placed by investment professionals on meeting company management is, that it helps to develop a better sense of the quality of

management (Barker, Hendry, Roberts, & Sanderson, 2012). Research in the field of the impact of management quality on the company's performance has yielded rather mixed results (Agarwal et al., 2011; Breton & Taffler, 2001; Cheung et al., 2017; Malmendier & Tate, 2009).

It is intuitive that better management should allow for better financial outcomes. Management with better abilities have a positive effect on the development of a firm and also on the development of the share price (Demerjian, Lev, & McVay, 2012). Management teams that have a higher degree of discretion show a stronger improvement, however, this is conditional on the quality of the monitoring mechanisms (Cheung et al., 2017). The finding therefore demonstrates the importance of corporate governance. Share price reaction to the announcement of an investment project by a company whose CEO holds a good reputation is better than for companies where the CEO reputation is less favourable. In addition, the operating performance post the investment is also better for CEOs with a good reputation (Jian & Lee, 2011). Obviously, investments always carry the risk that they fail and detract from the value of a company. The relative better reaction of the market to announcement can serve as an example that investors feel more comfortable that the decision is reasonable, in particular when management has already a positive track record in execution of risky projects.

Interestingly, award-winning CEOs underperform relative to the period of time before receiving the award and also relative to peers that have not received an award. Likewise, they use less of their energy for their employer and there are more earnings management events (Malmendier & Tate, 2009). Implicitly, this also means that management must have shown a strong performance before winning an award as also indicated by non-award-winning CEOs outperforming. During this period, the company probably showed a strong operating and financial performance which would be relevant for the share price development. Agarwal et al. (2011) show that companies with a strong management team achieve a sustainably higher profitability and higher market valuation. However, stocks of well-managed companies, after being singled out as having a strong management, don't perform better than companies with a less strong management team (Agarwal et al., 2011). One interpretation is, that management reputation matters but is efficiently priced by the market (Agarwal et al., 2011). However, the read challenges the view that good reputation is a driver of future stock price performance. The example very clearly

highlights that factors that have been singled out as a potential source of share price driver, don't work for ever. There is a risk that they change or loose significance. However, from an investor's perspective a higher valuation for companies with a strong management suggests that if the quality of management is not yet reflected in the share price, it could be a source of outperformance. In other words, if a company indeed shows superior financial performance and a valuation premium, the stock must have outperformed at some point in time to build that valuation premium. That is the time span, when identifying management quality can be valuable for investment professionals. A nice illustration on the value assigned to management is the unexpected departure of a member of the management team. Broadly speaking a surprise change in management is bad news as it creates uncertainty. Cynical as the capital market is, the departure of a CFO will be eyed particularly critical as it might signal that something is wrong with the financials. Interestingly, there are examples where a stock reacted very positive to the departure of key management people. Management reputation can obviously contribute to a valuation premium, but also a discount.

There also seems to be a link from the quality and personality of the management to corporate culture. There are transmission mechanisms via the top management and the mix of people working in the organisation shaping the culture of the corporation (Lo, 2016; Zingales, 2015). One article even ventures the theory that psychopaths working in financial corporations contributed significantly to the development of the financial crisis (Boddy, 2011).

3.3.1.2 Strategy

Another facet of a number of surveys regarding reputation is the strategy of the company. Like quality of management it seems to be an important element to form an opinion on a stock, at least for the sell side (Breton & Taffler, 2001). Fombrun et al. (2000) consider strategy as one of the elements of reputation and find that clear vision and the taking of opportunities benefits reputation. Reputation is, among other factors, built on signals the company gives to communicate how it positions itself in terms of strategy. This includes signals how the company aims to protect or enhance its market position through investments into relationships to suppliers, customer or employees (Basdeo et al., 2006). The company is building intangible assets that an outside observer would probably find

difficult to identify otherwise. Signalling can help investment professionals to appreciate the value of these intangible assets. Signals can also cover aspects that detract from reputation, like where a company stands regarding diversification and complexity of the operating business. Financial performance is also an instrument to inform investors on strategic trends (Fombrun & Shanley, 1990). A strong strategy can be seen as one root for strong financial performance, which in turn can be a significant contributor to overall reputation (P. W. Roberts & Dowling, 2002). To grow into a large company, strategy must have been effective in some ways, and on their way they probably also built reputation (Brammer & Pavelin, 2006). This comes back to the point that part of the reputation is clearly linked to the financial result of actions taken in the past. In particular, if investment professionals can't easily understand or assess the strategy, the financial outcome is the ultimate measure to get to grips with the strategy. Likewise, the competitive behaviour of a company sends signals to the stakeholders about the envisaged strategy (Basdeo et al., 2006). Indeed, reputation is built by the consistent adherence to a game plan, by the implementation of a strategy (Dierickx & Cool, 1989). Investment professionals will only be able to give credit to the strategy when they have either experience with the strategy of a particular company or experience in judging the future potential of a strategy.

Strategy provides important insights into the direction a company seeks to take. The strategy has implications for the development of profitability and also the required investments. It allows inference about the direction of the risk profile of a company. Though certainly highly subjective, investment professionals will form an opinion on the chances of success. Over time, the formulation of a strategy and possibly financial targets connected with it, shed light on the ability to deliver on the strategic targets. It is obviously one thing to set out high-flying plans, but implementing them successfully is a different ball game. If investment professionals have a clearer view on the strategy, the risk of surprises is lower and future developments can be better predicted (Basdeo et al., 2006). Even if that means that investment professionals expect a company to fail on a regular basis, the expectations are better calibrated to the likely outcome. For example, a strategy that is based on acquisitions to foster growth can be generally seen as positive. If it comes with regular write-offs on the acquired assets, it points to overpayment and overly optimistic assumptions on the contribution of the acquired assets. Both the overpayment and a potential shortfall against financial targets can be negative for the share price. However,

it will only disappoint investors that have not realized that the strategy is not properly executed.

Frequent changes in strategy might suggest that management lacks a solid game plan and succumb to pressure from dominant investors or other stakeholders. Lower visibility on the strategic direction increases the risk of unpleasant surprises. Likewise, giving in to pressure from individual stakeholder has potentially negative implications for other stakeholders. Some aspects of strategy and also management quality boil down to trust. The shorter the track record of a company and investors knowledge on the particular industry, the bigger the leap of faith an investor has to take.

A practical issue is that management might not be keen to detail the strategy down to the last bit. The strategy is their way to address the market and how to take on competition. Disclosing it might hurt competitive position as competitors would know what to expect. So, details might be lacking, might be vague or possibly not entirely true. The other issue is that strategy might be formulated for the capital market and might not fully tally with actual strategy.

3.3.2 Corporate culture

While reputation deals with the impression that external stakeholders have of a company, it is clearly also important to understand what is happening inside a company. Not only the financial result is of relevance but also in what kind of environment the results are being achieved. The corporate culture can be a swing factor to the operating and financial development of a company and is an important intangible asset (Edmans, 2011; Guiso et al., 2015). As such it is relevant for share price development, since a company that is consistently delivering better financial results than a comparable company will demand higher valuations. Management integrity and employee satisfaction have a positive impact on the financial performance (Edmans, 2011; Guiso et al., 2015), linking corporate culture also to reputation and social aspects in managing a company. A too strong corporate culture can hinder the ability to adapt (Sørensen, 2002), like efforts to protect reputation (Fombrun & Shanley, 1990), and unethical management can hurt financials (Biggerstaff, Cicero, & Puckett, 2015). National culture is even stronger than corporate culture and cultural distance is an issue in cross-border transactions (Ahern et al., 2015; Guiso et al., 2008).

A key challenge is how to measure corporate culture, in particular as there are several definitions for it (Guiso et al., 2015). The task is even more difficult, since outside stakeholders will have to rely on proxies or indicators like the outcomes of surveys, as companies typically don't provide data supporting their claimed values. Unsurprisingly, corporate values only claimed by a company don't matter for the performance (Guiso et al., 2015). Even if a company discloses data on internal surveys, it remains questionable to which extent also unfavourable information is released.

Corporate culture is relevant as it works as a guiding framework for employees in an environment where not everything is regulated or fixed in contractual agreements (Guiso et al., 2015). Factors that are relevant include but are not limited to ethics, teamwork, respect or job satisfaction. A portfolio based on one of the surveys that seek to measure the attractiveness of an employer generated outperformance and showed positive earnings surprises (Edmans, 2011). Financial performance was stronger than expected by investment professionals and resulted in stronger performance of the respective stock. Edmans (2011) also provides evidence that human capital matters and that SRI screens might be a vehicle to generate better performance. The finding illustrates the link of corporate culture to social aspects in running a company. The observation is one of the few examples of the positive impact on financials and stock price among the mixed findings of SRI research. The flipside to the positive results from corporate culture is, that a strong corporate culture can stand in the way of a necessary adaption to significant changes in the environment (Sørensen, 2002). In that sense it is similar to reputation, where ambition to protect reputation might stand in the way of adapting (Fombrun & Shanley, 1990). A strong corporate culture should not be a problem for stable industries but can be dangerous in fast moving industries or when structural changes appear. Difficulties to adapt can also manifest in the failure to swap out management to deal with a significantly different situation. While stability in management is usually a good sign, but can be explicitly a negative in situations where management has failed several times to address a problem.

Within corporate culture integrity was evidenced to have a positive impact on financial performance and the ability to attract talent. Interestingly, the level of integrity is not influenced by corporate governance, with the exception of the presence of a large shareholder which is negatively correlated to integrity (Guiso et al., 2015). The same article also states that listed companies struggle to maintain high levels of integrity. The negative

influence of large shareholder and problems to sustain integrity suggest that integrity has less impact on financial performance of larger capitalised stocks. Corporate culture can also be negative and induce behaviour that can be seen as unethical (Lo, 2016). Here the observation that the characteristics of management and employees shape the corporate culture (Lo, 2016; Zingales, 2015) comes again into play, possibly even to the point of psychopaths contributing to spelling disaster (Boddy, 2011). Companies, where management shows low levels of integrity, are more often subject to financial misbehaviour, like overstating profits or making unattractive investments, as they don't have an ethical corporate culture (Biggerstaff et al., 2015). Biggerstaff et al. (2015) also find that these CEOs are more likely to be ousted and that the share price of those companies suffers more during market setbacks.

Even more powerful than corporate culture is the impact of national culture that helps to explain stock market participation and the prevalence of cross-border mergers (Ahern et al., 2015; Guiso et al., 2008). Cultural distance on the dimensions trust, hierarchy and individualism negatively impact the volume of cross-border transactions and also the amount of synergies generated from a deal as there is a cost associated to overcome cultural differences (Ahern et al., 2015). Cross-cultural competence could be important to mitigate negative impact from cultural distance, however, there is no appropriate framework to measure this construct properly (Bartel-Radic & Giannelloni, 2017). In addition, the aspect that is typically used to measure cross-cultural competence, i.e. personality traits, is not particularly predictive of one of the other aspects, cross-cultural knowledge (Bartel-Radic & Giannelloni, 2017). These findings tally with reservation that practitioners harbour against cross-border deals and caution taken on promised synergies. Arguably, this might be a learned behaviour from failed transactions in the past. It might also explain varying attitude of investment professionals towards stocks within the same sector, depending on the home country of the company. A valuation discount might be demanded just because a company domiciles in a certain country.

Finally, there is a connection between culture and trust. Trust can be considered to fall into the wider group of integrity and national culture does influence the general level of trust (Guiso et al., 2008, 2015).

3.3.3 Trust

Trust plays multiple roles in capital markets. In the context of corporate culture the perceived trustworthiness of management has a positive impact on the performance of a company (Guiso et al., 2015), trust increases the participation in the stock market (Guiso et al., 2008), trust can work as a substitute for corporate governance (Pevzner et al., 2015) and can be linked to reputation (Chun, 2005). Trust can also be seen as part of the relational capital (Nahapiet & Ghoshal, 1998). The role of trust offers an explanation for the importance assigned by investment professionals to the regular contact to company management (Taffler et al., 2017) and the appreciation of financial results released by a company (Brown et al., 2016).

Like reputation, trust cannot be bought but has to be acquired by proper behaviour over time (Dierickx & Cool, 1989). It has to be earned by the companies and individuals within them. Trust is usually an element of reputation surveys and falls into the emotional component of reputation (Chun, 2005). Like observed for cultural distance as a whole, also just distance in terms of trust standalone is sufficient to hurt merger synergies significantly as mistrust hinders coordination (Ahern et al., 2015). Lack of trust can be certainly overcome over time when the experience allows for the development of trust. However, the time frames set for the delivery of the synergies hardly allow for a lengthy trust building period. Trust is often seen as probability that an agent will show the expected behaviour, or the other way round, the risk of being cheated (Guiso et al., 2008). For individuals investing into the stock market there is the unknown of the return but also the question whether the stock market as a whole can be trusted; the level of trust can therefore explain the participation rate in stock markets (Guiso et al., 2008).

Trust matters in several relationships between market participants. Investment professionals put trust into their points of contact in a company, like senior management or investor relation functions. The main focus is likely to be on the fair and accurate disclosure by a company but also on the ability of management to deliver the expected financial performance. The buy side will make an assessment of the trustworthiness of business partners on the sell side. And finally, companies have to trust external stakeholders that comments are not twisted around to serve the purpose of the stakeholder. All these

examples illustrate that trust can also be seen as part of the relational capital (Nahapiet & Ghoshal, 1998).

Meeting management possibly serves the purpose to form a subjective view on the quality of management and confidence in the investment (Barker et al., 2012), in other words, to develop trust into the management and the information they convey (Chong & Tuckett, 2015; Taffler et al., 2017). This aspect of trust covers the relationship of investment professionals to companies. But portfolio manager need not only to trust the company but also their own ability to make the correct choice, otherwise they would never take a position (Taffler et al., 2017). The same also applies to analysts issuing recommendations. Trust is also needed to develop the required conviction to take an investment decision (Taffler et al., 2017). Depending on the level of trust in management, investment professionals might even perceive an investment as less risky (Schürmann, 2006). In the absence of extensive experience with company management and lack of confidence, investors might resort to judgement of sell side analysts. However, that only works if the comments of an analyst are seen as legitimate (Fogarty & Rogers, 2005). Some portfolio manager will stick to the same contacts on the sell side just because they believe that they are less likely to be misled.

Management also tends to try to "sell" the story of the company to investors. Established companies will try to position themselves as interesting for a certain type of investor. For example, a company might try to convince investors that they pay an attractive and sustainable dividend making the share a bond like investment. Another extreme could be growth stocks that promise to deliver significantly higher sales and earnings growth than other companies, generating value for the shareholder that should reflect in a rising share price. Corporate communication plays a critical role, here. Without further proof and considering that information is likely to be framed, investors will have to trust the statement. In addition, corporate communication can also help to boost trust of investors (Wiedmann & Wüstefeld, 2011). It is worth noting that the different levels of trust investors have, influences their decision to own shares and that a better understanding of the situation can at least mitigate mistrust (Guiso et al., 2008). The same way information, facts or experience can help to lower or remove mistrust, it can also lead to the destruction of trust.

Communication with the capital market gets even more important for companies with a limited financial track record. The younger the company is and the less hard data are available, the higher the level of uncertainty. The financial targets presented to the market might appear reasonable but paper doesn't blush. The decision making becomes a lot more complex as assessment of the end market, and experience in judging business models and assessment of management is likely to play a critical role. In some cases, stock selection might be made largely based on gut feeling, very clearly a soft factor.

Another bit that is likely to have a bearing on the attraction of a stock is the disclosure of non-GAAP earnings information. It is a common practice of companies to present their results adjusted of exceptional, non-recurring and/or non-operating items (D. E. Black, Christensen, Ciesielski, & Whipple, 2018). Size and regularity of adjustments give investors also an indication on the aggressiveness of accounting and whether the items are indeed exceptional in their nature. The latter rather soft assessments would nevertheless have an influence on the valuation of a company. It also raises the very basic question whether to trust the numbers (Brown et al., 2016).

The connection between trust and CSR activities rests on the assumption that investment into socially responsible projects results in the creation of trust and social capital (Jo & Harjoto, 2011).

4 Methodology

The assumption that soft factors play a major role in decision making and that some of the factors are of higher importance was tested with empirical data using a deductive approach. The data was collected from investment professionals via a survey. As reliable data on the size and composition of the investment community does not seem to be available, the sample might not be representative. Nevertheless, the sample covers different professions and roles among investment professionals in order to reveal potential differences in their approach to consider soft factors. The statistical analysis contains univariate and bivariate components. Weighting of soft factors as a whole within the decision is univariate. The individual factors are also analysed in an univariate approach.

4.1 Data collection methodology

The main objective of the survey was to collect data on the importance of soft factors in the decision-making of investment professionals, which factors are seen by investment professionals as important or irrelevant and whether there is a common description used for soft factors. The building blocks of the survey are therefore questions dealing with the importance of soft factors as a group, a proposed description for soft factors, the importance of individual soft and hard factors and a more granular assessment on the importance of factors that are likely to be seen as soft by the participants. The list of factors to be evaluated by the participants is based on factors emerging from the literature review, informal discussions with investment professionals and the personal experience of the author. This process should have ensured that no important factors are left out. Nevertheless, open questions were used to uncover additional items. The survey closes with a biographical part asking for data like type of employer, size of the corporation, role of the individual, sector responsibility and time spent in the financial industry. For the bulk of questions a five-point Likert-type scale was used. Only direct and open questions as well as questions related to biographical details use a different format.

The part seeking to establish the importance of soft factors in decision-making by the participants was addressed by a direct question on the importance of soft factors and indirectly, by combining the assessment of the importance of an individual factor, soft and hard, and where these factors rank on a scale between very soft and very hard. In order to enable an assessment of the importance of factors in the decision making, participants

were asked for the importance of 25 hard and soft factors using a scale from extremely important to not important at all. Regarding the same list of factors, participants were also asked whether they see them as hard or soft. An additional block of questions on soft factors only was used to gain a more granular insight on facets of soft factors. To that end, the factors that are likely to be seen as soft were broken down in more detail. Included were also items going after concepts in decision making. Two additional questions were included to establish to which extent soft factors are already integrated in the decision-making process and whether there was a notable shift in the demand of customers of investment professionals to pay attention to soft factors. In total there were 22 questions with the biggest three blocks having 25 (two questions) and 30 items. Even though the survey targeted predominantly investment professionals active in the German market the questionnaire was set up in German and English in order to also collect data from non-German speaking participants.

The survey was targeted at investment professionals, i.e. people that take or influence investment decisions as portfolio manager, investment advisors or analysts. Their expertise, experience and time spent on stock markets makes them a highly interesting target group. The scarcity of research that is based on direct access to investment professionals presents an incremental reason to focus on this target group. The potential participants were approached on an individual basis and are nearly exclusively from the professional network of the author and their professional networks. It was attempted to have a reasonable mix of employer type, employer size and role of the individual. To enhance chances of completion, the survey was done on a completely anonymous basis. As a result, the follow-up to encourage participation was done on an informal basis.

The data was collected using an online survey which was started end of August 2019. Most of the replies were collected in the period until end of October 2019. The latest response was logged in January 2020. The survey was completely anonymous to enhance chances of participation and completion. A total number of 46 individuals participated, of which 38 surveys were fully completed. On average participants took 14 minutes to complete the survey.

4.2 Composition of the target group

The target group for the survey are professionals that make or influence investment decisions in equity markets. The people working with institutional investors and banks that are most directly linked to investment-decision taking in the equity arena are investment professionals like portfolio managers, financial advisors and analysts. While the perception that retail investors are less well informed than institutional investors (R. B. Cohen et al., 2002; Gibson et al., 2004) might be wrong (Kaniel et al., 2012; Kelley & Tetlock, 2013), institutional investors dominate trading volumes and therefore play a more significant role in share price formation. Investment professionals have an ideal setting for decision-making in terms of access to resources, information or management of the companies they invest in. Due to time spent with markets, training, experience etc. they are an interesting target group when it comes to assessing the role of soft factors in the decision-making process on equity investments.

The individuals targeted for the survey needed to be specialists in their field and needed to have extensive experience. The survey covers people from different groups of investment professionals to reveal potentially differing views between market participant groups. The group of people included in the survey was limited to the German market, i.e. professionals active in Germany without any limitations regarding the regional markets in which they invest but also people servicing investors in Germany without limitation to the location they operate from. As a consequence, questionnaires were set up in German and English.

There seem to be no reliable data available as regards the size and composition of the community of investment professionals in Germany. The two relevant professional associations in Germany, Deutsche Vereinigung für Finanzanalyse und Asset Management e.V. and CFA Society Germany e.V., have about 1,400 and 2,700 members, respectively. In aggregate this would suggest a population of 4,100. We would note that since the 1990s people working in financial services are strongly encouraged to take an exam of either of the two. This might suggest that the membership data gives a reasonable idea of the number of people working in the financial services sector in Germany.

These would, however, also include people active in other asset classes like fixed income, foreign exchange, commodity or property. Likewise, it does contain employees in

different roles like client relation, distribution, public relations, trading. According to the CFA Society Germany e.V some 31% of members are portfolio manager or research analysts (https://www.cfa-germany.de/de/ueber-uns/der-berufsverband-fuer-finanzexperten-in-deutschland#mission; 27.09.2019). Membership data is not broken down by asset class. On the other hand, it would not include sell-side analysts working outside Germany. However, investment professionals working outside Germany typically don't service Germany exclusively. Based on these considerations, the universe probably falls into the bracket of 1,000 -1,500.

Calculating the required sample size to satisfy a confidence level of 95%, a margin of error of 10% and a standard deviation of 0.5 would point to a sample size of around 90[2]. However, that would require to poll 6-9% of the estimated population size. Given the high degree of specialisation sought for in the respondents and the very high level of difficulty to motivate investment professionals to participate in a survey, the target of 90 is clearly unrealistic. Relaxing the margin of error to 15% while maintaining a standard deviation of 0.5 would suggest that a sample size of around 42 is sufficient. However, looking at the standard deviation of the replies to the main question – weight of soft factors in the decision – would point to a standard deviation of 0.17 for the direct question and 0.06 for the calculated version. Using a standard deviation of 0.17 and a margin of error of 10% and 15% would suggest a required sample size of 52 and 24, respectively. Doing the same calculation with a standard deviation of 0.06 would yield 22 and 10, respectively. At the midpoint of both intervals the required size of the target group would be 37 for 10% margin of error and 17 for a margin of error of 15%. The calculated version on the main question is probably more credible, since there might be a proportion of tactical answers to the direct question. Against this backdrop a number 46 participants and 38 fully completed surveys appears reasonable.

As also the exact composition of the universe of investment professionals is unclear, the sample was deliberately composed in a way that enables to uncover potentially differing

[2] Calculation is based in the formula sample size = $\frac{\frac{z^2 \times p \times (1-p)}{e^2}}{1+(\frac{z^2 \times p \times (1-p)}{e^2 \times N})}$ with z = z score, p = standard deviation, e = margin of error and N = universe,

approaches of the subgroups among investment professionals. As such, the sample might turn out to be not representative of the universe, which could have bearing on the results.

4.3. Demographic data of the participants

When it comes to the demographic data, we find that 87% of participants are male and 13% are female. 68% of respondents are based in Germany, 13% in the UK, 11% in Switzerland, 5% in India and 3% did not disclose the location.

The answers on the type of employer were grouped into "asset management", "wealth management" and "broker". The group "asset management" contains also the group "hedge fund". Brokers, independent research boutiques and financial services[3] were subsumed together under the heading "broker". Nearly half of the responses came from investment professionals working in asset management, 21% from people in wealth management and 32% at brokers. Asset management and wealth management are both part of the buyside but service different client groups. Brokers on the other hand represent the sell side of the market.

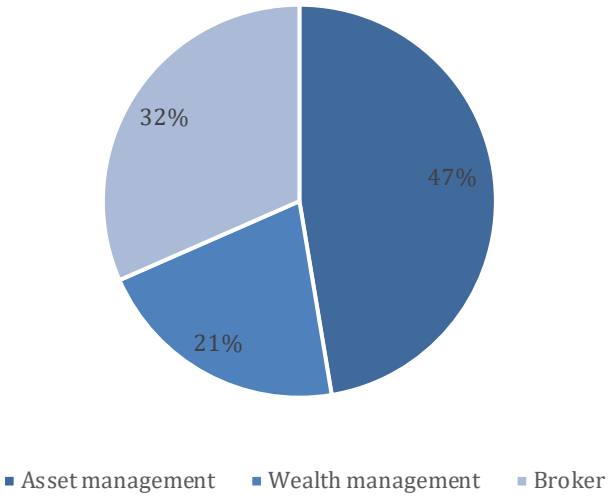

Figure 2. Split of survey participants by type of employer

When looking at the size of the operation, 38% work in the top quintile, 26% in the second quintile, 15% in quintile three and four, and 21% in the bottom quintile. On the buyside

[3] The person is based in India and most certainly part of the offshore capacity of a broker.

we find 30% coming from the top quintile, 30% from the second quintile and 30% from the bottom quintile. For the sell-side the split is 58% from the biggest houses, 17% from second and fourth quintile and 8% from the third. In the further analysis we will work with the main size baskets top quintile, the three middle quintiles and the bottom quintile.

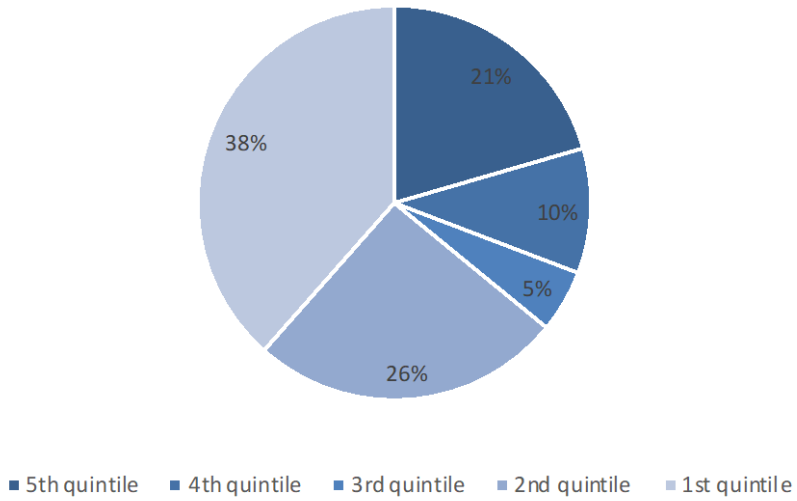

Figure 3. Split by size of the operation

In terms of role, the participants are largely split in half between analysts and portfolio managers. One respondent replied that his role is CEO. Given the type and size of the business, the person has most certainly a role in portfolio management. We also group the role "investment advisor" into the bucket "portfolio manager".

The split by sector focus yielded 23% on Industrials, 18% Consumer goods (half staples, half discretionary), 14% Communications, 6% Healthcare, 6% Materials, 3% Financials, 3% IT and 29% Generalists. For further analysis we aggregate IT and Communications – a fairly common combination – and Materials, Healthcare and Financials in "Others" as a residual group. 26% are focused on Small and MidCaps - which we consider as a separate group for further analysis. Unfortunately, only one participant has an ESG focus.

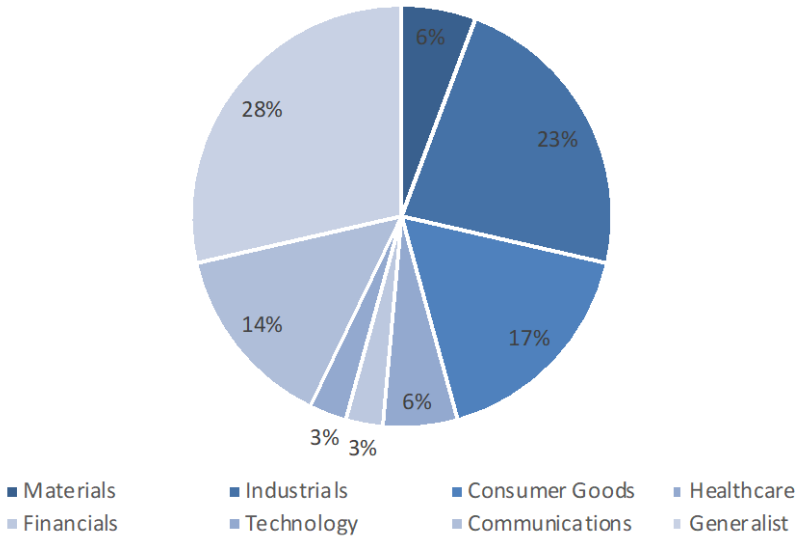

Figure 4. Split by sector focus

The answers on the tilt in the investment process open the way to an analysis on the influence of the tilt on the importance of individual factors. 31% of the participants stated that they have a qualitative tilt, 18% have a quantitative tilt and 51% gave no answer. 62% of the respondents follow a bottom-up approach, 15% are top-down oriented and 23% gave no answer. As for the investment horizon, 36% are long-term oriented, 8% are trading and 56% gave no answer. 90% of the respondents said that they have a fundamental tilt. Though probably not surprising given the target group, it is obviously not a reasonable basis for further differentiation. Likewise, no specific analysis regarding active and passive approaches is possible, since no one chose "passive". The sample for the groups "ESG", "style" and "other" is too small, even counting a specific tilt towards dividend stocks also into the "style group". About a quarter of the participants lean in their decision process towards a combination of fundamental, bottom-up, active and long-term oriented.

The participants' years of experience in the financial industry concentrate on the upper two thirds of the age brackets. The age bucket with less than 5 years experience comprises only 10% of participants and no one is in the bracket 5 – 10 years. The biggest group, 33% of respondents, is the 16 – 20 years experience bracket.

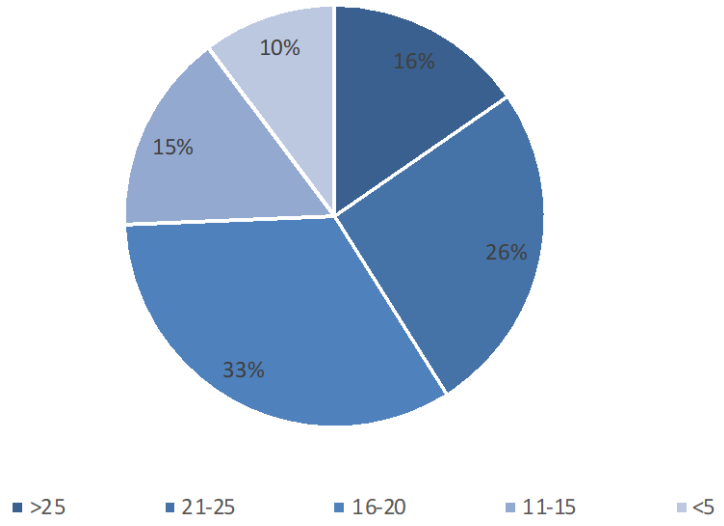

Figure 5. Split by experience in years

4.4 Design of the questionnaire

The main question is how important soft factors are in the decision-making process of investment professionals. Furthermore, the questionnaire aims to establish, whether there are factors that are deemed most relevant for investment professionals and which factors these are. The survey should also help to uncover factors that are not reflected in the survey outline.

The survey was developed based mainly on recurring factors in relevant research papers. Informal discussions with investment professionals helped to uncover further factors that do not play a prominent role in research publications and to aggregate factor groups. In addition, factors were included based on the experience and believes of the author. To capture potentially missing relevant factors, open questions were included. Except for the open questions, the direct question on the weight of soft factors and the demographic questions, all questions use a five-point Likert-type scale.

The survey went through two stages of review by four professional market participants to first validate the selected factors and second to check usability and time consumption. The review was done by people that have a detailed knowledge of equity markets (e.g. equity sales, trader), but are not part of the target group.

Question 1 deals with the importance of a number of hard and soft factors in the decision making for an investment professional. The participants are asked to assess the importance on a scale from "extremely important" to "not important at all". The list of factors for question 1 was designed in a way to achieve a relative balanced composition of hard, soft and mixed factors based on the subjective assessment of the author. The objective was to create a fairly comprehensive list of factors, hard and soft, that are potentially important and to avoid a bias in the list of factors towards soft. Likewise, factors were included that the author sees as less relevant to avoid a result were all factors are selected as "very important". To limit the number of factors used in question 1, some factors needed to be aggregated up.

Factors that are likely to be seen as rather hard include macroeconomic factors, market environment, historic financial data, scenario analysis, valuation, risk as a hard number and portfolio context; the reasoning for inclusion will not discussed in more detail as it is not the main objective of the research. The factor relating to the business model can be described with hard numbers, but also with aspects that are highly subjective. The latter fall into the domain of management strategy and trust. ESG was separated into the factor "environmental and social" and the factor "corporate governance". The latter seem to be of higher importance and the separation was done to avoid a distortion of the weight of ESG as a whole to the upside. The factor "intangibles" is at this stage a mix of items recorded in the balance sheet but also of items that are soft factors presented in a different guise. Also, quality of financial disclosure was aggregated up to a factor that contains rather hard aspects and on the other hand aspects falling into the domain of behavioural finance, like information processing, framing, and trust. Reputation and corporate culture were handled as two separate factors. Forecasts or earnings guidance issued by a company is typically a hard number, however, it is clearly subject to interpretation by the investment professional. In the factor "access to information" items like management access (covering trust and reputation), contact to other market participants (falling into the domain of behavioural finance) and hard aspects like language and distance are included. Features of potential news flow are targeted on rather hard aspects like the date of the next event that can move a share or possibly the exchange rate on a share-based acquisition. In addition, it also includes subjective elements like the probability of a transaction materializing. Besides, it is a strategy employed by event-driven hedge funds.

Convictions falls into the space of emotion and trust. “Public affairs” is aggregated from efforts to connect with stakeholder and the response in the media. Knowledge on sector/ company circles back to the business model and also touches overconfidence in private information. Emotion was aggregated from the emotion of individual market participants and the sentiment on the equity market. The factor on positioning tackles the aspect of herding, both in the sense of where many market participants hold the same position but also what the average expectation is. “Recommendation of the media” aims directly at the question whether investment professionals are subject to the availability heuristic. The “conflicts of interest” item includes corporate governance, framing and compliance. The factor on quantitative analysis is interesting as the analysis/ filtering is based on hard numbers but uses potentially subjective forecasts and is connected to behavioural economics.

The factors were lined up in a way to allow the user to tackle the factors in a systematic way. It starts out with broader items regarding the context a company operates in, goes next to more company specific items, than covers aspects of relationships between a number of stakeholder and finishes with more technical aspects of stock selection. Presenting the aspects in this particular order might have distorted results. A presentation of the factors where the line-up changes for every user was considered but rejected due to concerns on usability and completion ratio.

The first question block was followed by an open question to capture any additional factors that survey participants feel are important for their decision process.

To find out whether there is a consensus among practitioners on the description for soft factors they were asked in question 3 whether they agree/ disagree to the following description: “Soft factors can’t be measured, are difficult to verify, are difficult to grasp and contain a subjective element.” The question also serves to set a common ground for survey participants’ assessment in question 5 whether the factors presented in question 1 are soft or hard. Question 4 gives the participants room to explain which aspects in the description are wrong or missing from their point of view.

Question 5 enables participants to qualify the factors lined up in question 1, from “very soft” on one end of the scale to “very hard” on the other end of the scale, in order to find out whether there is a consensus which factors are seen as soft and which as hard. In

combination with the data from question 1 on the importance of the individual factors, question 5 also serves the purpose to establish how much weight in a decision making is assigned to soft aspects.

In question 6 the granularity on factors that are likely to be seen as soft was increased to get a clearer picture of the soft factors that are seen as most or least important. The question also serves as a reconciliation with the answers given in question 1. Like in question 1, the participants are asked to assess the importance on a scale from extremely important to not important at all. The selection of the factors and the level of detail was based on literature and informal discussions with industry experts. The factors were also compiled in a way to avoid too big weights towards one of the main groups of psychology, non-financial information and corporate culture/ reputation. A number of additional questions outside the main areas were added to check on adherence to certain concepts (e.g. sense-making or consistency with the neoclassic theory), factors that are bordering on soft factors or don't fall clearly into one of the main groups. Again, factors were deliberately added that were less likely to draw the selection "extremely important" to avoid having a list of factors that are all deemed important.

Beside getting a more granular view on which factors are seen as important or irrelevant, there are a number of secondary objectives. The question is also aiming to pin down whether there is a particular aspect driving the selection in question 1. This was either done by separating out individual aspects or by moving the question more towards the softer aspects of the factor. In the latter case, the subjective importance assigned by the participants should increase, if the softer parts are seen as more important than the harder ones and vice versa. The question is also meant to verify selections in question 1.

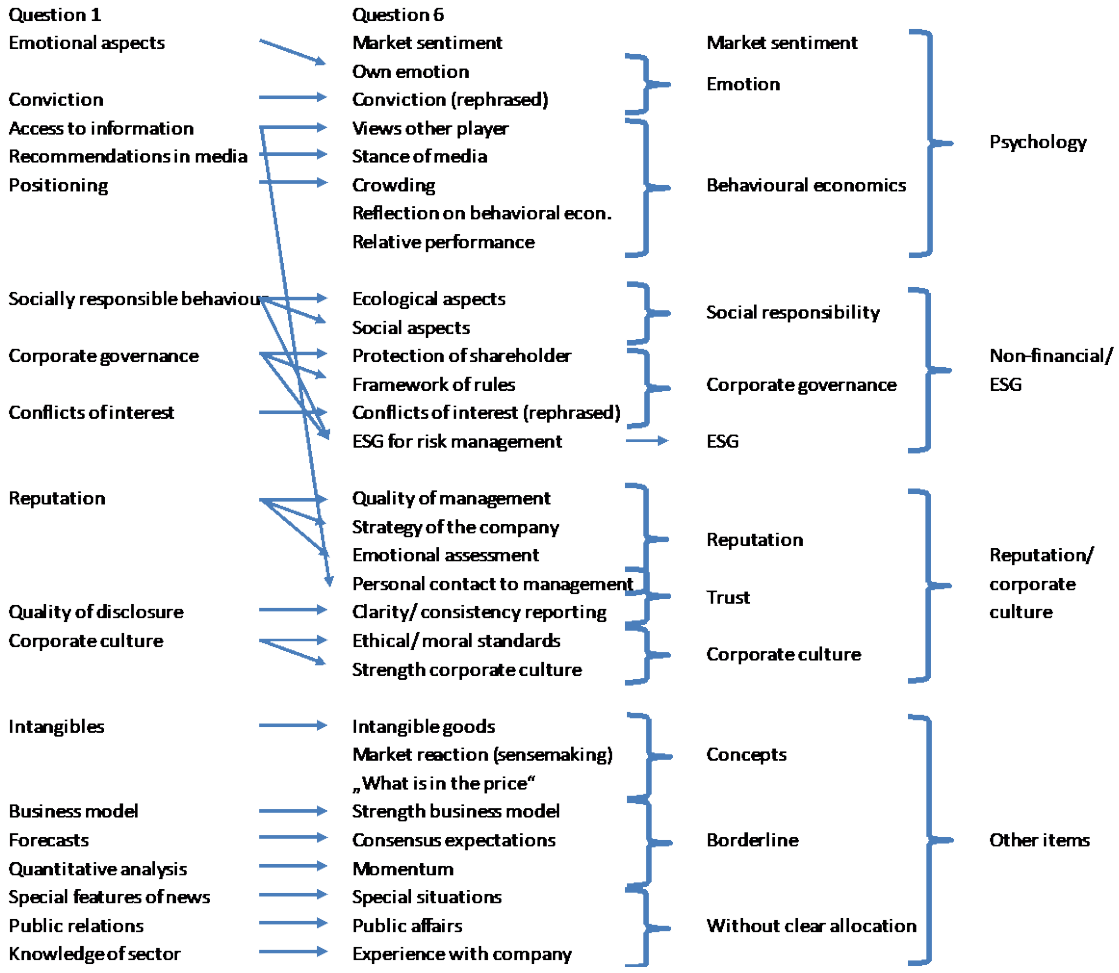

Figure 6. Mapping of items used in questions 1 and 6 to the main groups

The factor business model was moved more towards the softer aspects of it, to separate out the assessment of the softer items by the investment professionals. The area ESG was split into five questions plus a question on conflicts of interest. There is one question on environmental and social issues each and two direct ones on corporate governance. One question on corporate governance emphasises the shareholder value and one was a more neutral description of corporate governance. The idea is to get an impression to which extent professional investors associate corporate governance with a concept rooted in the principal-agent theory. The item on conflicts of interest towards the end of the question block refers to the principal-agent theory again and therefore also falls into the corporate governance block. As such it should work as a control for the direct questions on corporate governance. It was slightly reworded compared to question 1. The final question in the ESG category targets the property of ESG as a risk management tool. Regarding quality of disclosure the questions were modified in order to uncover the importance of trust

into the information reported and of how information is presented. The factor “intangibles” was narrowed down to only “intangible goods”. The question is also meant to check to which extent investment professionals accept intangibles as contributor to the valuation of a company. The factor reputation was split up into management quality, company strategy and more broadly the emotional assessment of a company. Corporate culture was viewed from the angle of ethical and moral standards but also with regard to the influence of the strength of corporate culture. As for the financial outlook, this factor was focused towards the subjective expectation of the market participants. To a certain extent the factor also covers the aspects herding and momentum. Access to information was split up into “management contact”, to pin down the influence of building trust to management and management quality, and “views of other market participants” in order to establish the potential influence of herding. The next factor is aimed at information processing and, hence, the question aims at a view that is either rooted in the neoclassical world or rather accepts that its concepts might not be compatible with how investment professionals view capital markets. “Special situations” refers to features of the news flow but shifts the focus away from harder aspects like reporting dates and more into the direction of aspects that require judgement. “Strength of an equity story” seeks to capture the view of participants on the role of conviction in an indirect way and, hence, it falls into the area of emotion and trust. “Public relations” is broken up into public affairs and how the company is seen in the media. The former deals with efforts of the company to improve their market position, while the latter checks on the availability heuristic. The item dealing with the view of the media also circles back to the item in question 1 regarding recommendations from the media. In this section, the factor “knowledge on a company” focuses on behavioural aspects like overconfidence and stance on risk depending on previous outcomes. The factor on emotion was split for better distinction into sentiment of the whole market and the emotion of the individual investment professional. The question on market reaction aims more broadly at the role of sensemaking in decision making, however, it might prove difficult to pin down the role of sensemaking. Factors that are associated directly to behavioural economics are directly addressed by asking for the importance of positioning (herding), reflecting on behavioural economics and relative performance of own picks (perception of risk, house money). However, against the backdrop of the significant number of heuristics and biases detected so far, it would have been unrealistic to conclude a

comprehensive review. Question 7 asks for additional important soft factors which were not covered in question 6.

The weight of soft factors is measured with a direct question (question 8) and indirectly by combining scores for individual factors and the assessment of degrees of "softness" of these factors by the participant (question 1 and 5). Individual factors that did not receive a score for importance and/or their "softness" were excluded from the calculation of the implied importance of soft factors.

Question 9 aims to establish how strongly soft factors are integrated into the decision-making process. The scale ranks from "Fully integrated" to "Not at all integrated". Effectively, that means to which extent soft factors are systematically considered for an investment decision. Answers are also expected to give an indication how much attention soft factors are given in an investment decision. The answer will not uncover whether this is a quality of the individual asked or whether it is embedded in the investment process of the company.

The next question seeks to uncover how the demand side has shifted regarding the main blocks. ESG is covered with the factors socially responsible behaviour, again consisting of the two groups "social and environment", and corporate governance. Corporate culture and reputation are covered with a question each. The block "psychology" is split up into behavioural finance and the broader theme emotion. The answers should shed some light on the extent to which changes in the importance of factors are actually forced upon them due to client requests.

Questions 12-21 capture demographic data as country of workplace, type and size of employer, role in the company, sector focus, investment style and experience.

Though certainly interesting, no questions to uncover psychological aspects and personality traits of the respondents were included. Covering these aspects as well would have extended the amount of time required to complete the survey probably significantly. More importantly, it could have impaired response rates. Participants most likely would have realized that questions are aimed to build a psychological profile and be less inclined to answer them. In addition, the survey might have moved too much into the direction of psychology.

4.5 Aspects of the sample and alternative approaches to data collection

The composition of the target group is most likely not representative for the population of investment professionals, since size and composition of the population are unknown. It was attempted to do the survey among a balanced mix of investment professionals from different types and sizes of employers with different roles. However, as participation was voluntary, there was no way to control the final composition of the participation list. The mix of participants might be subject to certain biases, as the target group consists primarily from the author's personal network and the networks of the individuals contacted. Most of the targeted survey participants were contacted personally and an informal follow-up was done to encourage participation. To enhance chances of completion the survey was done on a completely anonymous basis. As a result, data cannot be traced back to the participants. Neither personal data were requested nor was the IP address logged. Demographic data was asked for in the survey and completed by the participants in 80% of cases. The demographic data is the only source of information regarding the composition of the sample. In addition, there is a self-selection bias, as participation was voluntary.

In an ideal scenario it would have been interesting to see to which extent the assessment of the individual factors by the participants is context dependent and also to validate answers. To that end the creation of fictitious shares that are loaded with soft and/or hard factors in the context of a conjoint analysis would be an option. The concept of conjoint analysis is well established to capture preferences and could be interesting in this context. It enables the validation of answers given on a Likert-type scale and at the same time check to which extent preferences are impacted by the context, i.e. how levels of individual factors impact preferences for other factors. While it is very common in market research it is rarely used in finance. Another problem is that it can easily yield an overly large number of hypothetical stocks. To keep the number of hypothetical stocks down to an acceptable level to compare, the number of factors (attributes) and levels would have needed to be cut down considerably. To make use of orthogonal designs the number of attributes would have to go down to a maximum of 13 factors and three levels compared to the 25 factors and five levels used in a matrix. Even using that orthogonal designs would still yield 27 hypothetical stocks, while 20 is typically seen as the threshold for reasonable handling. In addition, the very nature of soft factors – subject to interpretation

by an individual – raises the question whether this method would yield sound results. Finally, the implementation in an electronic survey platform and the evaluation of the data might have been challenging. As a consequence, this approach was not used in the survey.

5 Data analysis

The empirical analysis suggests that nearly 50% of an investment decision taken by professionals in the equity arena relies on soft factors. According to the responses, soft factors are, integrated into the decision-making process in more than two thirds of the cases. All three main groups, represented by two items each, show an increased focus. The biggest increase was recorded for ESG, followed by reputation / corporate culture and psychological aspects. The description for soft factors presented in the thesis was accepted by investment professionals participating in the survey. In the context of hard and soft factors, the soft factors conviction and reputation are among the five most important factors. Recommendations in the media, public relations, socially responsible behaviour and potential conflicts of interest are among the five least important factors. In the context of soft factors only, the group seen as most important on average is reputation/ corporate culture, followed with some distance by non-financial information and psychology. Within reputation/ corporate culture the items strategy and management quality clearly dominate. Regarding non-financial information the protection of shareholder rights is the dominant item. Among psychological aspects, only the rephrased version of conviction matters. Aspects of behavioural finance are broadly seen as irrelevant. Among the items not allocated to a main group the business model clearly stands out and the item that deals with the question to which extent an information has been reflected in a share price matters, as well.

The central question on the general importance of soft factors in decision making yielded metric data. These were subject to a univariate analysis. Most of the other data collected are ordinal. The selection on the Likert-type scales was mapped onto numbers with the highest reading, e.g. “extremely important”, representing 5 and the lowest, e.g. “not at all important”, representing 1. The data collected on profession, role and type of employer are nominal. The bulk of the data analysis is univariate while the more revealing analysis is bivariate. For the data analysis IBM SPSS was used.

5.1 Weight of soft factors in decisions

The direct question for the weight of soft factors resulted in an average of 49% with a standard deviation of 17%. An indirect approach points to a weight of 48% with a standard deviation of 6%. The results are not comparable and not correlated. More than two

thirds of the respondents state that soft factors are integrated or fully integrated into the decision-making process. The answers correlate with 0.42 to the answers to the direct question on the weight of soft factors. All three main groups, represented by two items each, show an increase in client demand. The biggest increase was for ESG followed by reputation / corporate culture and psychological items. The two items show pairwise correlations of about 0.5.

Question 8 directly asks for the weight of soft factors in decision making. On average the weight that investment professionals say they assign to soft factors is 49% with a standard deviation of 17%. That would suggest that with a confidence level of 95%, the proportion of soft factors in an investment decision falls into the interval of 32 to 66%.

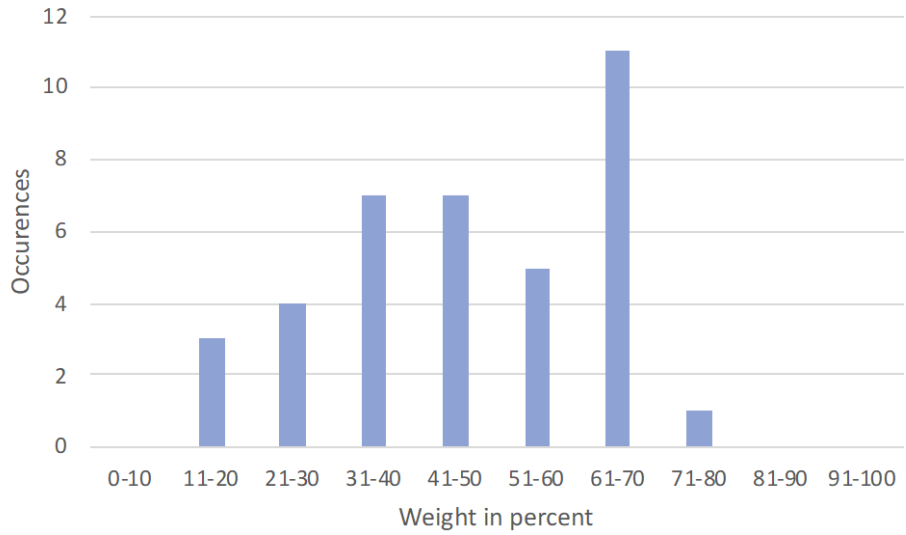

Figure 7. Weight of soft factors (direct question)

Group comparisons were done based on type of employer, size of the employer, role in the operation, sector and market cap tilt (i.e. focus on small caps), and experience. The groups formed on the basis of experience failed the Levene-test as homogeneity of variance produced only a significance of $p = 0.035$. An analysis of variance points to a difference between the groups for the groups formed on the basis of the type pf employer. However, the post hoc tests (Tukey-HSD and Scheffé) did not show a difference between the groups.

Figure 8. Weight of soft factors for groups of type of employers

The weight of soft factors in decisions is also calculated indirectly using the score assigned for the importance of an individual factor (question 1) and combining that with the assessment of the participant where that particular factor ranks on a scale from being very soft to very hard (question 5). The score for the importance is multiplied with the score for being soft or hard for every factor and then summed up for all factors. The sum is divided by the sum over the scores for the importance of all factors, yielding a score that expresses the weight of soft aspects in a decision. While the approach has certain shortcomings[4], it gives probably a less biased indication of the weight soft factors in decision making. The calculation is done for every participant of the survey. The result is an average score over all participants of 2.9 and a standard deviation of 0.31. 88% of the responses fell into the interval 2.5 to 3.5. Assuming the five level scale consists of equivalent bands of 20 percentage points, 2.9 would translate into a weight around 48% and a standard deviation of roughly 6%. That would suggest that with a confidence level of 95%, the proportion of soft factors in an investment decision falls into the interval of 42 to 54 %. The numbers should be treated with some degree of caution.

[4] The main issue is that the intervals in question 5 are with 20 percentage points too wide and to a minor degree that the factors listed are implicitly assumed to represent 100% of the decision

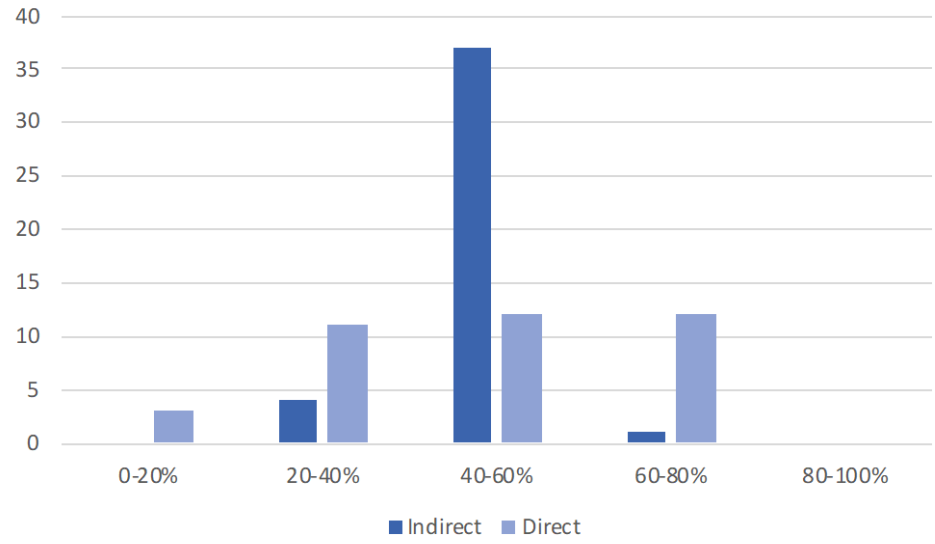

Figure 9. Weight of soft factors (calculated and direct question, five level scale)

Though the figure 9 would suggest that there is a correlation between the two results, it is important to bear in mind that the results are not comparable. The main points are that question 8 uses a scale from 0-100% while questions 1 and 5 are on 5 level Likert-type scales. The wide ranges of the Likert-type scales cause problems as a participant marking a factor as "very hard" might mean that there is 0% of soft aspects for him in the factor or that 19% of the factor is about soft aspects. Nevertheless, the correlation was calculated by also putting the answers of question 8 onto a five-level scale with bands of 20 % each. Only participants were included that answered questions 1, 5 and 8. On that basis a rank correlation (Spearman) was calculated. The analysis showed a correlation of -0.019. The results are essentially uncorrelated. When translating the results of the combination of question 1 and 5 in a percent scale form 0 – 100% and comparing the data with the answers of question 8 also optically shows that there is no pattern.

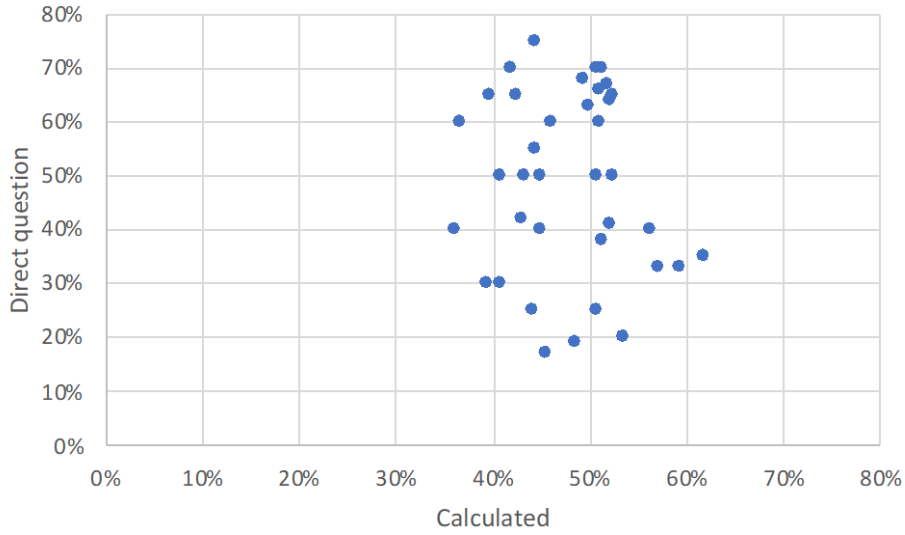

Figure 10. X,Y plot for weight of soft factors (calculated and direct question)

Question 9 asked to which degree soft factors are integrated into the decision-making process on a scale ranging from fully integrated to not integrated at all. 68% of respondents state that soft factors are quite or fully integrated in their decision-making process. For 27% it is moderately integrated and only 5% say that it is slightly integrated. No one said it is not integrated at all. The answers on the degree of integration are positively correlated to the weight of soft factors in decision making given in the question before with a correlation coefficient of 0.42.

According to the results of question 10, the biggest increase in client demand in the last five years among the factors selected for this question refers to socially responsible behaviour and corporate governance. These two factors show a correlation coefficient of 0.49. The answers for the factors reputation and corporate culture show a correlation of 0.48 and achieve similar levels of demand increase. The lowest ranking in demand increase show the factors findings from behavioural finance and emotional aspects. Here the correlation comes out at 0.51. All factors show an increase in client demand with the lowest two only slightly above unchanged while the highest two are a good part above "increased". One respondent singled out environmental as a factor where demand has shifted strongly.

5.2 Description of soft factors

About 66% of participants agreed or strongly agreed with the description for soft factors presented. A t-test confirmed that the description was accepted. The five softest items are emotional aspects, corporate culture, socially responsible behaviour, public relations and reputation. The biggest standard deviation in assessing the softness/ hardness of an item among soft factors showed for recommendations in the media and conviction.

4% of the investment professionals agreed strongly with the presented description for soft factors presented and 62% agreed. Some 13% disagreed with the description. Running a T-test against the reference value "disagree" suggests that the description was accepted ($T=13.5$ and p-value < 0.05). One criticism elaborated on by a participant is based on the view that some of the soft factors can be quantified and are used in financial or valuation models. A second participant pointed out that they can be measured, but there is no common view on the scale and that it is challenging to integrate them into a valuation model.

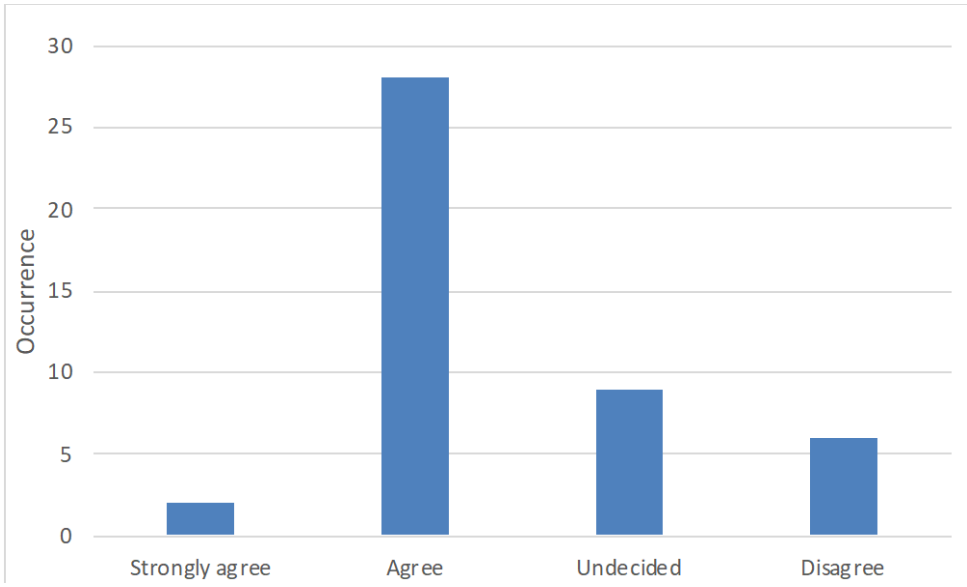

Figure 11. Distribution for level of agreement to description

The five factors that are seen as the softest are emotional aspects, corporate culture, socially responsible behaviour, public relations and reputation. The factors seen as hardest are historic numbers, valuation, macro, measured risk and market environment. The biggest disagreement on the assessment of the degree of softness, as measured by the standard deviation, was visible on recommendations in the media, conviction, quantitative analysis, quality of financial reporting and scenario analysis. The first two are broadly

seen as soft while the next two are rather seen as hard. Interestingly the average assessment of the softness of all factors comes out pretty much at the midpoint.

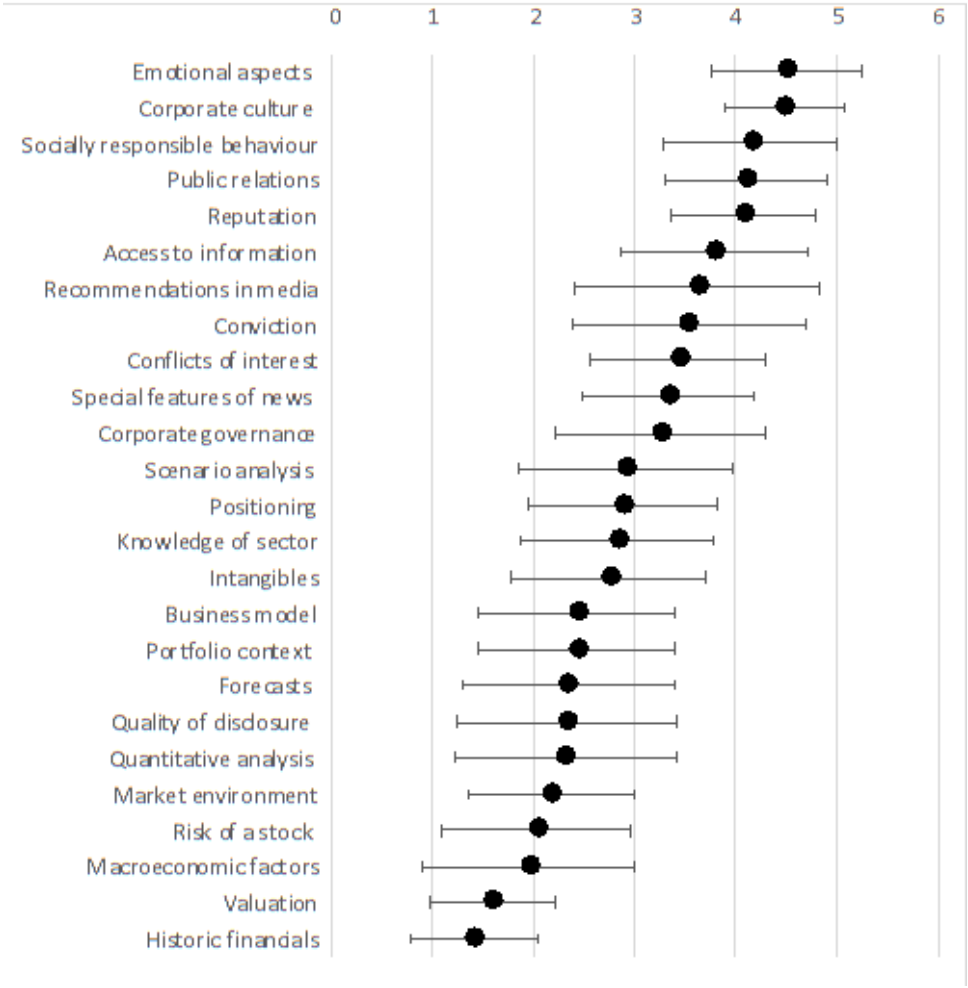

Figure 12. Degree of softness

Running t-tests against the reference values for "soft" (on the Likert-type scale 4) and "hard" (2) confirmed the top five soft factors as soft and extends the list by the item access to information.

Item	Test value	N	Mean	T	Sig.
Socially responsible behaviour	4	42	4,1429	1,062	0,294
Reputation	4	42	4,0714	0,65	0,519
Corporate culture	4	42	4,4762	5,194	0,001
Access to information	4	42	3,7857	-1,502	0,141
Public relations	4	42	4,0952	0,781	0,439
Emotional aspects	4	42	4,5	4,374	0,001

Table 2. t-test for soft factors

Likewise, the top five hard factors are also confirmed by a t-test. Quantitative analysis and quality of financial disclosure were also accepted as hard, but only with a small margin.

Item	Test value	N	Mean	T	Sig.
Macroeconomic factors	2	42	1,9524	-0,298	0,767
Market environment	2	42	2,1667	1,311	0,197
Historic financials	2	42	1,4048	-6,152	0,001
Quality of disclosure	2	41	2,3171	1,875	0,068
Valuation	2	42	1,5952	-4,184	0,001
Risk of a stock	2	42	2,0238	0,162	0,872
Quantitative analysis	2	42	2,3095	1,835	0,074

Table 3. t-test for hard factors

5.3 Factors seen as most and least important

In the context of hard and soft factors, the soft factors conviction and reputation are among the five most important factors. Recommendations in the media, public relations, socially responsible behaviour and potential conflicts of interest are among the five least important factors. Most additional factors mentioned are part of the items presented in the survey. The strongest correlation in the assessment of the importance could be observed among ESG related items. In the group psychology there is a high correlation between conviction and access to information. The importance of reputation and corporate governance also shows a high correlation.

The five factors among 25 soft and hard factors that are seen as most important by the participants are business model, market environment, conviction, valuation and reputation. The five factors seen as least important are recommendations in the media, public relations, quantitative analysis, socially responsible behaviour and potential conflicts of interest. It is worth noting that there is a drift towards assigning a high importance to the factors selected yielding an average score of 3.5, while the mid-point of the scale sits at 3.0. We find a correlation coefficient of > 0.5 with a p value of ≤ 0.001 between the results for corporate governance and socially responsible behaviour and between corporate governance and potential conflict of interests. Other correlations with a p value of ≤ 0.001 are between market environment and knowledge on the sector/ company and also between business model and potential conflicts of interest.

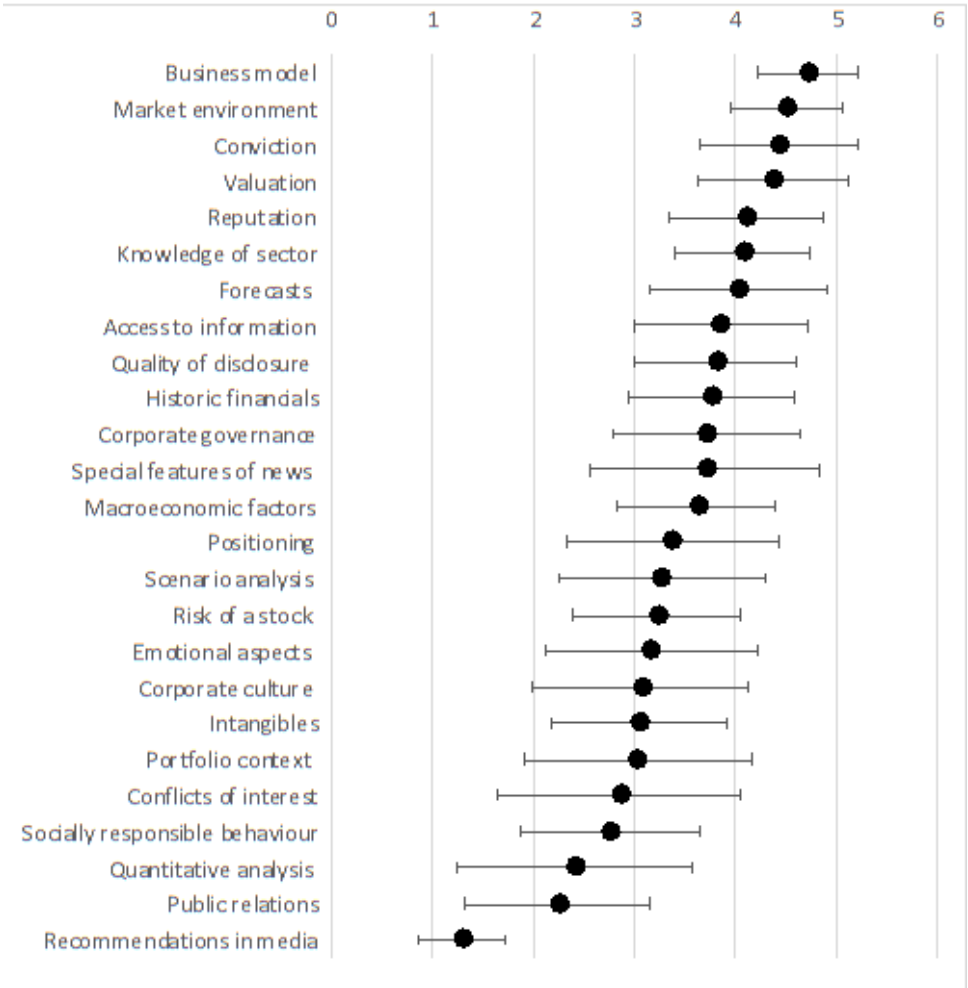

Figure 13. Mean and standard deviation of soft and hard factors

Also of interest is the correlation between items belonging to the bigger groups of soft factors defined for the thesis. Among the psychology-related items we find that emotion is correlated to public relations and positioning with correlation coefficients of 0.32 and 0.30 (p-values < 0.05), respectively. Conviction is correlated to access to information with a correlation coefficient of 0.41 and a p-value of 0.005.

The group non-financial information is represented in question 1 with lines dealing with socially responsible behaviour, corporate governance and potential conflicts of interest. Corporate governance is correlated with a correlation coefficient of > 0.5 and a p-value of ≤ 0.001 to the two other items and socially responsible behaviour with 0.47 and 0.001, respectively.

When it comes to the somewhat more heterogeneous block of corporate culture, we find a correlation of 0.43 and a p- value of 0.003 for the questions that directly deal with reputation and corporate culture. The correlations of the factors that partly fall into the group, is between quality of disclosure and corporate culture 0.25 (p-value 0.096) and between access to information and reputation 0.28 (p-value 0.062).

Four out of 46 respondents pointed out that they deem additional factors as very important. One was missing earnings momentum which belongs broadly speaking to quantitative analysis and is more explicitly mentioned in question 6. Another mentioned that the sector context is very important, since the importance of individual factors can vary considerably from sector to sector. An additional comment centred on direct access to management being part of access to information, and coverage by brokers (i.e. that enough people on the sell-side analyse a company). The most comprehensive comment refers to access to information (company, proactivity of management and investor relations), corporate governance (basis for variable compensation), financial metrics (return and cash flow measures) and growth potential.

5.4. Soft factors seen as most or least important

The group seen as most important on average is reputation/ corporate culture, followed with some distance by non-financial information and psychology. Within reputation/ corporate culture the items strategy and management quality clearly stand out, which display high correlations to the trust related items clarity of reporting and access to management.

Emotional appeal does not matter and corporate culture scores averagely. The most important item in non-financial information is protection of shareholder rights. Other aspects of corporate governance are located more in the middle ground. Social and environmental aspects are seen as irrelevant and display high correlations to corporate culture. In the domain of psychological aspects, only the rephrased version of conviction makes it into the top quintile as regards importance. It has a high correlation to emotion. Aspects of behavioural finance are broadly seen as irrelevant. Among the items not allocated to a main group the business model clearly stands out. There is no strong correlation to be singled out. Just outside the top quintile is the item that deals with the question to which extent an information has been reflected in a share price. It has high correlations to a high number of other factors.

The five soft factors coming out as the most important are business model, strategy of the company, quality of management, protection of stakeholder interests and clarity of reporting. Located at the other end of the spectrum are the stance of the media, public affairs, views of other market participants, reflection on behavioural finance and ESG as risk management tool. The average across all factors is at 3.3 which is still above the midpoint of the scale at 3.0. Beside the factors covered in question 6, one respondent mentioned that there are other factors that are very important in decision making, highlighting the incentive system of management.

Items that are correlated with a correlation coefficient of > 0.5 and a p-value < 0.001 include environmental aspects and social aspects. Social aspects are also connected to ethical standards. Clarity and consistency of disclosure is correlated to emotional appeal and own feelings. Furthermore, quality of the management and strategy show a connection. We find also a correlation between emotional assessment of a company and own emotion. Ethical standards are correlated to the strength of the corporate culture and also to the question which information is contained in the share price. There is also a correlation between the strength of the equity story and to which extent information has been priced in. Market sentiment is correlated to momentum. Finally, momentum and relative performance of own picks are highly correlated.

The more detailed aspects of the results of the survey regarding the importance in a context of soft factors only, is broken down to four groups for easier handling. The items are

clustered along the lines of the main groups psychology, non-financial items, corporate culture/ reputation and a residual. The latter contains adherence to certain concepts (e.g. sensemaking), factors that are bordering to soft factors or don't fall clearly into one of the main groups. The grouping was mainly done on a basis were research results indicate a connection and the subjective assessment of the author. The grouping is supported by correlations between the individual factors.

5.4.1 Psychological aspects

While conviction was seen as the third most important factor in the context of soft and hard factors, the rephrased version of the item in question 6 dropped to just outside the top quartile. In addition, the two items show only a medium correlation (0.35). Within the block of psychological items we find a correlation of 0.4 (p-value < 0.01) to market sentiment. Worth noting is the high correlation of emotion in question 1 with the rephrased version of conviction in question 6 (0.68). Besides the correlation to the item regards to which extent information is in the share price refelcted there are correlations with a p-value of <0.01 to special situations (0.47) and market sentiment (0.43).

Emotion as a factor is located in the middle of the fourth quintile of importance when considering hard and soft factors. Splitting it up in question 6 into market sentiment and own emotion yields a ranking in the middle ground and in the middle of the fourth quintile, respectively. The two items show a medium correlation (0.36). Market sentiment correlates at 0.46 (p-value 0.005) with the item emotion in question 1. The reading for the correlation of own feeling with emotion in question 1 is 0.48 (p-value 0.003). Within psychology-related items we find correlations for market sentiment to the rephrased version of conviction (0.43, p-value 0.01), crowding (0.48, p-value 0.002), own relative performance (0.52, p-value 0.001) and a medium one to own feelings (0.36, p-value 0.04). For own emotions to views of the media (0.43, p-value 0.009) and to own relative performance (0.4, p-value 0.02). Outside psychology there are correlations with a p-value < 0.01 for market sentiment to macro (0.53), corporate governance (-0.47), special situations (0.56), social aspects (-0.48), experience with the company (0.51), sensemaking (0.45) and momentum (0.62). For own feelings to clarity and consistency of disclosure (0.55) and emotional appeal (0.54).

Separating out the more behavioural economics aspect of access to information, i.e. views of other market participants, triggers a drop to the least important factors. The correlation between the two items is not particularly high at 0.22. We find also a medium correlation to crowding (0.39). The assessment of the part of public relations that deals with the resulting stance of the media remains unchanged also in question 6. The stance of the media is seen as the least important factor for decision making. Stance of the media is correlated at 0.44 (p-value 0.007) with public relations in question 1 and also to recommendations from the media at 0.40 (p-value 0.02). Within psychology-related items we find the highest correlation to own emotion (0.43). Positioning is ranked by the survey participants largely in the middle ground in question 1 and it drops to the bottom of the fourth quintile after focussing more on crowding in question 6. The items are slightly correlated at 0.25. With regard to the other items within the block of psychology, the correlation to market sentiment is highest (0.48). Looking at the importance of the own relative performance against the benchmark, investment professionals see importance as well below average. The item is most correlated to momentum (0.83) and market sentiment (0.529, and also to the item emotion as a whole in question 1 with 0.47. Tackling the influence of behavioural finance finding on decision making directly, i.e. by asking whether reflection on potential biases matters, it is seen clearly as unimportant. Reflection on behavioural economics is medium correlated to half of the items that can be linked to this field like views of the media (0.38) and crowding (0.4) but only slightly correlated to the other half like views of other players (0.17) and relative performance (0.18). When aggregating all factors that are more or less targeting aspects of behavioural finance, we find that they are located on average in the bottom quintile (average rank 25.4, average score 2.6).

Averaging across all items that were grouped into psychology results in an average score of 2.9 and an average rank of 21. Three out of eight items are located in the bottom quintile, three in the fourth quintile and one in the third and second quintile, each.

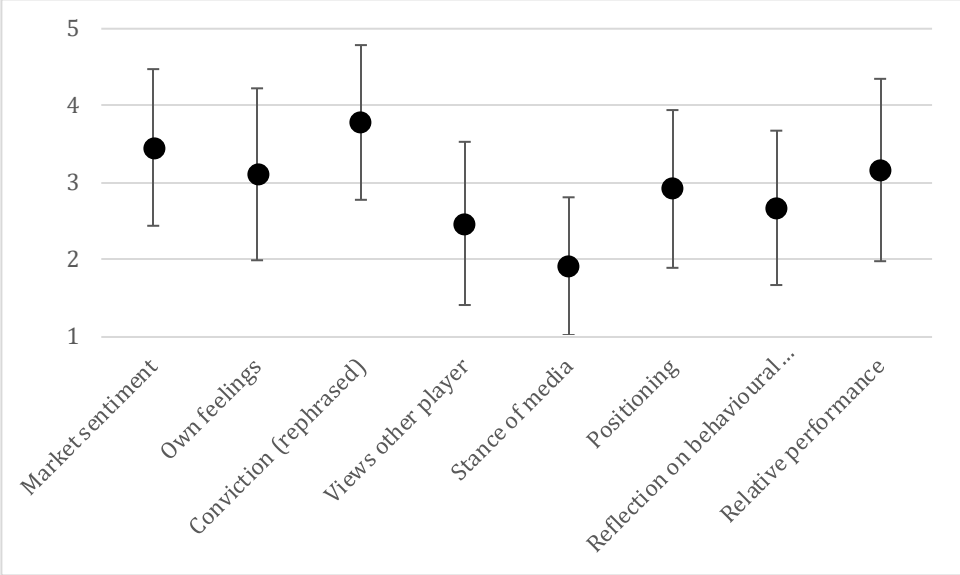

Figure 14. Mean and standard deviation in the group psychology

5.4.2 Non-financial information

Compared to the score for socially responsible behaviour in question 1, the individual scores for social and environment move slightly up in question 6. However, also in the context of soft factors only, environment and social are on the border to or in the bottom quintile of importance. The two items in question 6 are correlated with the corresponding item in question 1 with 0.6 (p-value 0.0001) and 0.73 (p-value <0.0001). When looking at corporate governance, the reading for the shareholder value aspect is in the top quintile. The more neutral description is at the bottom of the second quintile. Conflicts of interest are seen as one of the least important factors in question 1 and are at the bottom of the third quintile in question 6 (correlation 0.53, p-value 0.001). The item on corporate governance in question one is strongest correlated to the shareholder value aspect (0.46, p-value 0.004), correlated with conflicts of interest (0.38, p-value 0.02) and only slightly correlated to the broader description (0.15). ESG as a risk management tool is located in the bottom quintile of importance and correlates at 0.32 (p-value > 0.05) with socially responsible behaviour in question 1 and with corporate governance at 0.38 (p-value 0.02). Outside the ESG block there are correlations at a p-value < 0.01 for environment and social aspects to corporate culture (0.53 and 0.47), whereas correlation of social aspects is also confirmed by a correlation to morale/ ethics (0.54). Social aspects are also

negatively correlated to market sentiment (-0.48). For shareholder value there is a correlation to disclosure (0.49).

Averaging across all items in this group results in an average score of 3.2 and an average rank of 17.8. However, there is a notable difference to corporate governance related items with the readings 3.6 and 10.7, respectively.

Figure 15. Mean and standard deviation in the group non-financial information

5.4.3 Corporate culture and reputation

Management quality and company strategy show the highest reading among the soft factors only after business model. The emotional component of reputation is near the upper end of the fourth quintile of the group of soft factors. All items are at least at 0.45 correlated (p-value 0.005 or lower) to the item reputation in question 1, which is in the top quintile among soft and hard factors. Management quality and strategy are highly correlated (0.78) but correlation to emotional aspects of reputation is only medium (0.28 and 0.37). Quality of management has also a high correlation to contact to management (0.46). Strategy and emotional appeal show both a high correlation to clarity and consistency of disclosure (0.48 and 0.62). Outside the group corporate culture there are correlations with a p-value of < 0.01 for management quality and strategy to conviction (0.49 and 0.68), for strategy to the question which information is already in the price (0.49) and

to experience with the company (0.44). For emotional appeal correlations to historical financials (0.44), to emotion (0.42) and to own feelings (0.54).

The two aspects of corporate culture, ethics/ moral and strength of corporate culture, come out pretty much at the average in the context of soft factors. The strength of corporate culture is seen as slightly more important than ethics/ moral. In question 1 corporate culture ranked in the fourth quintile in the context of soft and hard factors. Ethics/ morale and strength are correlated to the corresponding item in question 1 at 0.37 (p-value 0.02) and 0.45 (p-value 0.006). Correlation between the items stands at 0.58 (p-value 0.0002). Ethics and strength are also medium related to strategy (0.33 and 0.34). Ethics/ moral and strength of corporate culture show also correlations to socially responsible behaviour (0.43 and 0.46) and to corporate governance (0.46 and 0.35). The correlation to socially responsible behaviour is only partly confirmed by a correlation of 0.54 between ethics/ moral and social aspects; all other cross-correlation are in the bracket 0.33 to 0.39 (p-value < 0.05). The correlations to corporate governance items fade in the context of soft factors. Ethics/ moral is also correlated to clarity of disclosure (0.53) and strength of corporate culture to public affairs (0.43).

The aspect of the item access to information in question 1 considered in this group is contact to management, which comes out in the first quintile among soft factors. The reading in question 1 was in the second quintile. The correlation between the two items is 0.47 (p-value 0.003). Access to management is also correlated to management quality and strategy (0.46 and 0.35). It is also correlated to conviction (0.42) and negatively correlated to historic financials (-0.50).

While quality of disclosure came in the second quintile in question 1, it features as one of the most important items among the soft factors. The main shift in asking was towards the clarity and consistency, implicitly asking whether the numbers can be trusted. In the context of hard and soft factors, 19% saw it as very hard, but only one participant marked it as clearly hard in the context of soft factors. The correlation of the items in question 1 and question 6 is 0.47 (p-value 0.04). As mentioned above, it also correlates with emotional appeal (0.62), strategy (0.48) and management quality (0.30). Other items outside the group of corporate culture / reputation that show a correlation with a p-value < 0.01 are to knowledge of the sector (0.44), conflicts of interest (0.44 in the context of soft and

hard factors and 0.49 for the question on soft factors only), view of the media (0.43), own feelings (0.55) and sensemaking (0.44).

Averaging across all items that were put in this group results in an average score of 3.7 and an average rank of 9.7. The pecking order is reputation (ex. emotional aspects) ahead of items that we group broadly in trust (contact to management and clarity of disclosure) and corporate culture.

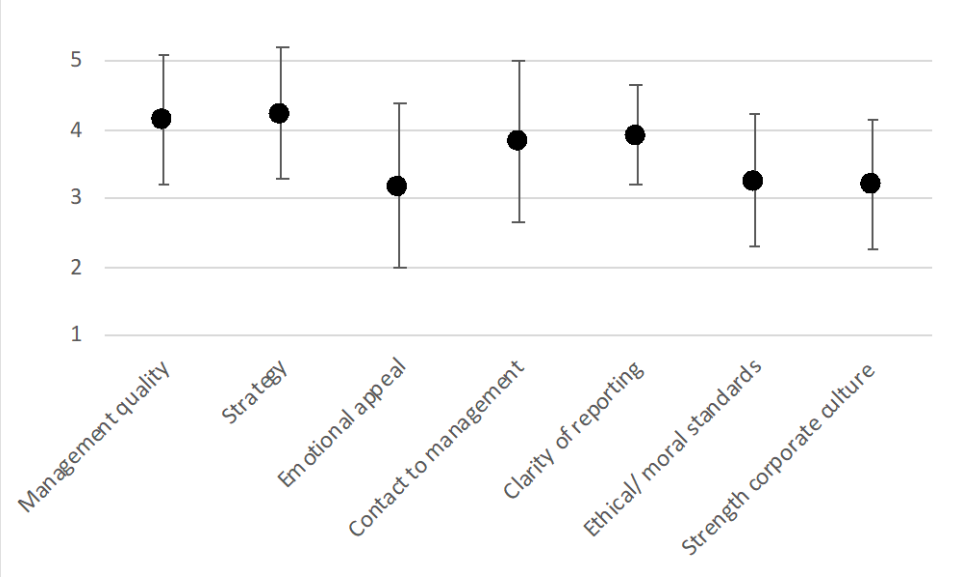

Figure 16. Mean and standard deviation in the group corporate culture/ reputation

5.4.4 Other aspects

This group is a heterogeneous residual consisting of concepts, items that are a mix of soft and hard factors, and items that can't be placed in a certain group. Therefore, only items that stand out for some reason are presented.

Also in the context of soft factors only, and moving the description more towards the more subjective and softer qualities, the factor business model remains the most important one for investment professionals. Though some 16% of respondents marked the business model as a very hard factor in question 4, none of them chose to mark it as being a "clearly hard" factor in question 6. The correlation between the item in question 1 and 6 is 0.42 (p-value 0.009). The item is also correlated with 0.53 (p-value 0.001) to historic financials in the context of soft and hard factors. Within soft factors elevated correlations to the

broad description of corporate governance (0.46, p-value 0.004), views of other players (0.39, p-value 0.02) and emotional appeal (0.35, p-value 0.03) exist.

Another item that is difficult to characterize as hard or soft factor is quantitative strategies. It comes out firmly in bottom quintile in question 1, but when the focus is on momentum only, it moves up into the middle ground in question 6. The two items correlate with 0.43 (p-value 0.008). Momentum displays very high correlations to own relative performance at 0.83 and market sentiment at 0.62 (p-values for both < 0.001). Another item that correlates with a p-value slightly above 0.001 is sensemaking at 0.51.

Items referring to the concepts of decision making relate to information processing and sensemaking. Investment professionals give the question to which extent the market has priced in information an importance that is just outside the top quintile of soft factors. It correlates highly with knowledge of the sector at 0.54 (p-value <0.001) in the context of soft and hard factors, but the correlation fades when the focus shifts to the previous experience with the company. A factor in the group of soft and hard factors where the p-value is < 0.01 is reputation (0.5). The link to reputation is also confirmed by a high correlation to strategy in the context of soft factors (0.49, p-value 0.002).). Other items in the group of soft and hard factors that correlate with a p-value of < 0.01 are scenario analysis (0.44, p-value 0.007), conviction (0.46, p-value 0.004) and positioning (0.47, p-value 0.003). When it comes to the context of soft factors, the rephrased version of conviction at 0.53 and morale/ethics at 0.53 (both with a p-value <0.001). Other items that correlate with a p-value < 0.01 are sensemaking (0.44) and views of other players (0.46). Two in the block of soft factors fall into the group psychology (conviction, views other players).

An additional aspect covered in question 6 targets information processing by the market, in particular whether the market reaction appears reasonable, in other words, whether it makes sense. The factor is assigned an average score for its importance in decision making. Within the group of soft and hard factors there is a correlation to special situations at 0.47 (p-value 0.003). This correlation fades in the context of soft factors only and after shifting the focus towards the subjective aspects of a special situation. Among the soft factors there are correlations with a p-value < 0.01 to clarity and consistency of disclosure

(0.44), market sentiment (0.45), conflicts of interest (0.48), momentum (0.51) and as mentioned above to which extent information has been factored into a share price (0.44).

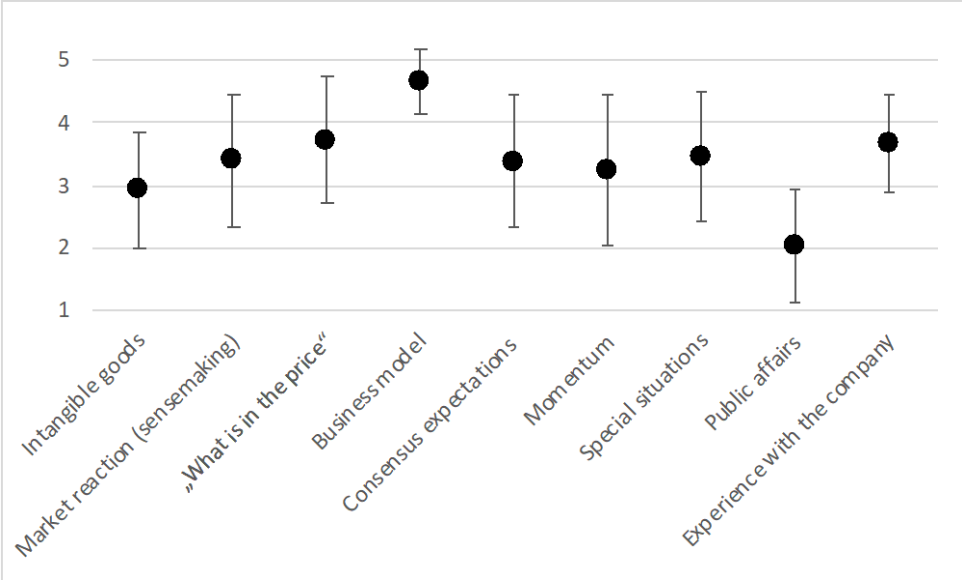

Figure 17. Mean and standard deviation of other aspects

6 Discussion

Both direct and indirect approach suggest that soft factors contribute 49% and 48%, respectively, to an investment decision of an investment professional in the equity sphere. There is anecdotal evidence that the actual weight might be higher, like high integration of soft factors in the investment process, emotion-related items consistently drawing low scores and a high proportion of soft items when considering the appropriate pricing by the market. Increased client demand is likely to drive the measure further up, going forward. A number of observations suggest that decision making is not consistent with the efficient market hypothesis, like high importance of the question whether an information is reflected sufficiently in the share price, or the weight put onto access to information and usefulness of momentum strategies. As expected, there is no evidence that decisions are based on sensemaking but we find a number of points that are supportive for the use of the concept. The importance of items related to fundamental bottom-up analysis suggests a rational decision process, though the emphasis on reputation and conviction challenge the conclusion.

The description of soft factors used in the thesis is accepted by investment professionals participating in the survey. However, the rejection by some and diverging views whether a factor is soft or hard, illustrate the issues due to the lack of a clear-cut definition. The classification of conviction by investment professionals does not fully tally with the literature suggesting the item is soft (Barbalet, 2009; Chong & Tuckett, 2015; Taffler et al., 2017). Participants seem to disagree that quantitative analysis can be connected to behavioural finance (Barberis et al., 1998; Daniel et al., 1998), though there is a clear link for the sub-area of momentum strategies.

The most important group of soft factors is reputation/ corporate culture, though clearly dominated by reputation. It is followed with some distance by non-financial information driven by corporate governance. Psychology-related items are largely seen as irrelevant. The factor business model, deemed a very important item, does not fall into the proposed main groups and does not display a particular pattern of correlations to one specific group. Nevertheless, it seems to entail a considerable soft component. The low importance assigned to intangibles does not support research (Barney, 1991), but could be down to unfamiliarity with the concept.

Reputation proves an important factor which is not consistent with mixed findings of literature (Anginer & Statman, 2010). The assessment of reputation is driven by the facets strategy and management quality, though the latter is not support by literature (Agarwal et al., 2011; Breton & Taffler, 2001; Cheung et al., 2017; Malmendier & Tate, 2009). A correlation of reputation to the question whether an information is fairly reflected in the share price suggests that reputation only matters when it is not reflected in the share price. Another correlations indicates that management meetings are an instrument to build trust (Taffler et al., 2017) and underpins the role of trust in decision making. The important role of trust shows again in the item clarity of disclosure.

The finding that conviction is important in investment decisions supports literature (Chong & Tuckett, 2015; Taffler et al., 2017). Though data don't suggest that conviction is seen as a soft factor as suggested by literature (Barbalet, 2009; Chong & Tuckett, 2015; Taffler et al., 2017), the survey results show that reputation and trust are prerequisites for conviction. These items plus an emotional element seem to constitute the soft qualities of conviction.

Environmental or social aspects are seen as irrelevant by participants underpinning literature (Aouadi & Marsat, 2016; Peloza, 2009; Wang et al., 2011) which is surprising given the high public attention and strong promotional messages from the investment industry. The finding that CSR factors are not seen as useful to manage risk does not tally with previous research (Jo & Na, 2012; Luo & Bhattacharya, 2009). Also corporate governance, where literature finds a positive impact on financial outcomes (Ammann et al., 2011; Gompers et al., 2003), is not seen as particular important. In addition, only the most capitalistic part is important to investment professionals, i.e. shareholder value. The inconsistent reading for potential conflicts of interest can be explained by the finding that trust can replace corporate governance (Pevzner et al., 2015). Results suggest that investment professionals disagree with the assumption that corporate culture matters for value creation (Edmans, 2011; Guiso et al., 2015).

The data suggest that participants are not subject to biases or heuristics going against research findings (Nikiforow, 2010). However, the observation is weakened by the low attention paid to findings of behavioural finance. The low importance assigned to recommendations in the media agrees in a certain way with literature (Barber & Odean, 2008)

but creates a contradiction as it can be useful. The low reading of emotional items would underpin the rational approach to decisions, however, unwillingness to admit emotionality or being unconscious on the influence seem more plausible.

6.1 Weight of soft factors in decisions

On average, soft factors contribute 49% to an investment decision regarding stock according to the results of the survey. The actual weight might be higher. The high standard deviation reflects the difficulty to quantify the weight and appreciation of individual items. Though not comparable, the findings are supported by a calculated metric. The high degree of integration into the decision process underpins the interpretation that soft factors are important and their disclosed weight might be understated. The strong increase in demand from the client side to integrate soft factors, in particular ESG, might lead to an increasing importance assigned to them, in the future. The data suggest that the actual decision-making process is not consistent with the efficient market hypothesis. Though we find no direct evidence that the decision-making process is based on sensemaking, there are a number of items that point into that direction.

The participant' answers to the straight question on the weight of soft factors in decision making would suggest that it relies on soft factors almost 50% on average, though with a rather wide range. Arguably, that is a very difficult question to answer because we are dealing with something that is hard or impossible to quantify in the first place. In addition, investment professionals are probably not in all cases exactly conscious of which factors play an important role in their decision process. That is probably already a fair explanation for the wide range, and possibly for the average being close to 50%. The wide range can also be down to different personalities of the participants. However, as outlined in the section on the design of the questionnaire, such psychological aspects were excluded for practical reasons. Beyond the mean and standard deviation of the data, it is worth noting that 29% of investment professionals assigned a weight of 60-70% to soft factors in their decision-making. That is some 50% higher than the next highest 10% band. It is probably fair to assume that some participants have deliberately understated the importance of soft factors in decision making, as most have probably the self-image of a rational and un-emotional market participant.

The only group comparison where an analysis of variance suggests a difference between groups is for the type of employer. While employees in sell-side and wealth management units assign about the same weight to soft factors on average, the weight given on average by employees at asset management companies was some 13 to 14 percentage points lower. The higher weight observed for people working with brokers tallies with literature according to which qualitative aspects are the most important factors driving the recommendation issued on a stock (Breton & Taffler, 2001). The typically strict investment process implemented at asset management companies might have fostered a more number-driven decision-making approach or at least the perception of it. Being both on the buy-side, one could have expected similar outcomes for asset management and wealth management. However, wealth management professionals have by definition a lot more exposure to retail investors which might have led this group to accepting that factors not put into hard numbers do matter for an investment decision.

From a statistical standpoint, the other group comparisons do not yield additional insights. Yet there are two observation worth making. Failing the Levene-test implicitly means that the groups differ at least in the sense that they are not are not consistent in the range of views they express. The other point is, though data might not be statistically significant, it can nevertheless provide some insights on the tendency in the behaviour of subgroups.

As pointed out the group comparison based on years spent as an investment professional does not make the Levene-test, as the variances of the groups differ too much. Nevertheless, it is worth to have a brief look at the readings, since they are not intuitive. One could suspect, that with longer experience in the job, the proportion of soft factors in the decision-making increases. The group with 16-20 years in the industry indeed assigns a higher weight to soft factors than the group with 0 to 15 years. However, the groups with even more experience assigned a lower weight. One explanation is, that they have the longest distance to graduation and their academic background might be most impacted by efforts to give the economic theory a purely mathematical background. Their way from a purely hard factor-based approach to decision making to including soft factors would be therefore longest. Interestingly, the group being longer than 25 years active, shows the biggest standard deviation, with half being at the low end of weight assigned and the other half at the high end.

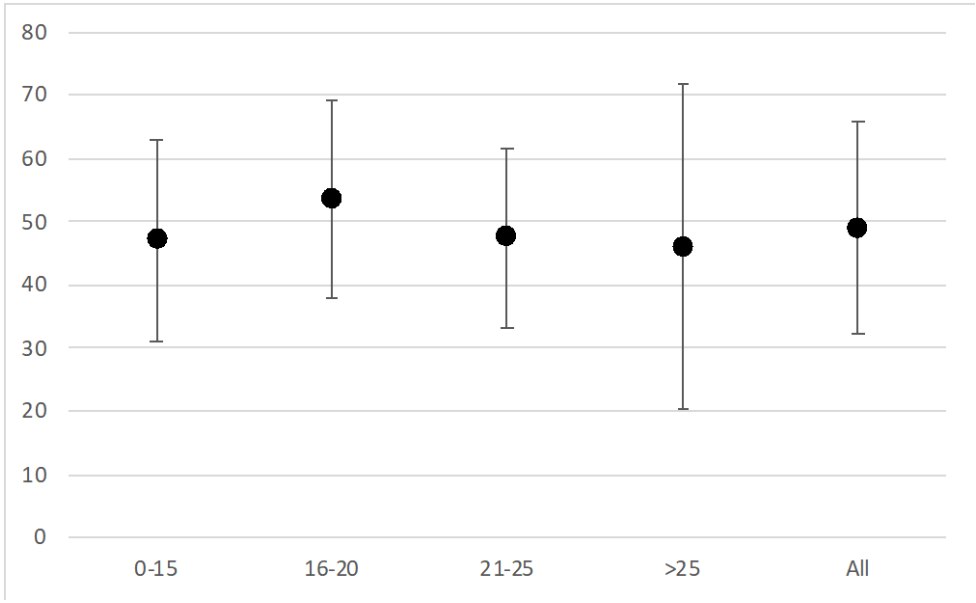

Figure 18. Group comparison on the weight of soft factors based on experience

The other group comparison provides some insights is the influence of sector tilt. The Levene-test ascertained that the groups have a similar variance. However, the difference in the groups is not significant even though it seems to have some explanatory power. The group of investors looking into consumer goods, though small, seem to be more in agreement that soft factors matter as expressed by a low standard deviation. One could suspect that dealing with consumer goods creates some attention on the influence of soft factors to decision. The lowest mean comes from the group following the technology and communication sector, though with a higher standard deviation. The data is intuitive, since one could put the sectors into a more scientific and rational bucket. Intriguing is the reading for industrials. It has the highest mean and also the highest standard deviation. This might be due to the heterogeneity of the sector, spanning a wide range of individual characteristics and possibly importance of soft aspects to judge a company.

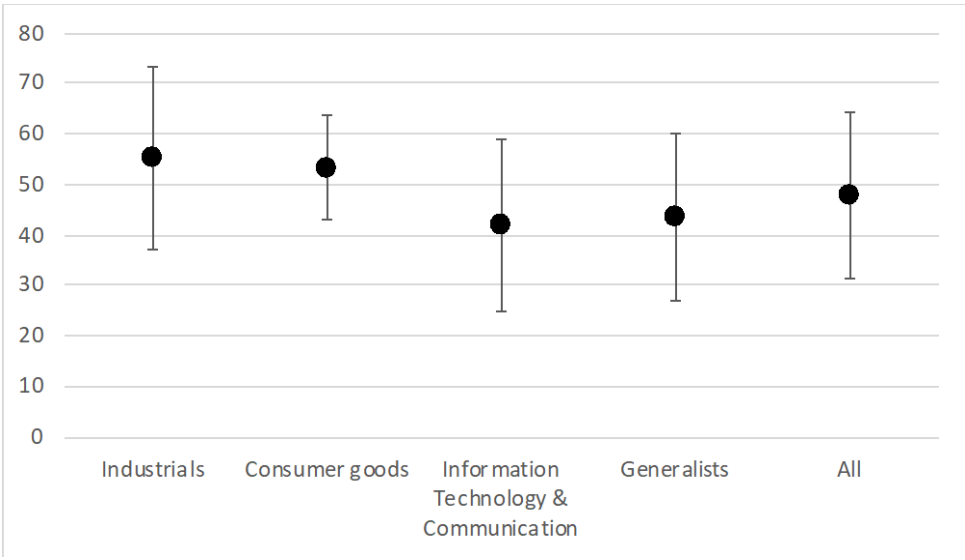

Figure 19. Group comparison on the weight of soft factors based on sector

Though the results of the combined question 1 and 5 should be taken with some degree of caution, it probably gives a fairer picture of investment professionals' thinking. It has to be said upfront that the readings of question 8 and the combination of 1 and 5 are not comparable. Nevertheless, the lack of correlation between 8 and combination of 1 and 5 is somewhat surprising. It supports the view that investment professionals are largely unaware of how much weight soft factors play in their decision making. Part of the problem can well be the nature of soft factors of being very difficult to grasp and containing a subjective element. Only 34% come out on the same rank and given the width of the ranks, even those can be up to 20 percentage points apart. Arguably, scores close to the border to the next rank might be very close by. Translating the level scores back on a 0 – 100% scale shows that while the average of the difference between question 8 and the combination of 1 and 5 is fairly low at 1%, but the standard deviation is an impressive 18%. Interestingly there are fairly strong deviations from the mean on both sides, hence, it can't be said that the participants systematically over- or underappreciated the importance of them. Part of the explanation might be difference in the personality or how rational participants are; however, our data do not allow to further investigate this conjecture. Also for this approach, we would think that the overall mean understates the importance assigned to soft factors or what is deemed to be soft. In particular items like emotion or corporate culture are unlikely to draw high scores of importance, as

investment professionals are less likely to admit that decisions are heavily influenced by emotional aspects.

Slightly more than 2/3 of the participants state that soft factors are rather or fully integrated. The fairly high degree of integration would support the notion that soft factors matter for decision making, otherwise one would not integrate them into the decision-making process. It can probably also be read as indication that the weight of soft factors is indeed higher than the direct answers suggest. 37% responded that soft factors make 40% or less of their decision. On the other hand, only 5% stated that soft factors are rather not or not integrated at all, which does not add up. However, answers might well be biased since participants most likely realised until this point in the questionnaire that soft factors are central to the survey. In addition, it might have drawn "politically correct" answers since topics like environment and social aspects are covered, which are central to the intense debate on ESG integration in the investment process. The answers in question 10 are quite revealing in this context as demand from the client side has increased significantly.

As regards factors characterized by increasing demand, ESG clearly stands out. 89% said that demand for considering ESG aspects has increased or strongly increased. No one reported a decrease. That is probably a testament of the public attention the topic receives, but also of an actual shift on the demand side. The increasing focus on environmental aspects, being part of socially responsible aspects, singled out by one participant underlines this point. Retail and institutional investors drive investment professional's attention towards these topics. Looking at the low importance assigned particularly to social and environmental topics suggests, that incorporation of these items into decision making is hardly based on the own conviction. Nevertheless, the shift in demand might trigger an increasing importance assigned to these factors. As for the items reputation and corporate culture, the distribution between increases and an unchanged situation is largely balanced. That tallies better with the importance assigned by investment professionals, as at least reputation is among the most important items. The demand for psychology-related items, behavioural economics and emotion, are largely stable. This can probably be seen as evidence, that the findings borrowing from psychology already found their way in demand pattern of institutional and retail investors. Interesting is also the high correlation between the pairs (all are around 0.5 and a p-value of < 0.001) targeting ESG, corporate culture/

reputation and psychological aspects. This would suggest that at least the demand side groups the covered items into groups along the lines used in this thesis.

More broadly on the decision process, the high importance given to figure out what information the market has already priced certainly goes against the hypothesis that all new information is immediately and correctly reflected in share prices. One can conclude that investors are more willing to subscribe to the view that information is not reflected fully and accurately into a price once released to the market. This would suggest that decision making is more consistent with behavioural finance than with the neoclassical view. It also highlights that the various aspects of piecing together information is rather important in decision making. That would point to a process that can be described by sensemaking.

As expected, it proves difficult to pin down the role of sensemaking or find hard evidence for the use of it. Nevertheless, there are a number of points that would suggest it is an appropriate concept to use when it comes to decision making of investment professionals. When looking at correlations across all items in question 1 and question 6, it turns out that it is in the top quintile of items by the number of correlations to other factors with a p-value of <= 0.01 and still in the top third a p-value of <= 0.05. The effect is even more pronounced when looking only at correlations in the group of soft factors. Not all of the correlations are intuitive, however, the high number of correlations does highlight that there are a lot of items investment professionals seek to place into a context. The higher relative number of soft factors would also suggest that soft factors receive relatively more attention. Sensemaking also matters when investment professionals make sense of their own work by creating narratives (Eshraghi & Taffler, 2015).

6.2 Definition of soft factors

The description of soft factors used in the thesis is accepted by the investment professionals participating in the survey. However, rejection of the description by some participants and disagreement on what exactly a soft factor is, let alone how to measure it, illustrates the issues in dealing with them. The empirical data collected in the survey do not confirm the view that conviction is a soft factor (Barbalet, 2009; Chong & Tuckett, 2015; Taffler et al., 2017) . Likewise, the participants seem to disagree with the opinion that quantitative analysis can be linked to behavioural finance (Barberis et al., 1998; Daniel et al., 1998). The data collected in the survey do not suggest that investment professionals

behave in line with the assumptions underlying the concept of homo oeconomicus. The very broad range of results in the assessment of how soft or hard the item recommendations in the media is, illustrates the room for interpretation.

The agreement of 67% of the survey participants with the presented description of soft factors would indicate that the description is fairly comprehensive and the t-Test would suggest that the description is accepted by investment professionals. However, with only 4% fully agreeing and 13% rejecting the description one can hardly speak of a generally agreed definition. Nevertheless, the description can be seen as a step towards the development of a more broadly accepted definition which is needed to better understand the role of soft factors.

One participant rejected the description pointing out that some soft factors indeed can be quantified and can be incorporated into e.g. a valuation model. As a result, these factors should be subsumed under the category of hard factors. Though no other participant made the point, the very broad range of results concerning the degree of softness/ hardness for some factors might exactly illustrate this. In principle, every soft factor can be covered by some sort of scoring model and converted into a hard number. It might therefore be seen as a hard factor, as it can be quantified from a purely technical perspective and be treated as a plain fact. The views concerning the question, whether these factors are still difficult to be measured and still require subjective interpretation seem to vary significantly among the polled investment professionals. The other reason given for disagreement centres around the lack of a generally accepted scale to measure a soft factor, which makes it likewise challenging to integrate the factor into a valuation model. The two comments also echo the recurring theme in literature, according to which the lack of a clear-cut definition and the scarcity of empirical data are significant blocking stones. If there is no agreement on what exactly is soft about an item and what exactly is contained in it, the comparison of empirical data gets very difficult, even if abundantly available.

Emotional aspects, corporate culture, socially responsible behaviour, public relations and reputation come out as the softest items in the group according to the view of the investment professionals participating in the survey. The factors regarded as the hardest are historic numbers, valuation, measured risk, macro and market environment. The list of the items being most prominent on the one or other end of the scale looks largely

uncontroversial. One could have expected that conviction is seen as softer than the score in the middle of the second quintile suggests, given that conviction is based on trust and, hence, on emotion (Barbalet, 2009; Chong & Tuckett, 2015). Nevertheless some 19% of respondents see it as a hard or very hard factor. Still the majority assess it as soft or very soft. The rather high standard deviation (1.2 with a mean of 3.5) also suggests that the polled investment professionals are not in agreement on the softness of this particular factor. In the same vein, a t-test clearly rejects that conviction is seen as a hard factor. However, it also rejects conviction being a soft factor with a p-value of 0.046. On balance, the findings do not seem to support the view of conviction being a soft factor as literature suggests (Barbalet, 2009; Chong & Tuckett, 2015; Taffler et al., 2017).

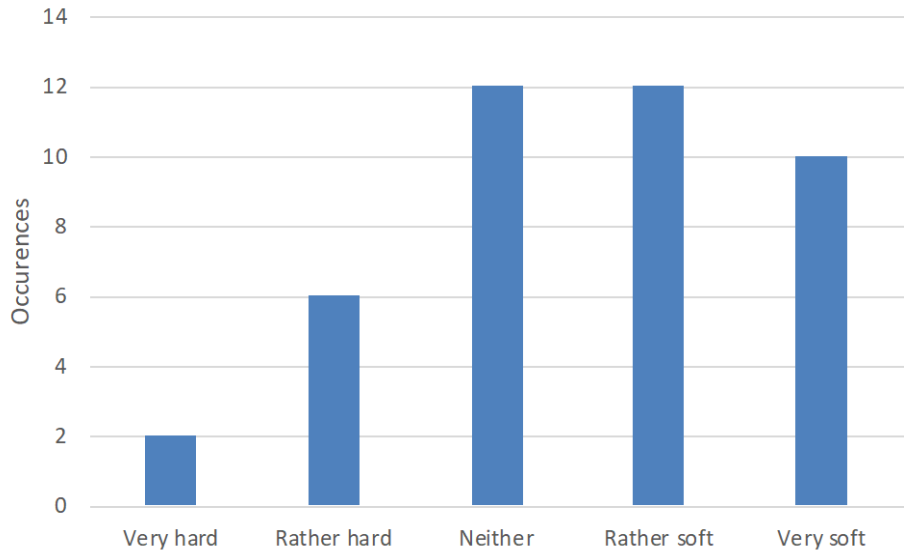

Figure 20. Distribution of answers for softness of conviction

Another factor where participants don't seem to agree on softness is quantitative analysis. The standard deviation of the respective scores is at 1.1 with a mean of 2.3. Taking a step back, quantitative analysis is a purely numbers-driven approach to screen and/ or select stocks. From that perspective it can be seen as a hard factor. Most of the polled investment professionals agree with that interpretation and quantitative analysis is the top quintile of hard factors. While it is broadly regarded as a rather hard factor, some 14% see it as rather soft or very soft. The crucial point probably is, that the input data used are often forecasts, which are highly subjective. In addition, the criterion selection for the screening process does not have to be particularly rational, e.g. one could opt to screen for the most expensive stocks in the sector. Alternatively, a quantitative approach can be based on historic

share price data to track momentum, a phenomenon that rather falls into the field of behavioural finance (Barberis et al., 1998; Daniel et al., 1998; Nofsinger & Sias, 1999). While it might not be a highly convincing result, nevertheless a t-test confirms that quantitative analysis is a hard factor with a p-value of 0.074. Against this backdrop it would appear that investment professionals seem to disagree with the view that quantitative strategies entail significant psychological aspects.

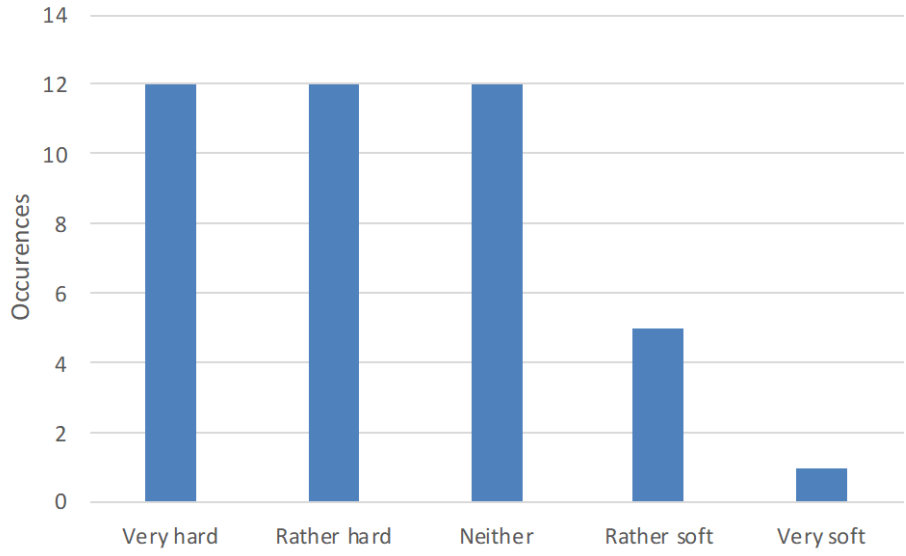

Figure 21. Distribution of answers for softness of the factor quantitative analysis

Scenario analysis is another factor where the standard deviation of the scores in the survey is elevated (mean 2.9 and standard deviation 1.1) pointing to differing views among the polled market participants. Basically, the item refers to the approach a rational investor would take in order to maximize utility. From that perspective one would rather see it as a hard factor. This interpretation would also yield the answer that on average investment professionals are somewhere between being rational and irrational. On the other hand, the design and selection of scenarios and the assumed outcomes are certainly subjective. Also, a number of behavioural issues can potentially kick in, like risk perception and not accurately applying the probability theory (Kahneman & Tversky, 1979; Shleifer, 2000; Tversky & Kahneman, 1974). In practical work, investment professionals use scenarios mostly to get a better understanding of the potential outcomes of one particular situation. Even in this context, they might not take the decision that potentially yields the highest risk-adjusted return but the one that is least damaging when things turn negative. On

balance, results do not support the view that investment professionals do behave in line with the assumptions of the neoclassical view of capital markets.

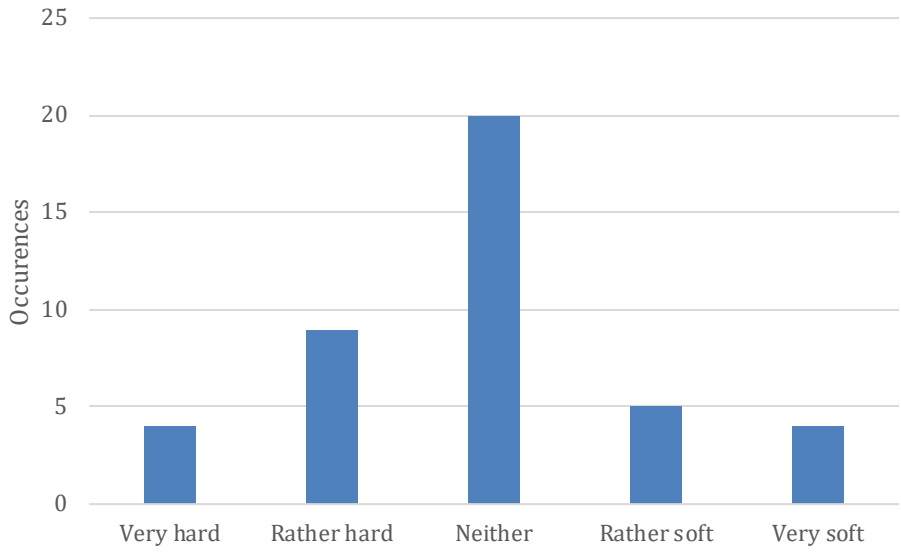

Figure 22. Distribution of answers for softness of scenario analysis

The survey also yielded an interesting pattern regarding the factor recommendations in the media. As was probably to be expected, the scores clearly concentrated on the soft part of the scale. Remarkable is the rather high standard deviation of 1.2 which is the highest among all items. Looking at the distribution of the scores, there is a peak at "clearly soft" but also at "neither hard nor soft". The peak at the soft end is intuitive, since the item refers to a subjective recommendation. Less intuitive, however, is the second peak of the distribution in the middle of the scale. The latter might reflect the use of sentiment or news activity indicators that illustrate on a scale how the sentiment or stance towards a stock or market is in the media, or certain parts of the media (Bollen, Mao, & Zeng, 2011). The indicator is still capturing something rather soft but translates it into something very hard, which can be integrated in a mathematical model. This a nice illustration of one of the issues emerging when one tries to capture soft factors. Broadly speaking, everything can be put on some sort of scale; however, there is certainly room to debate whether that exercise necessarily renders a rather soft item into a hard item. Investment professionals seem to hold different views on this aspect.

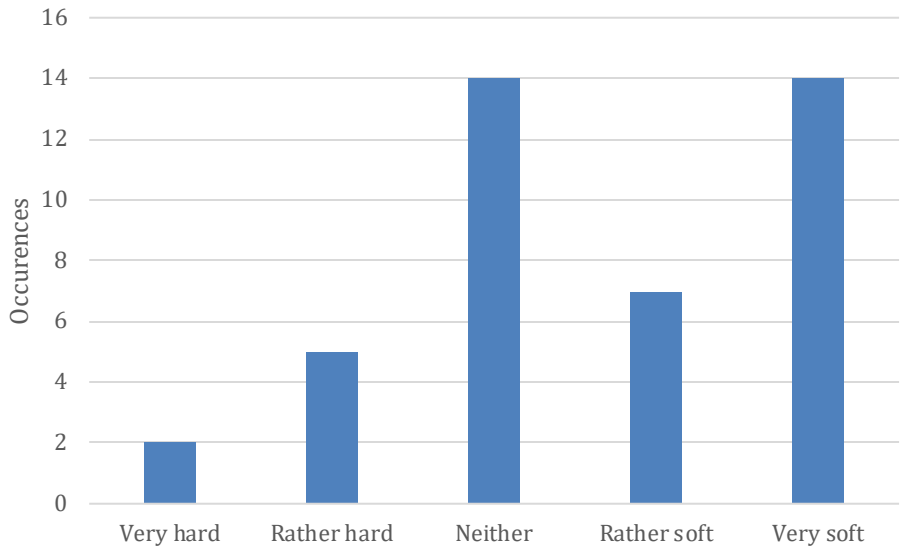

Figure 23. Distribution of answers for softness of recommendations from the media

A different pattern in this respect emerged regarding estimates. Moving it towards subjective assessment, resulted in a significant drop in perceived importance. In this context it is important to note that estimates are seen as rather hard by the polled market participants on average though the elevated standard deviation points to differing views. Investment professionals might well simply see estimates as hard, because it is a number and put therefore a higher emphasis on it. One can well debate, whether estimates are actually hard as the numbers are clearly the result of subjective assessments and enable different interpretations.

6.3 Important and irrelevant factors for investment decisions

In the results of the survey, typical elements of a fundamental bottom-up analysis stand out as important and would suggest a rational decision process. However, the importance of reputation and conviction would challenge that. The classification of conviction by the polled investment professionals does not fully tally with literature suggesting that the item is soft (Barbalet, 2009; Chong & Tuckett, 2015). The importance assigned to reputation does not support the mixed results in academic research (Anginer & Statman, 2010) and likewise the mixed findings when it comes to the facet management quality (Agarwal et al., 2011; Malmendier & Tate, 2009). The low importance assigned to recommendations in the media agrees in a certain way with literature (Barber & Odean, 2008) but creates a contradiction as it can be useful. The assessment of socially responsible behaviour as

being not important agrees with academic research (Aouadi & Marsat, 2016; Peloza, 2009; Wang et al., 2011), but surprises considering the public attention and statements from the industry. Even corporate governance, where literature evidence a positive impact on financial outcomes(Ammann et al., 2011; Gompers et al., 2003), does not stand out. In addition, only shareholder value matters to investment professionals. The low importance of potential conflicts of interest conflicts with the importance assigned in research to corporate governance. But findings that trust can replace corporate governance (Pevzner et al., 2015) are a viable explanation. The low reading of emotional items would underpin the rational approach to decisions, however, unwillingness to admit emotionality or being unconscious on the influence seem more plausible.

Starting with the findings in the context of the 25 soft and hard factors, the items that are most important to investment professionals are, according to the answers to question 1, business model, market environment, conviction, valuation and reputation. Two are according to the survey data seen as hard, one on the hard side of the middle ground, one leaning towards soft and one as soft.

Market environment, business model and valuation are pretty much classic elements of a fundamental bottom-up analysis. Historic financials, as a basis for financial analysis, did not stand out as very important which might surprise. On the other hand, valuation is one of the most important factors and is based on the results of a financial analysis, i.e. forecasts for the development of the financial metrics of a company. Likewise, forecasts rank relatively high, towards the upper end of the second quintile. Access to information, another factor seen in the top quartile of importance, can well be read as a precondition to fundamental research. In this context it is worth noting, that the concept of access to information is not fully compatible with the efficient market hypothesis. Other elements that can be counted towards fundamental analysis are macroeconomic factors and quality of disclosure, however, these are more around the middle ground of the ranking. The high correlation (0.48, p-value 0.001) between market environment to knowledge further enforces the picture of a fundamental approach to analysis. All in all, the selection on important factors would point to a rather fundamental research approach towards decision making. The readings in the demographic part on the tilt of the investment process would confirm this. 90% of respondents selected fundamental as a tilt in their investment process. The data would therefore point towards a fact driven and rational approach of

investment professionals. The two points of caution would be that the factors pointed out are not clean-cut hard factors and there might be simply a bias in the composition of the sample, due to network effects.

Also interesting is the high reading for conviction and reputation. For both factors the notion of a purely analytical approach to decision making can be challenged. For conviction, research has shown that it is important to investment professionals in reaching a decision (Chong & Tuckett, 2015; Taffler et al., 2017). Being based on emotion, it would rather fall into the group of soft factors. However, the results of the survey on the assessment of the softness of a factor, do not fully support the notion that conviction is a soft factor. In this respect the assessment by investment professionals does not fully tally with research findings that conviction is based on emotion. Interesting is in this context that the rephrased version of conviction, shows a high correlation to the item on emotion in question 1 and drops in the importance assigned by investment professionals. That would suggest, that emotional aspects of conviction matter less to investment professionals and weaken importance of a factor. However, there is certainly scope for debate, how the assessment of conviction leaning towards being a hard factor should be read. It could certainly mean that it is indeed classified to be a hard measure, like a valuation number. However, it would probably make more sense that it is a hard threshold, as an investment decision without conviction is less likely to occur (Chong & Tuckett, 2015; Taffler et al., 2017). It could be a make or break factor for some investment professionals. The elevated correlation of conviction (0.41, p-value 0.005) to access to information can be read as an indication that regular contact to management is important to build conviction as suggested by literature (Barker et al., 2012; Chong & Tuckett, 2015; Taffler et al., 2017).

In case of reputation, there is evidence that reputation influences the success of a company. A good reputation leads to better financial outcomes and makes these outcomes better sustainable (Fombrun & Shanley, 1990; P. W. Roberts & Dowling, 2002). In this respect it is an intangible asset that might even sustain a competitive advantage (Barney, 1991). As such it should be valued and can offer an explanation towards valuation premium or discounts vis-à-vis other companies in the sector. Likewise, it can work as an explanation towards the difference between market capitalisation and book value of a company. To investors it can be revealing which reputation a company might want to defend (Sørensen, 2002) as it can give hints on potential future behaviour of management.

In this respect it is reasonable that investment professionals see reputation as important. In this particular context, reputation is most likely the reputation a company has acquired towards stakeholders falling into the group of investment professionals. Hence, delivery against financial targets, execution of the strategy and trust can be relevant factors. Interestingly, the latter one, being a part of emotional appeal, is not deemed important as the selections in question six reveals. From the perspective of an investor both good and poor reputation are important in the decision process. Not only in the sense that a bad reputation might hamper the future success of a company but also in qualifying e.g. financial targets as realistic or a blue-sky scenario. Aspects about reputation that would speak against considering reputation in investment decisions include that a fully priced reputation can't be a source of outperformance and listening to other market participants on the reputation of a company could constitute a feature from behavioural finance. The finding that reputation is important to investment professionals stands in contrast to findings in literature that companies that have a management with good reputation, do not perform better (Agarwal et al., 2011; Malmendier & Tate, 2009). From that point of view, investment professionals should not pay attention to good reputation. If at all, they should use it as a contra-indicator. The interpretation that the market has fully priced the information would support the efficient market hypothesis. On the other hand, it would challenge the same as companies with good reputation trade at a premium (Agarwal et al., 2011). That means, the stock must has outperformed at some point in time, possibly, when the reputation was not fully priced.

Moving on to the five factors that are seen in the context of soft and hard factors as least important we have recommendations in the media, public relations, quantitative analysis, socially responsible behaviour and potential conflicts of interest. Three of these are in the view of the surveyed investment professionals on the soft side of the scale, one in the middle ground and one more on the hard side.

The factor seen as least important is recommendations in the media. The information accompanying the assessment in the media can still be very relevant. However, apparently investment professionals either do not trust the interpretation of journalists or might see the recommendation to be already fully reflected in the share price due to the large audience. The latter would might circle back to the finding in literature that stocks tend to underperform, once they came up very frequently in media reports (Barber & Odean,

2008). In this respect it would make sense to disregard media reports. However, media coverage might be still valuable as a counter-indicator, i.e. it can be profitable to trade against the recommendation. The tech-bubble, in Germany mainly centred on the "Neue Markt", might be seen as an example, where intense media coverage drove investors near the peak into the equity market and subsequently suffered severe losses. As a trading strategy it would be called "anti-consensus" and encompass to trade against the view and positioning of the bulk of the market. It is deliberately moving against the herd. Interesting is in this context that it correlates high with reflection on behavioural biases, an item ranking lowly in the context of soft factors. Still, the correlation supports that the item falls into the realm of psychology.

To a certain extent the low reading for public relations is interesting. When it comes to dissemination of information, the point could be made that once an information is known to every market participant, it is unlikely to move a stock anymore. That is particular true to large and mega caps where information dissemination is handled perfectly and the number of interested parties is so high, that a new information gets reflected in the share price very quickly; at least if one subscribes to the efficient market hypothesis (Fama, 1991). Likewise, the point of media coverage might come into play again. However, the part dealing with lobbying and contacts to regulators should matter. The latter at least for companies where financial outcome depends on the decisions of the regulator. That would be the case for telecom and utility. Still, the part of public relations dealing with public affairs ranks also in the context of soft factors solidly in the bottom quintile only bettered by recommendations in the media. Indeed, participants that have a focus on communication services, assign a higher importance to public affairs, however, the reading for this subgroup would be still in the bottom quintile.

The low reading for socially responsible behaviour is somewhat surprising, given the attention it currently receives in the public debate. It is even more surprising since all big German asset manager signed the UN PRI (United Nations Principles of Responsible Investment) and more or less explicitly mention that they have a focus on environment and social factors or that sustainability is important to them. Arguably only one participant explicitly mentioned in the demographic part, that he has a focus on ESG factors which suggests that investment professionals dealing with ESG are simply underrepresented in the sample. Even the ranking of corporate governance makes it barely into the

upper half of the factors deemed important. The correlation between socially responsible behaviour and corporate governance (>0.5) is likely to stem from the fact that both are typically subsumed under the heading ESG. The picture doesn't change very much when drilling down on soft factors in question 6. Environment and social still come out just above the bottom quintile and only the "capitalistic" part of corporate governance makes it in the top quintile of importance. The correlations we found between items social responsibility, corporate governance and conflict of interest are supportive of the grouping of the items into one of the main blocks. Often units that look into ESG are separated from the other parts of the investment decision process, which might also contribute. Nevertheless, a certain disconnect between statements of asset management firms and their employees can be noted. The fact that socially responsible scores low tallies with academic literature findings that there is only a weak correlation between social responsibility and performance (Klassen & McLaughlin, 1996; Sharfman & Fernando, 2008; Wang et al., 2011). Likewise, literature struggles to find causality (Aouadi & Marsat, 2016; Peloza, 2009). Consequently, socially responsible action of a company should receive low attention in decision making. Findings can therefore be seen as supportive to the findings of literature.

Potential conflicts of interest another factor that is in the bottom quintile of importance for investment professionals. It is seen to be more in the middle ground of the scale between hard and soft. It is intuitive that investment professionals are not likely to agree, that management of their own conflicts of interest have a heavy impact on decision making. It is less intuitive that investors should not care about the different objectives the buyside might have vis a vis the sell-side. One read would be that regulation has in the meantime limited conflicts of interest to a negligible issue. The other read would be that trust plays a significant role. Some investors only talk to contacts they have known for a long time and are very unlikely to take on new contacts. Underlying to that habit is certainly the expertise of the person, otherwise the relationship would probably not have taken root and survived for a long time. The other aspect is likely to be linked to the assumption that the person is more likely to be fair and honest. The relationship is based on trust and there is evidence that trust can replace corporate governance (Pevzner et al., 2015). The same train of thought might apply to potential conflicts of interest between company management on the one side and investment professionals on the other side.

Since corporate governance is originally about managing principal-agent relationships, the low importance of conflicts of interest somewhat conflicts that corporate governance is at least in the upper half of important factors. The connection between the items is also confirmed by the high correlation between them (> 0.5). However, the importance of meeting management can be explained as a trust building exercise (Taffler et al., 2017) and trust can replace corporate governance (Pevzner et al., 2015) also in this context. As a result, the impact of trust could offer an explanation for the low importance assigned to the existence of potential conflicts of interest. This would also explain the not particular high reading for corporate governance, despite the finding in research that corporate governance has a positive influence on financial performance (Ammann et al., 2011; Gompers et al., 2003). Somewhat surprising is the correlation of conflicts of interest to business model (p-value < 0.001). Besides the observation that an investor focussed on the fundamental analysis might be less interested in corporate governance related issues, there is not much obvious reason for causality.

At face value the low reading for the importance of emotional aspects in the fourth quintile of soft and hard factors would suggest that investment professionals are rational. However, it does not appear particular likely that an investment professional would admit that a potentially irrational factor has a strong influence on investment decisions. A different read would be that since it is at least partly unconscious, it is less likely to be detected by the individual person that they have been influenced by emotion. It is also worth noting that if one goes with the thesis that conviction is an emotional construct (Barbalet, 2009; Chong & Tuckett, 2015), we find a rather conflicting message on the importance of emotion. Again, unwillingness to admit emotionality or being unconscious on the influence would give an explanation.

The average score for the importance across all items stands at 3.45 whereas the middle of the scale is at 3.0. The higher than average reading could signal that the list of proposed factors has a general drift towards the more important ones. This interpretation would be supported by the approach to select the factors, i.e. picking from findings in research, explorative discussions with investment professionals and own views. The other interpretation is that answers were simply biased towards the more important end of the scale and only really irrelevant factors received a low reading.

6.4 Factors that matter or deemed irrelevant in the context of soft factors

The five soft factors coming out as the most important are business model, strategy of the company, quality of management, protection of stakeholder interests and clarity of reporting. On the other end of the spectrum sit the stance of the media, public affairs, views of other market participants, reflection on behavioural finance and ESG as risk management tool. Three of the top five items fall into the group reputation/ corporate culture. For ESG we find one item in the top five and one in the bottom five. Psychology shows up with three items in the bottom five. The item business model does not fall into the proposed main groups and does not display a particular pattern of correlations to one specific group.

The rephrased version of conviction is just outside the top quintile of importance. Reputation and trust are items needed for conviction. The latter tallies with research (Chong & Tuckett, 2015; Taffler et al., 2017). These items plus an emotional element seem to constitute the soft qualities of conviction. The important role of trust shows again in the item clarity of disclosure. Still, own emotion draws low importance suggesting some understatement. The data suggests that participants are not subject to biases or heuristics, which does not support literature (Nikiforow, 2010). However, the conclusion is weakened by the low importance paid to findings of behavioural finance.

Among non-financial information, environmental or social aspects are seen as irrelevant, agreeing with mixed finding in academic research (Aouadi & Marsat, 2016; Peloza, 2009; Wang et al., 2011). They also don't see them useful to manage risk which is not in line with research (Jo & Na, 2012; Luo & Bhattacharya, 2009). The medium importance of corporate governance does not support research findings (Ammann et al., 2011; Gompers et al., 2003) and is clearly lead by shareholder value considerations. The disconnect to the low importance for conflicts of interest can be explained by the role of trust replacing corporate governance (Pevzner et al., 2015).

The high importance of reputation is dominated by strategy and management quality supporting research in this field (Breton & Taffler, 2001). The importance placed in management quality does not support literature (Agarwal et al., 2011; Breton & Taffler, 2001; Cheung et al., 2017; Malmendier & Tate, 2009). The low reading for emotional appeal might add a minor explanation to the mixed results on reputation and stock returns. It also

suggests, that items labelled emotion, draw low scores. Correlations support that management meetings are an instrument to build trust (Taffler et al., 2017) and underpin the role of trust in decision making. Results suggest that investment professionals disagree that corporate culture matters for value creation (Edmans, 2011; Guiso et al., 2015), but agree on the impact on strategy.

The item business model is not connected to one of the main groups, but it seems to have a considerable soft component. There is support the usefulness of momentum strategies (Jegadeesh & Titman, 2011) and the data links it to behavioural economics (Barberis et al., 1998; Daniel et al., 1998). The importance placed in the question whether information is reflected in a share goes against the efficient market hypothesis. The correlation to reputation suggests that it only matters when it is not reflected in the share price. In particular soft factors seem to matter with regard to the proper pricing by the market potentially supporting that the weight of soft factors is understated. The low importance of intangibles goes against research (Barney, 1991), but could mean unfamiliarity with the concept.

6.4.1 Psychological aspects

Though rephrasing of conviction has hurt perceived importance, it still matters. Reputation, more specifically strategy and management quality, and trust are items needed for conviction. The latter mirrors findings in literature (Chong & Tuckett, 2015; Taffler et al., 2017). These items plus an emotional element seem to constitute the soft qualities of conviction. Items that directly target the own emotion seem to trigger low importance. Only collective emotion (market sentiment) seem to matter somehow. That emotion, i.e. trust, nevertheless matters shows in the importance assigned to clarity of disclosure that targets the question whether the number presented by a company can be trusted. The data suggest that investment professionals are not subject to biases or heuristics. The finding does not fully agree with literature (Nikiforow, 2010). There some doubts since reflection on findings of behavioural finance are seen as equally irrelevant, hence, investment professionals may simply not pay attention to the impact of biases and heuristics to investment decision. This somewhat weakens the conclusion.

Conviction is also seen as important in the context of soft factors, but it does not feature as one of the items in the top quintile. We can't fail to notice that conviction was seen in

the context of soft and hard factors as the third most important item and the highest ranking among soft factors in question 1. The drop in the pecking order of importance and the medium correlation of 0.35 (p-value 0.03) would suggest that the participants did not recognise the rephrased version of conviction in question 6 as the same item. That might have distorted the results somewhat in the sense that if recognised as the item conviction in question six, might have drawn different scores and, hence, correlations. Nevertheless, there are a couple of points to note. Conviction in the guise in question 1 is medium and significant correlated to reputation and more specific to the facet management quality (0.49 and 0.002) and strategy (0.68 <0.001). We find also for the rephrased version the correlation to management quality and strategy though only medium (0.35) and also less significant (p-value < 0.05). The two items of reputation seem to form an important part in developing conviction on an investment decision. One has to have a clear opinion how management decisions and the strategy are shaping up the development of the company and the financials. The medium and significant correlation to access information would also qualify as a mean to come to a conclusion on the stock. The correlation survived the rephrasing and the item in question 6 remains medium correlated to access to information. More interesting is the correlation to management access (0.42, p-value < 0.01), but not to the item views other players. The read would be that there is also an element of trust building embedded in developing conviction (Chong & Tuckett, 2015; Taffler et al., 2017). The interpretation circles back to the conclusion that a management team cannot disclose price sensitive information in a meeting with investors (Barker et al., 2012). Interestingly the rephrased version developed a correlation to emotion (0.68, p-value < 0.001) that shows also to market sentiment (0.43, p-value 0.01). This enforces the notion that there is an emotional component to conviction. The correlation to the item to which extent information is already priced in (for conviction 0.46, p-value 0.004 and rephrased 0.53, p-value 0.001) is likely to be linked to the exercise to form an opinion on the stock in the first place.

It would look like that investment professionals are more willing to admit that the whole of the market might be susceptible to emotion induced movements than for themselves. The reading for own emotion is about on par with the aggregate in question 1, i.e. ranking as a rather unimportant item. Market sentiment on the other hand makes it at least into the middle ground in the ranking of importance among soft factors. That also suggests

that the reading of the item emotion in question one is dominated by the assessment of the own emotion in a decision-making process. The correlation of emotion to emotional appeal (0.42, p-value 0.009) seems to stem mainly from the connection between own emotion to emotional appeal (0.54, p-value 0.001). Though the connection is intuitive, one can also suspect that both simply received similar rankings as they are both labelled as emotional items. Own emotion also shows a high correlation to clarity of disclosure (0.55, p-value 0.001), targeting the question whether the disclosed information can be trusted. The correlation would underpin that the importance of clear and consistent disclosure of data has a distinctive emotional quality attached to it, namely trust. If an investment professional does not believe the information provided, it turns either less useful or becomes subject to interpretation. Trust would remedy that issue. Market sentiment shows significant correlations to quite a number of items with a p-value of < 0.01. None seems to be particularly revealing. The negative correlations to social aspects and corporate governance is intuitive, since investors paying attention to ESG are not particular likely to base decisions on market sentiment and vice versa. The correlation to sensemaking might be down to the aspect that unexpected swings in the market might be driven by sentiment and therefore a factor to check on when trying to figure out what is happening. The relationship to macro could be based on the fact that changes is macro data are often a reason for a swing in market sentiment (risk on/ off). Some correlations fall into the bucket of behavioural finance (own performance, crowding, partly momentum) and fall into the broader group of psychological aspects. Less intuitive is the relationship to special situations. Possibly the same subjective assessment of a situation that drives market sentiment is also an element in assessing an unclear special situation.

A recurring effect across all behavioural economics related items is that once there are split out from a broader context into a specific tilt towards behavioural economics, the perceived importance drops towards the lowest quintile. At the same time the items are typically only loosely correlated to the broader context. This can be seen for views from other market participants (split out from access to information) and crowding (split out from positioning). The only exception is stance of the media, as the corresponding item in question 1 was also in the bottom quintile. Three out of the five items that are linked in the survey to behavioural economics rank in the bottom quintile and two in the fourth quintile. The low reading for all items that can be linked to behavioural economics is on

first glance somewhat surprising. Arguably, the items represent smaller facets and might therefore draw less attention; however, the consistency of perceived unimportance is striking. On the face of it, investment professionals are not subject to behavioural biases. The data would suggest that they are not affected by conformity, herding, the availability heuristic or issues around the perception of risk. This would be only partly in line with the finding in literature that investment professionals are still subject to biases and heuristics (Nikiforow, 2010). However, there are two points that cast some doubts on the conclusion. First, the low reading for the reflection on behavioural biases might suggest that investment professionals don't pay attention to the potential impact of biases and heuristics. That in turn could mean that they are still subject to them in decision making. The other point is the loose correlation of the direct question on the role of behavioural economics to the other items. This could indicate that participants are not consistent in selecting items the way that would indicate they are not affected by behavioural issues or did not recognise the items as being well documented biases.

To drill down on the individual items in a bit more detail, the low reading for attitude of the media towards a stock is interesting, since it does support the finding that stocks that had strong press coverage tend to underperform (Barber & Odean, 2008). From that perspective a stock is unlikely to yield a positive outperformance. Strictly speaking investors could still benefit by being the stock underweight or short selling it, as they tend to underperform. Ignoring the item would therefore mean a missed opportunity. The other aspect in this context is, that the results suggest that investment professionals are not subject to the availability heuristic. The correlation to own emotion could suggest that the emotional stance on the stock is affected by media coverage. However, this is not confirmed by correlation to market sentiment. There should be some sort of correlation, as media coverage should also impact the individual in the broader market. From that perspective, the correlation looks more like a random than a causal relationship.

The low score on the importance for views of other market participants suggest that at least from this perspective investors are not subject to conformity. This is in line with the finding in the literature that investors trained on behavioural finance are less subject to conformity (Nikiforow, 2010). The medium correlation to crowding underpins also a finding from academic research, since the items are linked (Nofsinger & Sias, 1999). The high correlation of crowding to market sentiment (0.48) is an example for the link

between emotion and behavioural items. But it also indicates that swings in sentiment can drive a high number of investors into the same direction (Nofsinger, 2005) as they e.g. monitor the same indicator. Basically that underpins that they are subject to herding (Nofsinger & Sias, 1999). Interestingly views of other players is not linked to emotional aspects, suggesting that views of other market participants are more likely to be factual than driven by emotion.

Though the importance assigned to the own performance item is somewhat higher, it would not suggest that investment professionals are not subject to the house money effect (Thaler & Johnson, 1990). The high correlation (0.83) to momentum is striking, but it is hard to find a reason for causality between the items. A connection to the house money effect could be along the line that the house money effect would call for more money to be invested when investments are successful. That is sort of similar to invest into a momentum, assuming it will continue in the same direction. The problem is that house money effect does not explicitly call for the same position being increased, i.e. it is not counting on the momentum of the same stock to continue but is rather based on findings of the prospect theory (Thaler & Johnson, 1990). Arguably, momentum can be considered to be rooted in behavioural finance, namely herding (Nofsinger & Sias, 1999). As such it could draw the same assessment. This finding would mean that momentum should be grouped into psychology. However, based on this assumption momentum should also show high correlation to other items from behavioural finance, which is not the case. The other potential link could be that the more the own relative performance is important to an individual, the more investment professionals pay attention to the momentum of a stock, i.e. the potential future impact on performance. This argument would appear more reasonable. Equally surprising is the link of the importance of own performance to the importance of emotional items. In principle, it underlines nonetheless that the items belong into same group. But basically, both items are seen similarly unimportant. Possibly the correlation is driven by the broad concept that investment decisions are taken rationally and are not subject to emotional reactions if a stock selection has worked particular well or bad. This line of thought gives rise to the suspicion that participants might have realised that the item is linked to psychology and applied a similar selection pattern as for items linked to emotion.

6.4.2 Non-financial information

Within the group of non-financial information, items that are linked to environmental or social aspects are seen as irrelevant, both in the context of soft and hard factors but also among soft factors supporting the mixed findings of research (Aouadi & Marsat, 2016; Peloza, 2009; Wang et al., 2011). Investment professionals seem also to disagree that socially responsible behaviour can be useful to reduce risk (Jo & Na, 2012; Luo & Bhattacharya, 2009). Corporate governance fairs somewhat better in the upper half among soft and hard factors though not supporting the importance found in literature (Ammann et al., 2011; Gompers et al., 2003). The importance is clearly lead by shareholder value considerations, which is one of the most important items among soft factors. The disconnect created by the low importance for conflicts of interest can be explained by the role of trust replacing corporate governance (Pevzner et al., 2015). The latter also adds to explain the low importance assigned to ESG as a risk management tool.

When drilling down on corporate governance in a bit more detail, it turns out that in the guise of a broad description it is seen in the context of soft factors roughly at the level of importance. When presenting it with a distinct tilt to shareholder value, it turns into one of the most important items in the context of soft factors. The reading for the importance of shareholder value would suggest that the interpretation of corporate governance by investment professionals is rooted in the principal agent theory. Interestingly, this conflicts with the very low importance assigned to conflicts of interest. There is some support to the observation as corporate governance in question one is strongest correlated to the shareholder value aspect (0.46, p-value 0.004) and only medium correlated with conflicts of interest (0.38, p-value 0.02). One respondent mentioned that he misses the incentive system for management as an important factor in the context of soft factors. Broadly speaking incentive systems falls squarely into corporate governance and is one element to ensure that interest of management and shareholders are aligned. As such, this can be read as another indication that shareholder value stands out from the perspective of investment professionals. The low reading for conflict of interest might also suggest that conflicts of interest between sell and buyside are, possibly due to stricter regulation, seen as less relevant. The same might apply to issues that could arise from incentive systems. However, as set out before, trust seem to work for investment professionals as effective replacement of corporate governance (Pevzner et al., 2015). The very different reading

for the broader description of corporate governance would also suggest that the definition implicitly used by investment professionals is rather narrow. This point would ties in with literature concluding that there is no clear definition for corporate governance yet (Ammann et al., 2011).

There are no surprises when it comes to the correlation of the individual items of socially responsible behaviour to the headline item in question one at 0.6 (p-value 0.0001) and 0.73 (p-value <0.0001). The low and not significant correlation between socially responsible behaviour and ESG as risk management tool, however, is surprising, but rectified by the high and significant correlations to the individual items environment and social at 0.45 and 0.5 (p-value 0.005 and 0.001), respectively, in question 6. There is evidence that CSR activities can mitigate the risk of a company (Luo & Bhattacharya, 2009) and therefore items related to socially responsible behaviour can help to manage risk and/or avoid tail risk. While investment professionals seem to agree that there is a connection, they rather disagree that environmental or social aspects can help to reduce risk of a company or manage risk in a portfolio (Jo & Na, 2012; Luo & Bhattacharya, 2009).

Less surprising is the low correlation of ESG as a risk management tool to corporate governance. There is a medium correlation to the item in question one (0.38, p-value 0.02) but that might be simply down to the point that corporate governance is one of the items in ESG. In question 6, with no explicit mentioning of corporate governance, the correlation disappears. ESG factors would only to a limited degree help to manage risk, since only the part that deals with corporate governance would help. If corporate governance matters in a decision making, ESG factors are less incremental help. In addition, we would point again to the finding that trust can replace corporate governance (Pevzner et al., 2015), which seems to be the case for investment professionals.

6.4.3 Corporate culture and reputation

The high importance assigned to reputation is dominated by the facets strategy and management quality supporting research in this field (Breton & Taffler, 2001). The importance placed in management quality does not support the rather mixed findings of literature on the importance of management quality (Agarwal et al., 2011; Breton & Taffler, 2001; Cheung et al., 2017; Malmendier & Tate, 2009). The low reading for the facet emotional appeal might add a minor explanation why there are mixed results on

reputation and stock returns. It can also be seen as anecdotal evidence, that all items labelled emotion, draw low scores. The correlation of management quality and access to management supports the view that management meetings are an instrument to build trust (Taffler et al., 2017). In a similar vein, the connection between clarity of disclosure and emotional appeal further underpins the role of trust in decision making. With regard to corporate culture, results would suggest that investment professionals disagree that it matters for value creation (Ammann et al., 2011; Gompers et al., 2003), but seem to acknowledge that it has a bearing on strategy.

Reputation is seen as an important factor in decision making. While management quality and strategy come out high in the context of soft factors, emotional appeal ranks only in the fourth quintile. That would suggest that management quality and strategy are the two dominating facets with regard to the importance of reputation, while emotional appeal is deemed rather unimportant. This is interesting, since emotional appeal is part in a number of definitions for reputation (Schwaiger, 2004). It is worth noting that while quality of management and strategy are highly correlate there is only medium correlation to emotional appeal. Investment professionals seem to detach emotion from the whole construct of reputation. Interesting in this context is the high correlation of emotional appeal to own emotion. Both items rank rather low in the importance assigned to them by the participants. Emotional items seem to systematically receive lower scores in the survey, which might be anecdotal evidence for deliberately assigning a low score or, indeed, for irrelevance of emotion. If they are in fact not relevant for the decision process, measures of reputation containing emotional aspects would work less well for investment professionals. That would constitute another angle why research on reputation and stock returns yielded mixed results (Anginer & Statman, 2010). The used construct might simply not compatible with the way reputation is used in decision making by investment professionals. Arguably, Fombrun et al. (2000) found that emotion is a separate factor in reputation besides a rational one.

Quality of management is also fairly high correlated to the item access to management. It would appear that management meetings are instrumental to build a relationship between company and the financial community (Taffler et al., 2017). It is not difficult to imagine that an investment professional can't hold a management team in high esteem

without trusting them. This finding also ties in with the role of trust in replacing corporate governance (Pevzner et al., 2015).

The other high correlation to other items outside the group is between strategy and experience with the company (0.44). The reputation a company acquires towards an investment professional is a function of the experience made with the management. It is probably the only reasonable way of building reputation, since asking someone else about the reputation of a management team is at best a good starting point. The process of gaining experience with a company leads to better understanding of the business. That certainly also holds with regard to the strategy of the company, including what makes the company tick. There are other aspects within experience with a company that do not relate to the strategy, e.g. profits or losses on previous investments, which should explain that experience ranks lower in the importance.

On balance, we would conclude that investment professionals hold the view that reputation matters while literature is less sure about it (Anginer & Statman, 2010). In addition, it matters in a different way for the survey participants than suggested in academic research (Agarwal et al., 2011; Fombrun et al., 2000; Malmendier & Tate, 2009). Management quality is clearly important and emotional appeal is not.

Quality of disclosure is in the context of soft factors seen as one of the most important items. In question 1 it ranked somewhat lower in the second quintile. The main change to the item in the context of soft factors was regarding the clarity and consistency, implicitly asking whether the disclosed information can be trusted. The particular thrust of the item regarding trustworthiness of the disclosed information might arguably be lost to the participants. However, there is a high correlation of clarity of disclosure to emotional appeal (0.62). One can conclude two things from that. First it underlines that the items are connected and it makes sense to put them into one group. The other point might be that quality of disclosure has something to do with trust. The item was implicitly asking whether the numbers can be trusted. Disclosure is only good if the user gets a clear and fair picture of the situation. Exercises of the company that makes it more difficult to read and interpret the disclosure will raise questions whether the company tries to present the information in a way helping their cause. It might even result in investment professionals not trusting the presented information.

Access to management is seen as an important factor and is among the top quintile of the responses in the context of soft factors. This tallies with the theme found in literature that management access is among the most important elements for investment professionals to reach a decision (Barker et al., 2012; Taffler et al., 2017). The other part separated out from access to information, views of other market participants, received a very low reading in the context of soft factors. The very different results in importance for a factor that features also in the context of hard factors as important, illustrate that there are sometimes individual facets driving the whole assessment of a group.

Corporate culture is the least important aspect in the broader group of reputation and corporate culture. In the context of soft and hard factors it is seen as less important and in the context of soft factors the two items used are in the middle ground. Given that there is evidence that corporate culture can create value (Edmans, 2011; Guiso et al., 2015) the finding of the survey is not fully at odds with literature. For that matter, it is another hint that socially responsible behaviour of management is not particular high on the agenda of investment professionals. The correlation to this particular item in question 1 and the corresponding items in question 6 underpins the connection between corporate culture and socially responsible behaviour. On a different note, the medium correlation (0.43) between reputation and corporate culture would suggest that it is reasonable to subsume the items into one bigger group. The transmission channel seems to be the facet on the strategy as both items of corporate culture, ethics/ morale and strength, show a medium correlation to strategy (0.33 and 0.34). Investment professionals seem to agree that the corporate culture does have a bearing on the strategic direction a company takes.

6.4.4 Other

One of the key items for decision making, business model, does not show any strong connection to one of the main groups. However, data wold suggest that there is a considerable soft component in the item though the classification of investment professionals leans to hard. The importance assigned to momentum strategies is likely to be down to their usefulness (Jegadeesh & Titman, 2011) and correlations suggest participants associate the strategy to behavioural economics (Barberis et al., 1998; Daniel et al., 1998) and, hence, to a more soft item. Results regarding the reflection of information in a share price points to inconsistency to the efficient market hypothesis. Among the plentiful

correlations the connection to reputation suggest that reputation only matters when it is not reflected in the share price. The mix of items that show a high correlation and the importance assigned to them suggests that there is an emphasis on pinning down whether soft factors are correctly priced by the market. This might constitute another hint that the weight of soft factors is understated. Thought the low reading for intangibles might be read as rejecting the view that they are important, it could also mean that investment professionals are not particular familiar with the concept.

Broadly speaking, one would not expect correlations to show up within the residual, so most of the items showing as being highly correlated and significant are probably not driven by causality. Nevertheless, there are correlations that are worth considering.

The business model of a company comes out as very important to investment professionals both in the context of soft and hard factors but also in the context of only soft factors. The assessment of the "softness" of the factor (assessment leans towards "hard" at the upper ed of the 4th quintile in terms of softness, but the t-Test rejects it as being hard) suggest that the item stands somewhere between soft and hard factors. Though the business model does not come out as one of the clearly soft factors, it is worth noting that moving it towards the softer aspects of it, did not change the assessment of the importance by much. That would in turn suggest that there the soft elements in the item have also a considerable weight in decisions of investment professionals. The correlations don't reveal any particular association to a particular group of factors. The strongest correlation is to historic financials, which is, like the strength of the business model, a typical element of fundamental analysis. Two of the items that display correlations with a p-value of < 0.05 fall into the broader group of psychology and one belongs to ESG. But given the only medium correlation without any particular pattern, there is no clear conclusion to be drawn. Against this backdrop it appears to be reasonable to not have it grouped into one of the main groups.

Momentum is one of the more successful quantitative trading strategies (Jegadeesh & Titman, 2011) and might well explain the higher rating compared the broader group of quantitative approaches. As outlined above, though the correlation to own performance is high the causality does not appear to be straight forward. It would appear, that it only matters to investors that have responsible for performance. When splitting the participants

into the groups portfolio manager and analysts, it turns out that analysts assign a higher weight to the importance of momentum and the performance of own recommendations. Arguably, analysts have more time to also pay attention to momentum to form an opinion, however, performance is typically not a metric they are measured on. The correlation to market sentiment is more intuitive. Strengthening of sentiment in one direction is likely to enforce momentum while swings could trigger a breach in momentum. It is worth noting that the items that display a high correlation fall into the group of psychology. This might suggest that investment professionals implicitly support the explanation of momentum offered by behavioural economics (Barberis et al., 1998; Daniel et al., 1998). It might also be read as an indication that there is a higher soft element contained in quantitative approaches, at least in momentum, than what the assessment of the investment professionals suggests. The correlation of momentum to sensemaking is less intuitive. It is hard to see why an investor that believes it is very important to get a clear understanding whether a certain development makes sense in his own assessment, would also believe that momentum is very important. Momentum strategies actually do not call for any sensemaking at all. Is does not matter whether the continuation of a trend makes any sense, it simply banks on the continuation of a trend and rarely asks for the reason why a trend should continue or break. Against this backdrop one would rather expect no or even a negative correlation. However, momentum might be one of the factors to check on when trying to make sense of the development of a share price. In a situation where all rational approaches fail to make sense, behavioural or irrational explanations might help to make sense of an unexpected development of a share price.

Sticking with of decision making, the high importance assigned to the question whether an information is fully reflected in the share price goes against the assumption that an information if at once and accurately in the share price and, hence, goes against the assumption of the efficient market hypothesis (Fama, 1991). There are a number of correlations here to consider, but it has to be said beforehand that only in a couple of cases a correlation to an item can totally surprise. The items selected for the survey were assumed to matter more or less in the decision-making process, otherwise it would not have made too much sense to include them in the survey. Since it is part of the job of the targeted group to find stocks where an information has not been accurately reflected in the share price, for most of the items a correlation can make sense. That is in particular true for

items that are deemed important for a decision. The correlation to knowledge of the sector at 0.54 (p-value <0.001) in the context of soft and hard factors actually makes a lot of sense. If you ask to which extent an information is processed you need very good knowledge of the stock. If you don't, you might fail with the basic question whether an information is new. Previous experience with the company might help but is not essential in this case which might explain the correlation fading when narrowed down to this particular aspect. The correlation to reputation (0.5) could be another piece in the puzzle why investment professionals assign another importance to reputation than literature would suggest. The key could be the carefully considered question asked by investment professionals whether the good or bad reputation is already priced correctly by the market. In other words, reputation is only really important when it is not yet reflected in the share price. The more important part seems to be in this context strategy (0.49, p-value 0.002) and only to a lesser extent the quality of the management (0.36, p-value 0.03). The connection to scenario analysis is less exciting (0.44, p-value 0.007) as it can be seen as a crude way how a homo oeconomicus should make a decision. The findings somehow compound each other as trying to assess to which extent information has been priced is given a high reading and scenario analysis a lower importance. Both point towards a decision-making process that is not consistent with homo oeconomicus. The correlation to positioning (0.47) is not a total surprise. Positioning says a lot about which information and expectations are reflected by other market participants in their investment decision. Against this backdrop it is reasonable to look at the positioning of the market when asking whether an information has been built in the share price. Unfortunately, it only partly helps to pin down whether the market has accurately priced the available data. Normally, information confirming a prior datapoint would results in stocks to move in the expected direction and. The trouble is that data that appears to be strengthening the case for a stock can move the stock in the "wrong" direction if the expectation was more than reflected in the share price. Rather surprising is that conviction shows a reasonably high correlation (0.46) and it is confirmed by the rephrased version of conviction in the context of soft factors (0.53). It is not intuitive that an investment professional should pay attention to which extent the own conviction about a particular stock was fairly reflected in the share price. If it is, there would be probably no conviction about the stock in the first place. Why taking an investment decision when all data, feelings or hunches show already in

the share price? The more appropriate question would be if the individual items that lead to the conviction have been appreciated by the market. If not, there is still room it can move the share. Finally, it could be more of incidental correlation, that boils down to the important items showing a correlation because they are important to the development of conviction. Naturally you would want to assess whether items that are in your view important for the share price have been correctly reflected. In the context of soft factors two correlations that come up at 0.53 are the rephrased version of conviction at and morale/ethics. Interestingly, the two are at least partly linked to trust (Barbalet, 2009; Chong & Tuckett, 2015; Guiso et al., 2008, 2015). Another correlation among soft factors that does not spring surprises is the correlation to views of other players (0.46), in this context it should probably read what kind of market view is embedded in the share price. The interpretation can be backed up by the high correlation we find between views of other players and (consensus) expectations at (0.51 p-value 0.001). An item where the correlation is somewhat confusing is to sensemaking. Basically, we look at two different concepts how a decision is reached or at least prepared. Arguably the reading for information processing of the market suggests that the participants rather reject the neoclassic explanation for decision making. Sensemaking does not find much support based on the medium reading for the question targeting the importance of the concept, but as with correlations to other items there is an implicit support for the appropriateness of the concept. Maybe that correlation should be read in the way that part of the exercise to finding out whether an information is reflected in the share price is to form an opinion in a way that makes sense to the onlooker. The mix of the items that show a high correlation seem to suggest that only soft factors are deemed important enough when considering whether information is reflected in the share price. For question one, two items don't fall into the used framework (knowledge of the sector, scenario-analysis) and three into the group of soft factors (positioning, conviction, reputation). Interestingly, only two of these factors, both soft, have been market as important in the survey. Two in the block of soft factors fall into the group psychology (conviction, views other players), two in the group reputation/ corporate governance (strategy, ethics/morale) and one in the residual.

Though the question targeting the importance of sensemaking – logic and strength of the market to new information – did only draw only a medium score, we can't fail to notice that the item displays a number of correlations to other items, in particular among soft

factors. One can suspect that sensemaking is so ingrained in the decision process that it does not stand out as particular important to investment professionals. The correlations of sensemaking do point to a number of items across the spectrum of soft factors. The correlation to clarity and consistency of disclosure makes a lot of sense. The item is seen as very important and investors certainly need to be able to make sense of them. In particular with the tilt towards trustworthiness of information, this aspect gains in importance. If the information does not make sense one of the next questions might be whether the information can be trusted. On a different note, trustworthy information from the company is an anchor point to make sense of an expected situation. For conflicts of interest there does not appear to be a particular causality that comes to mind. It can certainly come into play, when a business partner or a company shows an unusual behaviour, but it is hard to see that this should be a stand-out element when trying to make sense of an unknown situation. As already covered above, there are also correlation to momentum (and also market sentiment) and to which extent information has been factored into a share price. For the connection to special situations one could argue for a connection on the basis that the situation needs to be very well understood, since the typical way to exploit is based on arbitrage and does not offer big returns. However, that covers only partly the essence of sensemaking. Given the lack of correlation to the item in the context of soft factors, the correlation does not seem to be based on causality.

Interestingly intangible goods came in at the low end of the fourth quintile in the context of soft and hard factors marking it as fairly irrelevant. Also, in the context of soft factors it stays in the fourth quintile. Investment professionals seem not to make the connection between soft factors and intangibles. It is even more surprising considering the fact that also the financial industry should be acutely aware of intellectual property. That finding does not seem to be consistent with literature singling out intangibles as potential source of a sustainable competitive advantage (Barney, 1991).

6.5 Limitations

The sample size is too small to allow for more revealing statistical analysis like e.g. a factor analysis. Though it sheds light on a number of points with high statistical significance, a bigger sample would be interesting. The main issue is likely to be willingness of the target group to participate in surveys.

Though the description for soft factors gathered some agreement from the participants in the survey, there is no clear-cut definition for them. Furthermore, the sometimes very broad range of assessment of the softness/ hardness illustrates that there is significant scope for subjective interpretation. The very nature of soft factors makes measurement and assessment of the data difficult. Results might well be influenced by the individual view of participants and possibly also their attitude at the time of completion of the survey.

Participants of the survey are largely from Germany. Investment professionals across Europe operate under the same framework, which could support a generalisation to other regions. On the other hand, there are cultural differences and the strength of national culture (Guiso et al., 2008) might trump also the culture of the European capital market. Also, the group from other countries is too small to show differences or similarities. As such results from other regions might differ.

Factors that are seen as very important by investment professionals are likely to be relevant for share price formation, as they matter to a meaningful part of market participants. However, the thesis did not attempt to show that factors singled out as being highly important or irrelevant, are indeed a source for outperformance or not relevant for the relative performance of a stock.

Part of the findings with regard to soft factors are not stable, as the example of fading outperformance of companies with a strong reputation (Agarwal et al., 2011) illustrates. More broadly speaking, factors uprooted by research might work less well, once the results have been released to the public (McLean & Pontiff, 2016). Factors that score high now with investment professionals might indeed play an important role for price formation now, but might be less relevant in the future. As such they represent a snapshot of the current view of investment professionals.

7 Conclusion and management recommendations

The survey yielded insights on the importance of soft factors for investments professionals in the decision-making process. To our knowledge it is one of the few papers that builds on data from direct access to investment professionals. The thesis also provides a basic description of soft factors. The empirical work sheds light on the questions which factors are seen as soft or hard. The findings of the survey contribute to the discussion which soft or hard factors matter for the decision making of investment professionals and, hence stock price formation. The thesis should also help to get a better understanding of the work of investment professionals, including sell-side analysts. Finally, the field data helped to detect gaps between what practitioners see as important and where research stands.

The findings of the thesis have a number of practical implications that are based on the points standing out most. The management recommendations target on one side investment professionals and their employers with regard to the decision-making process and dealing with soft factors. On the other hand, management and investor relations (IR) teams are affected. Finally, some of the implications should be interesting to managers in general.

7.1 Conclusion

We can conjecture that the proportion of soft factors in decision making is probably higher than the 50% found in the survey. Participants probably deliberately understated the importance to them as their self-perception is probably closer to the picture of a homo oeconomicus than to an emotional individual. Even though the survey was completely anonymous, it might have been difficult for participants to admit that a larger part of decision is based on subjective judgement or is outright irrational. In our view, this assessment applies both to the direct question on the importance of soft factors in decision making, but also the calculated value. Factors like own emotion or socially responsible behaviour are less likely to be disclosed as very important against the backdrop of an expected rational behaviour on capital markets. Likewise, the assessment of some factors as being more on the harder side, like conviction, might point to an understatement of the role of soft factors. The pattern on the demand side would suggest that customers of investment professionals have an interest in an increasing consideration of soft factors for

investment decisions. In particular items related to environment seem to be in focus, at least at the moment. Consequently, the weight of soft factors will only increase from here. At the same time, we can reject the notion that equity markets are only based on psychology. Though the assessment of investment professionals should be treated with some degree of caution, the empirical data would suggest that the factors we have grouped into the field of psychology play a subordinated role. Arguably, these results are probably also understated, but still far away from a number towards 100%. A number of indicators would point towards a decision-making process that is not compatible with the efficient market hypothesis. One of the central questions for investment professionals seems to be to which extent an information is in the share price. There are a number of connections to other important factors, suggesting that is a recurring question for the consideration of a factor. Likewise, the high importance assigned to access to information shows that it is by no means granted that all information required for a decision is at all times readily available. Finally, the usefulness of momentum strategies stands in the way of the efficient market hypothesis, since historic share prices contain no information. The anecdotal evidence for the use sensemaking would suggest, that this concept might help to get a better picture about the way investment professionals reach a decision.

The role of soft factors can probably be generalized to most decisions. There is a set of objective and/ or rational aspects influencing the decision, but also a set of soft items. A central anchor point for investment professionals is the business model. It describes what the company does and what makes it tick. There are a number of objective and measurable items around it like market environment and the valuation. However, there a probably even more soft items that influence the investment decision.

Even though the description for soft factors used in this thesis was accepted by the participants, we seem to be still a long way from a generally accepted definition. As is true for a number of the factors considered in the thesis, the lack of a clear-cut definition makes it difficult to compare results and draw conclusions. Progress is needed to enhance the debate on the role of soft factors.

The composition of factors deemed important and irrelevant proves to be somewhat surprising. In case of reputation there are a number of aspects that don't fit well with academic research. While there are mixed findings on the importance of reputation and

quality of management, the empirical data suggest these items matter for investment professionals. At the same time, emotional appeal is irrelevant, though it is used in scales to measure reputation. For conviction there is agreement that it is important for decision making, while the survey data does not support that it is rooted in emotion. Another important factor, the business model, is rather seen as hard, but seems to have a considerable soft component. Though not tackled directly in the survey, trust seems to play a central role in decision making. It comes up as a replacement of corporate governance, explains why management meetings are so important for investment professionals and very broadly how information is perceived by the market.

Striking is the low importance of socially responsible behaviour of companies. Arguably, the finding is backed up by literature that there is hardly any benefit to focus on environmental or social aspects. Nevertheless, given the public debate and the positioning of the industry would have suggested other results. It is also difficult to see why ESG is not seen as an instrument for risk management. ESG issues have often the characteristics of a tail risk. Not particular likely, but if materializing the impact can be severe. The empirical data for corporate governance is a bit more consistent with research, but one could hardly call it supportive. Interesting is also the strong tilt towards shareholder value, which is less consistent with the more ethical tilt it has today. Probably less surprising is the finding that investment professionals are rational and unbiased in their decisions making when subscribing to the neoclassical view. However, some doubts on the accuracy might be warranted due to the low attention to behavioural finance findings, partly unconscious processes in decision making or simply unwillingness to admit emotionality.

The survey did not attempt to yield results on the investment success of individual soft factors. An area of further research could therefore be, to establish to which extent factors – hard and soft - favoured by investment professionals do yield better relative performance. The weightings established in this thesis might be a lead for the relevance. A challenge in that context is that due to the very nature of soft factors, the measurement creates an issue.

7.2 Management recommendations

The practical implications follow the lines of the main findings of the thesis. With regards to investment professionals and the organisations they work for the main points are to

increase efforts to use soft factors in decision making, embrace market inefficiencies and soft factors as a business opportunity, make sure to clearly define soft factors, pay attention to factors that came out as important, accept that emotion has an impact, prepare for a further shift towards SRI, use ESG for risk management and pay attention to findings from behavioural economics. Management and investor relations teams might find it useful to look at the growing demand for information on soft factors, acknowledge that markets take time to reflect information, pay attention to sensemaking, take the important factors found as a lead on which aspects they will be judged on, make sure investment professionals understand your business model, don't underestimate direct interaction with the buy-side, prepare for an increasing importance of SRI and reflect on behavioural economics. Points that are broadly applicable to management teams deal with the already high importance of soft factors in decision making, the role of sensemaking for their stakeholder, consideration of SRI topics, the role of empathy for economic success and try to learn from behavioural economics.

Soft factors are important and they might already play a bigger role in decision making of investment professionals than the survey data suggest. The increasing demand on key items from investors will only see the weight of soft factors going up from here. Some might be driven by a structural shift of priorities within the investor base e.g. towards a more socially responsible behaviour. Intriguing in this context is the strong increase in demand to integrate these particular items in the decision-making process. Investment professionals already observe that more soft factors are required in the investment process. Regardless of the actual impact on the financial success of a company such changes in demand pattern will eventually drive share prices and relative performance. As such, they need to be considered carefully for an investment decision. There are implications from that for investment professionals, for the management teams running stock market listed corporations and to broaden the point out, also to managements in general. For investment professionals and the industry they work in as a whole, there is a twofold implication. For one it means that efforts to integrate soft factors in decision making needs to continue. Progress is clearly visible, but changes on the demand side warrant further efforts on this front. The other point is that hard to quantify factors will possibly become more important in the price formation. It is in the own interest for the industry to capitalize on something that cannot (yet) be coded into an algorithm. For management and investor

relation teams the shift means an increasing demand of information that relates to soft factors and companies need to be prepared to provide them. It also means that the pressure from investors will increase to act on findings in the field of soft information, in particular in the field of environmental and social issues. Generalizing the observation suggests that managements need to be conscious of the fact that customer and stakeholder will have a considerable component of soft factors influencing their decisions. Hard factors are likely to work as an anchor point for a decision, but there are factors beyond that having an impact. Catering to the preferences of the respective stakeholder group can tip a decision into the wished direction. At the same time, manager should be aware that their own decisions might carry a higher component of soft factors than they are consciously aware of.

Equity markets are not efficient. While that is not a particular surprising finding it does have some meaningful practical implications. If markets are not efficient it does pay off to make an effort to uncover these inefficiencies. While the reason for and degree of inefficiency might vary over time, it is important to acknowledge their existence. During the recent stock market plunge in March 2020, when infections with the new corona virus ramped up in Europe, there was an indiscriminate selloff across all sectors and stocks within the sectors. One can certainly argue about the question of which companies and sectors will be affected in which way, but if everything crashes at the same pace, it becomes very hard to argue that this was an efficient and rational reaction of stock markets. The episode also shows the limitation of sophisticated risk management algorithms that force the sale of assets at a time when it might be more prudent to hold on to a position. These are the moments where a portfolio manager can really make a difference and take advantage of inefficiencies. From a practical point of view, this is a strong argument in favour of active management of investment funds. Obviously, it is still a very challenging task since active manager entered absolutely uncharted territory. Besides needing the required experience and expertise, it was also a big ask to keep one's nerves. With hindsight, the sharp share price decline proved to be a unique investment opportunity. Knowing that sharp drops in risk assets usually create an opportunity is one thing, to act on them is a different story though. For investment professionals that means that there is scope to benefit from the inefficiencies and a strong reason for a commitment to active management of a fund. For management teams it means that the market might well take

time to proper adjust to the information provided. The path of the stock price is likely to be a lot less direct and fast to adjust to information than the efficient market theory postulates, but eventually markets get there.

There are a number of pointers towards a central role of sensemaking to decision making of investment professionals. It is not well established in literature that this concept might be suitable to describe the daily work of an investment professional. This might imply that there is a less clear understanding on the side of management teams, how information is perceived and processed from equity market participants. Practically, this means that paying attention to that point should make it easier for companies to interact with the capital market. In addition, an information or move by a company not making sense is a causing a problem. In the best case the company gets bombarded with questions to clarify what is going on. In a worst case the share price will react in a, most likely, unwanted way. It certainly pays to be on top of why the market likes or dislikes a stock. Though investment professionals might be unwilling to reveal where they stand on a stock, trying to make sense of the questions asked can be quite revealing. Companies need to pitch their story, the narrative, in a consistent way to the market. An interesting phenomenon in this context is that narratives used by investment professionals can warp into something totally different over time. The process of sensemaking also includes that information is twisted to make it fit the existing view or to find a different reason to love or hate a stock. There is probably also a wider implication for managements in general, since the receiver of information will in a number of cases try to make sense of what has been pitched to them. A challenge is that it is not at all clear whether a certain piece of information will make sense in the same way to all stakeholders.

Though there seems to be agreement on what soft factors in general entail, however, there is no standard definition available for them yet. This is also a recurring theme for a number of soft factors discussed in the thesis. The lack of definitions creates issues in academic research but has also practical implications. Individuals within an organisation might hold different views what exactly a certain factor is. If there is no common ground to delineate a particular factor, it becomes even more difficult to deal with it. In addition, there is a tendency that the definition is not stable. Adding or removing aspects over time renders an attempt to follow it over time rather futile. As a consequence, definitions should at least be used on a consistent basis across an organisation. Turning towards the

outside world a similar issue applies. The definition used by other companies might differ and it might be difficult to pin down similarities and differences. Practical examples are SRI, ESG or sustainability labelled funds. Ultimately, only the issuer knows exactly on which basis the universe was defined and which criteria were used to determine the investment decision. If no clarity on the definition used can be achieved, one at least needs to be aware of the potential differences. Otherwise there is the danger that a comparison is not like for like.

The very nature of soft factors, impossible to measure, difficult to grasp, hard to verify and containing a subjective element, certainly creates a number of challenges. Lack of standard definition, multiple ways of interpretation or the use of some sort of imperfect measure on them makes it a lot harder to work with them. On the other hand, precisely these qualities will prevent the use of an algorithm which is sort of the first line of defence against rendering an information a commodity and, hence probably less useful to make a successful investment decision. As such, soft factors open a sustainable investment opportunity. As long as they can't be set in a clear cut and reliable algorithm, focussing on them has a fair chance of generating outperformance. Experience to read the presented information and draw conclusions is a second component making soft factors potentially valuable components in an investment decision. Identifying items in the first place that have a bearing on the financial development can actually create a sustainable competitive advantage. Creativity might prove to be the key to the latter one. Once the usefulness of a factors is common knowledge, it is likely to become less useful or even useless. On balance, the use of soft factors presents a market opportunity for asset management, wealth management and sell-side institutions. There are two aspects here. Soft factors can be of very important for picking promising stocks. In addition, the use of soft factors in the decision-making process of an institution can be also key in differentiating from competition.

Turning to the more detailed points, the business model, conviction on the investment case and reputation (i.e. strategy of the company and quality of management) stand out as factors influencing the decision of investment professionals. Though the thesis did not investigate the impact on the share price development, it is fair to assume that they have a bearing on price formation. That is by no means saying these are the dominant driving forces for a share price, but they are likely to have to a varying degree an influence on

where the share moves next. It makes therefore sense to evaluate these items or at least form an opinion, where the market stands on them. As an aside, though these factors, and potentially other, might appear promising for a prominent use in decision making, users have to be conscious of the fact that the usefulness of individual factors might not be stable. In particular, if a factor is widely used or can even be coded into an algorithm governing buy- and sell decisions, it might be rendered less helpful. Causality is an additional key aspect to monitor and judgement is required when a factor is useful and when not. For the management of a stock market listed company this means, these are the items where investment professionals are likely to concentrate part of their efforts. Implicitly, this also gives companies an idea on which accounts they will be judged on.

The high importance assigned to business model warrants to pay particular attention to this point. It seems to be a strong anchor in the investment decision. Therefore, it is very important that the investment professional gets the understanding of the business model right, not only for the investment professional but also for the unit providing the information. The latter applies to management teams of listed companies but also to analysts and investment advisors pitching investment ideas to investors. An investment professional clearly needs to understand how a company works. The advice assigned to Warren Buffet to "never invest in a business you cannot understand" nicely illustrates this point. It might be tempting to frame the information to investment professionals in the best possible way for the presenter, e.g. company (management). However, there is a big risk that the strategy backfires. Understanding of the business model significantly reduces the risk of nasty surprises. Leaving out contentious issues might haunt the presenter at a later point in time. This in turn will be damaging to reputation. It also kills a stock from a number of important angles, i.e. understanding the business model, conviction and reputation. If something surprising pops up, it is an indication that the business model of company was not well understood by the investor. The issue would be compounded if the explanation why the surprise occurred does not make sense. That in turn will make it fairly hard to develop conviction on an investment decision. If one does not understand how a company works, it becomes very hard to develop any conviction what is going to happen next. Finally, investment professional might easily feel, rightly or wrongly, being misled. That will certainly be detrimental to reputation.

Management team are being scrutinized on factors like reputation and whether they can be trusted to run the business in the interest of shareholders. Usually, investors will want to form their own opinion on management quality and strategy which does require time and effort from both sides. The detour asking another market participant can only work, if there is a strong trust towards the other person. Implicitly this means, that management teams can rely only to a limited extent on multipliers, like sell-side analysts, to cover that part of the information requirements. Practically that means that management and investor relations need to dedicate time to the direct contact of investors. With time constraints being an issue, it is a challenge to strike a proper balance. With the importance placed in reputation it might be advisable to dedicate more time towards investors instead of the sell-side. The direct interaction of management of the listed company with investment professionals seems to play a very important role with regard to reputation and trust. Part of the explanation probably hinges on the chance to steer the conversation in a particular direction and ask question that are deemed important by the investment professional. It certainly helps to get a better understanding of the business model and the strategy. On the other hand, there is most certainly also an element of trust building at work. Even if investment professionals don't tell a company or don't ask in a direct and obvious way, management quality, strategy and also trust appear to be very acute points for them. There is very often a question behind the question. Companies need to conscious of the fact that their share price might hinge a lot less on the hard numbers they report, but how the efforts of the management and the results are being perceived. Very interesting in this context is that emotional appeal doesn't matter for investment professionals according to the data of this survey. However, some doubts seem to be warranted. A machine will not mind being lied to or disappointed if a target is not met. With individuals, whatever trust or reputation have been hard earned by a company can be lost over time. It is hard to imagine that an investment professional can stay emotionally detached in all situations, that e.g. a disappointment does not matter. Practically that means for management teams, that even if your counterpart appears to be fully rational and unemotional the person might be a lot more emotional than you might think. The same goes certainly also in general for managements interacting with their stakeholders.

To stick with the role of emotions, by a number of tokens investment professionals appear to be more emotional than they might portray themselves or the survey data suggest.

Some recent market phases around the coronavirus pandemic are a strong testament of emotion taking over. Interestingly, investment professionals also somewhat negate that conviction is linked to emotion. The latter does not tally with literature. This creates an inconsistency between how investment professionals see or at least feel inclined to present themselves and what is probably closer to reality. A rational approach to markets should work in most settings well, but not being aware of own emotional involvement is likely to create issues. Staying absolutely rational in a purely emotional market phase should also prove very costly if an irrational market phase lasts too long. It would be probably the wrong conclusion to let emotion rule in investment decisions but acknowledging the role of own emotion should help. Intriguing is in this context that the change of the portfolio manager of a portfolio sometimes results in a change of the relative performance. By definition, this impact is rejected by asset management companies since they will always present the investment process as robust, independent of individuals and certainly free of emotion. If the portfolio performance changes significantly there is usually a reason. While rare, there are for example people that have a sure feel for the market. Acknowledging the impact of emotion, in particular of own emotion, at least allows one to become more conscious of the own decision-making process and can potentially have a positive impact on the quality of the decision. One can also expect that management decisions are influenced by emotion. Taking up on the theory that psychopaths contributed to the financial crisis (Boddy, 2011), the lack of empathy leads to potentially dangerous consequences for a company.

In a similar vein, the influence of algorithms on trading patterns should not be underestimated. One could think that algorithms are a very smart and sophisticated instrument to earn money at the stock market and computers are obviously acting without own emotion. It is quite key to bear in mind that an algorithm will be, in the absence of artificial intelligence, only be as smart as the individuals who programmed it. A highly complicated and sophisticated algorithm doesn't make decisions better it makes it only more complex. The same applies also for a normal decision-making process. Efforts to make something scientifically and on a purely rational basis better are unhelpful if they do not yield a better result. There is always the pitfall of how the market should behave in a purely rational approach, i.e. postulated by a theory, and how the market behaves in reality. A very simple algorithm generating positive returns is certainly preferable to a very

complicated one that has only a marginally better return if the effort put into it does not pay off. The same conclusion can be drawn for decision making in general. In addition, the algorithm will strictly execute what has been coded. If the basic idea of the code is not particular smart it does not matter to the machine executing it. Trading of algorithms might even be outright irrational. The only objective is to generate a profit. In some cases, they might piggy back on very human behaviour like panic or euphoria. It would be therefore wrong to assume that algorithms work towards efficient market or that they are free of soft factors. Market participants should be therefore aware of the potential impact to share price formation.

Though the findings of the survey on the irrelevance of socially responsible behaviour and environmental issues for the success of investment decisions tallies with academic research it does raise some issues. Socially responsible investment is given quite some weight in the communication of the financial industry towards the public. Even taking into account that part of that is purely a marketing message it raises the expectations of customers. There also seems to be some reputational risk since most have signed the UN PRI. Making no efforts to embed SRI elements into the investment process could potentially yield unpleasant headlines. A growing problem might be a changing set of preferences of investors, i.e. the owners of the money to be invested. Though only anecdotal evidence, the public debate on climate change and growing demand of SRI in decision making as evidenced by the survey data point towards a changing set of selection criteria. A critical and open question is how much return investors are really willing to sacrifice for the good feeling to do something for society. So far, the industry can point to data suggesting that honouring SRI/ ESG principles does not impair investment return. Finally, the lack of SRI elements would limit the room for the potential role of altruism that some investors might seek to show with their investments. One way or the other, the weight given to SRI in an investment decision seems set to rise. To move into that direction might require also a cultural shift on the side of the financial industry. Chasing outperformance might have to be de-emphasised to consider also at which costs for society returns of companies come. For companies this means that the set of information required is likely to change. Companies will be tasked to prepare and communicate the required information. The bigger challenge to deal with a cultural shift would lie ahead for company management teams that are bound by their fiduciary duties towards shareholders.

Generally speaking, socially responsible and environmentally friendly behaviour is likely to come at a short-term cost and is hurting profitability. Long-term benefits might not be visible and possibly not appreciated by the market. Nevertheless, in the sense of a proactive and forward-looking management this complex will have to feature high on the agenda of managers

The disaster unfolding around Wirecard is a, though very unpleasant, recent example on the potential impact of issues arising from corporate governance. Even acknowledging that fraud was at play, the issue is still rooted in corporate governance. It is very hard evidence that corporate governance impacts the share price of a company and in this particular case very severely. A typical characteristic of the risks associated with ESG factors is that the likelihood of occurrence is very low but the size of the damage can be very large. Investment professionals at least partly agree on the importance of corporate governance, however, the use of it to manage risk seems to be underrepresented. However, this episode tells us that corporate governance and, putting it into a wider context, ESG factors can be a powerful tool to manage or mitigate risks. There seems to be upside to exploit that particular quality of ESG factors by incorporating them into the investment process.

Against the backdrop of the rich body of academic research and the attention behavioural economics receives, one would assume that the financial industry has embraced its findings and is by now less affected by issues found by behavioural economics that detract from financial performance. On the face of the survey data, investment professionals are not affected by heuristics or biases supporting the view that the industry has eliminated potentially detracting problems. However, there are a couple of items that would suggest that investment professionals are still affected by part of the issues. Since there are a number of well documented findings from behavioural economics and their detrimental impact on performance a higher attention on the impact of heuristics and biases seems to be warranted. A more conscious approach or even implementation of rules could be helpful for the financial industry. Stock market listed companies need to be conscious of the fact that their counterpart might be subject to heuristics and biases. At the same time, their management teams can possibly enhance decision making by considering findings from behavioural economics. Since an industry that supposedly has made the biggest efforts to maximise performance seems to be still affected by inefficient decisions, one can suspect,

that manager in general could be at risk to not act according to the principles for a homo oeconomicus. Likewise, being conscious of the pitfalls stemming from human behaviour could be helpful.

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Appendices

Appendix 1: Survey (German version)

Einführung

Sehr geehrte Damen und Herren,

vielen Dank für Ihre Teilnahme an dieser Umfrage. Im Zuge meiner Doktorarbeit beschäftige ich mich mit der Rolle sogenannter weicher Faktoren bei der Einschätzung von Aktien durch professionelle Kapitalmarktteilnehmer. In dieser Umfrage geht es darum, welche weichen und harten Faktoren bei Ihrer Entscheidungsfindung eine wichtige Rolle spielen. Die Umfrage wird etwa 15 Minuten in Anspruch nehmen. Sie ist anonym und alle Daten werden vertraulich behandelt.

Wichtigkeit verschiedener Faktoren für die Beurteilung einer Aktie

1. Für die Beurteilung einer Aktie, und letztlich für die Entscheidung über eine Empfehlung oder eine Position in einer Aktie, spielen eine Reihe von Faktoren eine Rolle. Im Folgenden sind Faktoren aufgelistet, die bei der Einschätzung einer Aktie eine Rolle spielen könnten. Bitte beurteilen Sie, wie wichtig die einzelnen Faktoren auf einer Skala von „Äußerst wichtig“ bis „Überhaupt nicht wichtig“ für Ihre Einschätzung bzw. Empfehlung sind.

	Äußerst wichtig	Sehr wichtig	Einigermaßen wichtig	Nicht sehr wichtig	Überhaupt nicht wichtig
Makroökonomische Faktoren (z.B. Wirtschaftswachstum, Zinsumfeld, Wechselkurse)	○	○	○	○	○
Marktumfeld für das Unternehmen (z.B. Marktgröße, Regulierung, Wettbewerbssituation, strukturelle Trends)	○	○	○	○	○
Geschäftsmodell des Unternehmens (z.B. Umsatz-, Margentreiber, Nutzen für den Kunden, Innovationskraft, Qualität der Produkte/ Dienstleistung, Markteintrittsbarrieren)	○	○	○	○	○
Sozial verantwortliches Handeln des Unternehmens (z.B. Auswirkungen auf die Umwelt, Arbeitsbedingungen, Menschenrechte)	○	○	○	○	○

	Äußerst wichtig	Sehr wichtig	Einigermaßen wichtig	Nicht sehr wichtig	Überhaupt nicht wichtig
Corporate Governance (z.B. Antikorruptionsregeln, Zusammensetzung und Kompensation des Managements, Poison-pill, Eigentümerstruktur, Orientierung an Shareholder Value)	○	○	○	○	○
Historische Unternehmenszahlen (z.B. Wachstum, Profitabilität, Dividenden, Stärke der Bilanz)	○	○	○	○	○
Qualität des Finanzberichtswesen (z.B. klar, konsistent, transparent, Adjustierung von Gewinnen)	○	○	○	○	○
Immaterielle Vermögensgegenstände und Güter (z.B. Goodwill, Patente, geistiges Eigentum, Markenwert)	○	○	○	○	○
Reputation (z.B. Qualität des Managements, Erfolgsbilanz, Strategie, Klagen, Glaubwürdigkeit, Vertrauen)	○	○	○	○	○
Unternehmenskultur (z.B. Ethik, Moral, Mitarbeiterzufriedenheit)	○	○	○	○	○
Schätzungen (z.B. Gewinnerwartungen, Guidance, Ausblick)	○	○	○	○	○
Szenarioanalyse – Gewichtung der Ergebnisse mit deren Eintrittswahrscheinlichkeit	○	○	○	○	○
Bewertung (z.B. PE, EV/EBIT, DCF)	○	○	○	○	○
Zugang zu Informationen (Managementkontakt, Sprache, räumliche Distanz, Austausch mit Peers/ Marktteilnehmern)	○	○	○	○	○
Besonderheiten in der Nachrichtenlage (z.B. anstehende Ereignisse (catalysts), Sondersituation)	○	○	○	○	○

	Äußerst wichtig	Sehr wichtig	Einigermaßen wichtig	Nicht sehr wichtig	Überhaupt nicht wichtig
Überzeugung von dem Investment Case	○	○	○	○	○
Öffentlichkeitsarbeit (z.B. Lobbying, Kontaktpflege mit Politik oder Regulierern, Medienberichterstattung)	○	○	○	○	○
Kenntnis des Sektors/ Unternehmens (z.B. Erfahrung, besondere Einsichten)	○	○	○	○	○
Emotionale Aspekte (z.B. Sentiment des Marktes, Risikowahrnehmung, eigenes Marktgefühl)	○	○	○	○	○
Risiko einer Aktie (z.B. Beta, realisierte Volatilität, max. Verlust)	○	○	○	○	○
Positionierung anderer Marktteilnehmer (z.B. Consensus Rating, Berichte zur Positionierung)	○	○	○	○	○
Empfehlungen aus Fernsehen, Zeitung oder Börsenbriefen	○	○	○	○	○
Mögliche Interessenkonflikte (z.B. Broker, Management, Anreizsystem des Arbeitgebers)	○	○	○	○	○
Quantitative Analyse (z. B. Style, technische Analyse)	○	○	○	○	○
Überlegungen im Portfoliokontext (z.B. Korrelation, Absicherung, Pair Trades, Anlagehorizont, Liquidität der Aktie)	○	○	○	○	○

2. Sind Ihnen bei der Beantwortung der Frage 1 weitere Faktoren eingefallen, die für Sie sehr wichtig sind?

○ Nein

○ Ja, folgende weitere Faktoren sind für mich ebenfalls sehr wichtig

[ ]

Beschreibung für weiche Faktoren

3. Im Zusammenhang mit Anlageentscheidungen wird häufig von weichen Faktoren gesprochen, wobei es keine allgemein akzeptierte Definition gibt. Stimmen Sie der nachfolgenden Beschreibung für weiche Faktoren zu? Bitte wählen Sie auf einer Skala von „Stimme stark zu“ bis „Stimme überhaupt nicht zu“.

Weiche Faktoren können nicht gemessen werden, können schwer überprüft werden, sind schwer zu greifen und enthalten ein subjektives Element.

Stimme stark zu	Stimme zu	Weder noch	Stimme nicht zu	Stimme überhaupt nicht zu
○	○	○	○	○

Beschreibung für weiche Faktoren

4. Welche Aspekte sind falsch oder welche vermissen Sie in der Beschreibung? Bitte erläutern Sie kurz Ihre Zustimmung bzw. Ihre Ablehnung / Ihren Widerspruch.

Einordnung in weiche und harte Faktoren

5. Legen wir für die folgende Frage die genannten Kriterien zu Grunde (nicht messbar, schwer überprüfbar oder greifbar und subjektiv), welche der folgenden Faktoren würden Sie dann als weiche Faktoren bezeichnen? Bitte ordnen Sie die Faktoren auf einer Skala von „Sehr weich“ bis „Sehr hart“ ein.

	Sehr weich	Eher weich	Weder noch	Eher hart	Sehr hart
Makroökonomische Faktoren (z.B. Wirtschaftswachstum, Zinsumfeld, Wechselkurse)	○	○	○	○	○
Marktumfeld für das Unternehmen (z.B. Marktgröße, Regulierung, Wettbewerbssituation, strukturelle Trends)	○	○	○	○	○
Geschäftsmodell des Unternehmens (z.B. Umsatz-, Margentreiber, Nutzen für den Kunden, Innovationskraft, Qualität der Produkte/ Dienstleistung, Markteintrittsbarrieren)	○	○	○	○	○

	Sehr weich	Eher weich	Weder noch	Eher hart	Sehr hart
Sozial verantwortliches Handeln des Unternehmens (z.B. Auswirkungen auf die Umwelt, Arbeitsbedingungen, Menschenrechte)					
Corporate Governance (z.B. Antikorruptionsregeln, Zusammensetzung und Kompensation des Managements, Poison-pill, Eigentümerstruktur, Orientierung an Shareholder Value)					
Historische Unternehmenszahlen (z.B. Wachstum, Profitabilität, Dividenden, Stärke der Bilanz)					
Qualität des Finanzberichtswesen (z.B. klar, konsistent, transparent, Adjustierung von Gewinnen)					
Immaterielle Vermögensgegenstände und Güter (z.B. Goodwill, Patente, geistiges Eigentum, Markenwert)					
Reputation (z.B. Qualität des Managements, Erfolgsbilanz, Strategie, Klagen, Glaubwürdigkeit, Vertrauen)					
Unternehmenskultur (z.B. Ethik, Moral, Mitarbeiterzufriedenheit)					
Schätzungen (z.B. Gewinnerwartungen, Guidance, Ausblick)					
Szenarioanalyse – Gewichtung der Ergebnisse mit deren Eintrittswahrscheinlichkeit					
Bewertung (z.B. PE, EV/EBIT, DCF)					
Zugang zu Informationen (Managementkontakt, Sprache, räumliche Distanz, Austausch mit Peers/ Marktteilnehmern)					

	Sehr weich	Eher weich	Weder noch	Eher hart	Sehr hart
Besonderheiten in der Nachrichtenlage (z.B. anstehende Ereignisse (catalysts), Sondersituation)					
Überzeugung von dem Investment Case					
Öffentlichkeitsarbeit (z.B. Lobbying, Kontaktpflege mit Politik oder Regulierern, Medienberichterstattung)					
Kenntnis des Sektors/ Unternehmens (z.B. Erfahrung, besondere Einsichten)					
Emotionale Aspekte (z.B. Sentiment des Marktes, Risikowahrnehmung, eigenes Marktgefühl)					
Risiko einer Aktie (z.B. Beta, realisierte Volatilität, max. Verlust)					
Positionierung anderer Marktteilnehmer (z.B. Consensus Rating, Berichte zur Positionierung)					
Empfehlungen aus Fernsehen, Zeitung oder Börsenbriefen					
Mögliche Interessenkonflikte (z.B. Broker, Management, Anreizsystem des Arbeitgebers)					
Quantitative Analyse (z. B. Style, technische Analyse)					
Überlegungen im Portfoliokontext (z.B. Korrelation, Absicherung, Pair Trades, Anlagehorizont, Liquidität der Aktie)					

Wichtigkeit weicher Faktoren für die Beurteilung einer Aktie

6. Gehen wir jetzt noch einmal tiefer auf Faktoren ein, die häufig als weich eingeschätzt werden. Dazu

werden zur Verfeinerung einzelne Faktoren weiter aufgefächert. Bitte beurteilen Sie wie in Frage 1, wie wichtig die einzelnen Faktoren auf einer Skala von „Äußerst wichtig“ bis „Überhaupt nicht wichtig“ für Ihre Einschätzung einer Aktie sind. Sofern Sie einen Faktor eindeutig als hart ansehen, wählen Sie bitte NA

	Äußerst wichtig	Sehr wichtig	Einigermaßen wichtig	Nicht sehr wichtig	Überhaupt nicht wichtig	NA
Stärke des Geschäftsmodell (z.B. Stabilität, Skalierbarkeit)	○	○	○	○	○	○
Ökologische Aspekte der Unternehmensführung (z.B. Umweltrisiken, Klimaschutz, Nachhaltigkeit)	○	○	○	○	○	○
Soziale Aspekte der Unternehmensführung (z.B. Arbeitsbedingungen, Diversity, Menschenrechte)	○	○	○	○	○	○
Wahrung der Interessen der Stakeholder, insbesondere die der Eigenkapitalgeber	○	○	○	○	○	○
Ordnungsrahmen des Unternehmens (z.B. Verteilung der Stimmrechte, Zusammensetzung des Managements)	○	○	○	○	○	○
ESG-Faktoren als Instrument des Risikomanagements (z.B. als Versicherung gegen extreme Verluste)	○	○	○	○	○	○
Klarheit und Konsistenz der Berichterstattung (z.B. Transparenz, Änderungen veröffentlichter Informationen, Größe und Häufigkeit von außerordentlichen Effekten)	○	○	○	○	○	○
Immaterielle Güter (z.B. Fähigkeiten der Mitarbeiter, externes Netzwerk, betriebliche Abläufe)	○	○	○	○	○	○

	Äußerst wichtig	Sehr wichtig	Einigermaßen wichtig	Nicht sehr wichtig	Überhaupt nicht wichtig	NA
Qualität des Managements (z.B. Erfolgsbilanz, Mitarbeiterführung, Management des Humankapitals)	○	○	○	○	○	○
Strategie des Unternehmens (z.B. Nachvollziehbarkeit, Erfolg, Stetigkeit)	○	○	○	○	○	○
Emotionale Einschätzung des Unternehmens/ Managements (Vertrauen, Bewunderung, Respekt, Sympathie)	○	○	○	○	○	○
Ethische oder moralische Grundsätze in der Unternehmensführung	○	○	○	○	○	○
Stärke der Unternehmenskultur	○	○	○	○	○	○
Persönlicher Kontakt zum Management (z.B. Einzel- oder Gruppenmeetings, Investor Relations)	○	○	○	○	○	○
Meinung anderer Marktteilnehmer (z.B. Kollegen, Analysten, Equity Sales)	○	○	○	○	○	○
Consensus/ Markterwartungen (z.B. erwartete Entwicklung von Kennzahlen wie Gewinn, Cash Flow oder Verschuldungsgrad)	○	○	○	○	○	○
Inwieweit der Markt eine Information verarbeitet hat („was ist eingepreist“)	○	○	○	○	○	○
Special situations/ Sondersituationen (z.B. M&A, catalysts)	○	○	○	○	○	○
Stärke der Equity-story des Unternehmens	○	○	○	○	○	○
Public Affairs (z.B. Lobbying, Kontakte zu Politik oder Regulierern)	○	○	○	○	○	○

	Äußerst wichtig	Sehr wichtig	Einigermaßen wichtig	Nicht sehr wichtig	Überhaupt nicht wichtig	NA
Haltung der Medien zum Unternehmen (z.B. Häufigkeit und/oder Tonlage von Berichterstattung)	○	○	○	○	○	○
Bisherige Erfahrung mit dem Unternehmen (z.B. Verständnis dafür, wie das Unternehmen tickt, Gewinn/ Verluste aus früheren Positionen)	○	○	○	○	○	○
Stimmung des Gesamtmarktes (z.B. risk on/off)	○	○	○	○	○	○
Eigene Emotion (z.B. Marktgefühl, subjektive Einschätzung des Risikos einer Aktie bzw. des Geschäftsmodells, Angst oder Hoffnung)	○	○	○	○	○	○
Positionierung (z.B. Crowded trades)	○	○	○	○	○	○
Marktreaktion auf (ggf. neue) Informationen/ Rahmenbedingungen (z.B. Logik, Stärke, Richtung)	○	○	○	○	○	○
Reflexion über Erkenntnisse der Verhaltensökonomie (z.B. Bias, Einstellung zur Risiko, Framing, Überreaktion)	○	○	○	○	○	○
Mögliche Zielkonflikte aus Prinzipal-Agent-Beziehungen (z.B. Management Anreizsysteme, Sell- vs. Buyside)	○	○	○	○	○	○
Momentum (z.B. Aktienkurs und/oder Gewinnrevisionen)	○	○	○	○	○	○
Relative Performance Ihrer eigenen Empfehlungen/ Investments in der Bemessungsperiode	○	○	○	○	○	○

7. Gibt es andere weiche Faktoren, die für Sie eine sehr starke Rolle spielen?

- ◯ Nein
- ◯ Ja, folgende weiche Faktoren sind für mich ebenfalls sehr wichtig:

8. Wie groß ist im Durschschnitt das Gewicht insgesamt, dass weiche Faktoren bei Ihrer Entscheidungsfindung spielen (in %)? Bitte bewerten Sie dies auf einer Skala von 0 bis 100%.

0% Gewicht weicher Faktoren 100%

9. Wie stark sind weiche Faktoren in Ihren Entscheidungsprozess über eine Aktie integriert? Bitte ordnen Sie die den Grad der Berücksichtigung auf einer Skala von „Voll integriert“ bis „Überhaupt nicht integriert“ ein.

Voll integriert	Ziemlich integriert	Mittelmäßig integriert	Wenig integriert	Überhaupt nicht integriert
◯	◯	◯	◯	◯

10. Hat sich die Nachfrage von Ihren Kunden nach der Berücksichtigung folgender Faktoren im Investment-/ Entscheidungsprozess in den letzten fünf Jahren stark verändert? Bitte beurteilen Sie die Veränderung auf einer Skala von „Stark zugenommen“ bis „Stark abgenommen“

	Stark zugenommen	Zugenommen	Unverändert	Abgenommen	Stark abgenommen
Sozial verantwortliches Handeln des Unternehmens (z.B. Auswirkungen auf die Umwelt, Arbeitsbedingungen, Menschenrechte)	○	○	○	○	○
Corporate Governance (z.B. Antikorruptionsregeln, Zusammensetzung und Kompensation des Managements, Orientierung an Shareholder Value)	○	○	○	○	○
Reputation (z.B. Qualität des Managements, Erfolgsbilanz, Strategie, Klagen, Glaubwürdigkeit, Vertrauen)	○	○	○	○	○
Unternehmenskultur (z.B. Ethik, Moral, Mitarbeiterzufriedenheit)	○	○	○	○	○
Erkenntnisse der Verhaltensökonomie (z.B. Bias, Einstellung zur Risiko, Framing, Überreaktion)	○	○	○	○	○
Emotionale Aspekte (z.B. Sentiment des Marktes, Risikowahrnehmung, eigenes Marktgefühl)	○	○	○	○	○

11. Gibt es andere weiche Faktoren, bei denen sich die Nachfrage sehr stark verändert hat?

○ Nein

○ Ja, die Nachfrage bezüglich folgender weicher Faktoren hat sich ebenfalls stark verändert (bitte geben Sie auch die Richtung an):

Demographische Angaben

12. Sind Sie

- ◯ Weiblich
- ◯ Männlich
- ◯ Divers/ keine Angaben

13. In welchem Land arbeiten Sie momentan?

14. Zu welcher Gruppe gehört Ihr Unternehmen

- ◯ Broker
- ◯ Unabhängiges Research-Unternehmen
- ◯ Kapitalanlagegesellschaft
- ◯ Pensionsfonds
- ◯ Versicherung
- ◯ Sonstiges (bitte angeben)
- ◯ Vermögensverwalter
- ◯ Family Office
- ◯ Staatsfonds
- ◯ Hedgefonds

Demographische Angaben

15. Wie groß ist das Unternehmen, bei dem Sie derzeit arbeiten (Assets under Management in Mrd. US$)?

- ◯ <10
- ◯ 10-50
- ◯ 51-200
- ◯ 201-500
- ◯ >500

Demographische Angaben

16. Wie groß ist das Unternehmen, bei dem Sie derzeit arbeiten (Anzahl der Analysten?

- ◯ <10
- ◯ 11-40
- ◯ 41-100
- ◯ 101-200
- ◯ >200

Demographische Angaben

17. Wie groß ist das Unternehmen, bei dem Sie derzeit arbeiten (Anzahl der Mitarbeiter)?

- ◯ <20
- ◯ 20-200
- ◯ 201-2.000
- ◯ 2.001-20.000
- ◯ >20.000

Demographische Angaben

18. Welche Rolle haben Sie in Ihrem Unternehmen?

- ◯ Analyst
- ◯ Portfoliomanager
- ◯ Anlageberater
- ◯ Sonstiges (bitte angeben)

19. Haben Sie einen Sektor-Fokus?

- ☐ Energie
- ☐ Material
- ☐ Industrieunternehmen
- ☐ Nicht-Basiskonsumgüter
- ☐ Basiskonsumgüter
- ☐ Gesundheitswesen
- ☐ Finanzen
- ☐ Informationstechnologie
- ☐ Kommunikationsdienste
- ☐ Versorgungsunternehmen
- ☐ Immobilien
- ☐ Generalist
- ☐ Small und Midcap
- ☐ ESG
- ☐ Sonstiges (bitte angeben)

20. Hat Ihr Investmentprozess eine bestimmte Ausrichtung (Mehrfachauswahl ist möglich)?

- [ ] Fundamental
- [ ] Qualitative
- [ ] Quantitative
- [ ] Bottom-up
- [ ] Top-down
- [ ] Aktiv
- [ ] Passiv
- [ ] ESG/ SRI
- [ ] Style (z.B. Value, Quality, Smallcap)
- [ ] Trading orientiert
- [ ] Langfristig orientiert
- [ ] Sonstiges (bitte angeben)

21. Wie lange arbeiten Sie schon in der Finanzbranche (in Jahren)?

- ◯ <5
- ◯ 5-10
- ◯ 11-15
- ◯ 16-20
- ◯ 21-25
- ◯ >25

22. Nach Auswertung der Umfrage plane ich je nach Ergebnislage einzelne Resultate näher zu untersuchen. Im Zuge dieser Nachbereitung würde ich gegebenenfalls gerne einige Einzelgespräche führen. Es würde mich sehr freuen, wenn Sie dazu grundsätzlich bereit wären. Bitte kontaktieren Sie mich unter u.g. Email-Adresse, wenn Sie sich für ein Einzelgespräch registrieren möchten. Durch diesen Prozess wird Ihre Anonymität in diesem Fragebogen gewahrt.

- ◯ Ja, ich werde Sie unter m_baeumer@gmx.de kontaktieren
- ◯ Nein, danke

Appendix 2: Survey (English version)

Introduction

Dear Sir or Madam,

Thank you for participating in this survey. In my doctoral thesis I am looking at the role of so-called soft factors in the assessment of stocks by professional market participants. The objective of this survey is to find out, which soft and hard factors are important in your decision-making process. The survey will take about 15 minutes. It is anonymous and all data will be treated confidentially.

Importance of various factors for the assessment of a stock

1. For the assessment of a stock, and ultimately for the decision on a recommendation or a position in a stock, a number of factors matter. Hereafter a number of factors are listed that could play a role in forming an opinion on a stock. Please evaluate how important the individual factors are for your assessment or decision on a scale from "extremely important" to "not important at all".

	Extremely important	Very important	Moderately important	Slightly important	Not important at all
	○	○	○	○	○
Market environment for the company (e.g. market size, regulation, competitive environment, structural trends)	○	○	○	○	○
	○	○	○	○	○
Socially responsible behaviour of the company (e.g. impact on environment, labour standards, human rights)	○	○	○	○	○

	Extremely important	Very important	Moderately important	Slightly important	Not important at all
	○	○	○	○	○
Historic company financials (e.g. growth (profitability, dividends strength of the balance sheet)	○	○	○	○	○
	○	○	○	○	○
Intangible assets and goods (e.g. goodwill patents, intellectual property, brand value)	○	○	○	○	○
	○	○	○	○	○
Corporate culture (e.g. ethics, morale, employee satisfaction)	○	○	○	○	○
outlook)	○	○	○	○	○
Scenario analysis – weighting of outcomes with their respective probabilities	○	○	○	○	○
	○	○	○	○	○
Access to information (e.g. management contact language, geographical distance, exchange with peers/market participants)	○	○	○	○	○
	○	○	○	○	○

	Extremely important	Very important	Moderately important	Slightly important	Not important at all
Conviction of investment case	○	○	○	○	○
Public relations (e.g. lobbying, relationship to politicians or regulator, media reports)	○	○	○	○	○
Knowledge of sector/ company (e.g. experience, special insights)	○	○	○	○	○
Emotional aspects (e.g. market sentiment, risk perception, own feel for the market)	○	○	○	○	○
Risk of a stock (e.g. beta, realised volatility, max. drawdown	○	○	○	○	○
Positioning of other market participants (e.g. consensus rating, reports on positioning)	○	○	○	○	○
Recommendations from TV, newspaper or tip sheets	○	○	○	○	○
Potential conflicts of interest (e.g. broker, management, incentive system of employer)	○	○	○	○	○
Quantitative analysis (e.g. style, technical analysis)	○	○	○	○	○
Considerations in the portfolio context (e.g. correlation, hedging, pair trades, investment horizon, liquidity of the stock)	○	○	○	○	○

2. Did other factors come to mind that are very important to you while answering question 1?

○ **No**

○ **Yes, the following factors are very important to me, as well.**

Description for soft factors

3. In the context of investment decisions soft factors are often mentioned though there is no generally accepted definition of them. Do you agree/disagree with the following description for soft factors? Please indicate your degree of agreement on a scale from "strongly agree" to "strongly disagree".

Soft factors can't be measured, are difficult to verify, are difficult to grasp and contain a subjective element.

Strongly agree	Agree	Undecided	Disagree	Strongly disagree
○	○	○	○	○

Description for soft factors

4. Which aspects are wrong or which aspects are missing in the proposed description, from your perspective? Please comment briefly on your agreement and disagreement/ objection, respectively.

Classification into soft and hard factors

5. Taking the mentioned criteria as a basis (not measurable, hard to verify or grasp and subjective), which of the following factors would you call soft? Please classify the factors on a scale from "very soft" to "very hard".

	Very soft	Rather soft	Neither	Rather hard	Very hard
Macroeconomic factors (e.g. economic growth, interest rates, foreign exchange rates)	○	○	○	○	○
Market environment for the company (e.g. market size, regulation, competitive environment, structural trends)	○	○	○	○	○
Business model of the company (e.g. sales and margin drivers, benefits for customers, innovativeness, quality of products/services, barriers to entry)	○	○	○	○	○

	Very soft	Rather soft	Neiter	Rather hard	Very hard
Socially responsible behaviour of the company (e.g. impact on environment, labour standards, human rights)					
Corporate governance (e.g. anti-corruption policy, board structure and compensation, poison pill, ownership structure, alignment to shareholder value)					
Historic company financials (e.g. growth (profitability, dividends strength of the balance sheet)					
Quality of financial disclosure (e.g. clear, consistent, transparent, earnings adjustments)					
Intangible assets and goods (e.g. goodwill patents, intellectual property, brand value)					
Reputation (e.g. quality of management, track record, strategy, litigations, credibility, trust)					
Corporate culture (e.g. ethics, morale, employee satisfaction)					
Forecasts (e.g. earnings estimates, guidance, outlook)					
Scenario analysis – weighting of outcomes with their respective probabilities					
Valuation (e.g. PE, EV/EBIT, DCF)					
Access to information (e.g. management contact, language, geographical distance, exchange with peers/market participants)					

	Sehr weich	Eher weich	Weder noch	Eher hart	Sehr hart
Special features in potential news flow (e.g. catalysts, special situations)	○	○	○	○	○
Conviction of investment case	○	○	○	○	○
Public relations (e.g. lobbying, relationship to politicians or regulator, media reports)	○	○	○	○	○
Knowledge of sector/ company (e.g. experience, special insights)	○	○	○	○	○
Emotional aspects (e.g. market sentiment, risk perception, own feel for the market)	○	○	○	○	○
Risk of a stock (e.g. beta, realised volatility, max. drawdown	○	○	○	○	○
Positioning of other market participants (e.g. consensus rating, reports on positioning)	○	○	○	○	○
Recommendations from TV, newspaper or tip sheets	○	○	○	○	○
Potential conflicts of interest (e.g. broker, management, incentive system of employer)	○	○	○	○	○
Quantitative Analysis (e.g. style, technical analysis)	○	○	○	○	○
Considerations in the portfolio context (e.g. correlation, hedging, pair trades, investment horizon, liquidity of the stock)	○	○	○	○	○

Importance of soft factors for the assessment of a stock

6. Let us take a closer look only at factors that are often regarded as soft. To increase granularity,

individual factors are split up a bit more. Please evaluate like in question 1, how important the individual factors are for your assessment of a stock on a scale from "extremely important" to "not important at all". If you see a factor clearly as hard, please select NA.

	Extremely important	Very important	Moderately important	Slightly important	Not important at all	NA
Strength of the business model (e.g. stability, scalability)	○	○	○	○	○	○
Ecological aspects of the business (e.g. risks to environment, climate protection, sustainability)	○	○	○	○	○	○
Social aspects of the business (e.g. labour standards, diversity, human rights)	○	○	○	○	○	○
Protection of stakeholder interests, in particular of shareholders	○	○	○	○	○	○
Framework of rules, procedures and relationships under which a company operates (e.g. distribution of voting rights, composition of management)	○	○	○	○	○	○
ESG factors as risk management tool (e.g. in order to avoid tail risks)	○	○	○	○	○	○
Clarity and consistency of corporate reporting (e.g. transparency, changes in disclosure, size and frequency of exceptional items)	○	○	○	○	○	○
Intangible goods (e.g. abilities of employees, external network, processes, procedures)	○	○	○	○	○	○

	Extremely important	Very important	Moderately important	Slightly important	Not important at all	NA
Quality of management (e.g. track record, leadership, management of human capital)	○	○	○	○	○	○
Strategy of the company (e.g. plausibility, success, consistency)	○	○	○	○	○	○
Emotional assessment of company/ management (e.g. trust, admiration, respect, sympathy)	○	○	○	○	○	○
Ethical or moral standards of management	○	○	○	○	○	○
Strength of corporate culture	○	○	○	○	○	○
Personal contact to management (e.g. individual or group meetings, investor relations)	○	○	○	○	○	○
Views of other market participants (e.g. colleagues, analysts, equity sales)	○	○	○	○	○	○
Consensus expectations (e.g. expected development of net profit, cash flow or financial leverage)	○	○	○	○	○	○
To which extent the market has reflected information („what is in the price")	○	○	○	○	○	○
Special situations (e.g. M&A catalysts)	○	○	○	○	○	○
Strength of the equity story of the company	○	○	○	○	○	○
Public Affairs (e.g. lobbying, contacts to politicians or regulators)	○	○	○	○	○	○

	Extremely important	Very important	Moderately important	Slightly important	Not important at all	NA
Stance of the media towards the company (e.g. frequency and/ or tone of reports)	○	○	○	○	○	○
Experience with the company (e.g. insights on how the company ticks, gains/ losses on previous positions)	○	○	○	○	○	○
Overall market sentiment (e.g. risk on/off)	○	○	○	○	○	○
Own emotion (e.g. feel for the market, subjective assessment of risk of a stock or business model, fear or hope)	○	○	○	○	○	○
Positioning (e.g. crowded trades)	○	○	○	○	○	○
Market reaction to (possibly new) / information/ market environment (e.g. logic, size, direction)	○	○	○	○	○	○
Reflection on findings of behavioural economics (e.g. biases, stance towards risk, framing, overreaction)	○	○	○	○	○	○
Target conflicts arising from principal-agent relationships (e.g. management incentive systems, sell- vs. buyside)	○	○	○	○	○	○
Momentum (e.g. share price and/ or earnings revisions)	○	○	○	○	○	○
Relative performance of your own recommendations/ investments in the measurement period	○	○	○	○	○	○

7. Are there other soft factors that matter strongly to you?

- No
- Yes, the following soft factors are very important to me, as well.

8. What is on average the weight of soft factors as a whole in your decision-making on a stock (in %)? Please evaluate it on a scale from 0 to 100%.

0% Weight of soft factors 100%

9. How strongly integrated are soft factors in your decision-making process? Please indicate the extent of integration on a scale ranging from "fully integrated" to "not at all integrated".

Fully integrated	Quite integrated	Moderately integrated	Slightly integrated	Not integrated at all

10. Did demand of clients to reflect the following factors in the investment/ decision process shift strongly over the last five years? Please evaluate the change on a scale from "increased strongly" to "decreased strongly".

	Increased strongly	Increased	Unchanged	Decreased	Decreased strongly
Socially responsible behaviour of the company (e.g. impact on environment, labour standards, human rights)	○	○	○	○	○
Corporate governance (e.g. anti-corruption policy, board structure and compensation, alignment to shareholder value)	○	○	○	○	○
Reputation (e.g. quality of management, track record, strategy, litigations, credibility, trust)	○	○	○	○	○
Corporate culture (e.g. ethics, morale, employee satisfaction)	○	○	○	○	○
Findings of behavioural economics (e.g. biases, stance towards risk, framing, overreaction)	○	○	○	○	○
Emotional aspects (e.g. market sentiment, risk perception, own feel for the market)	○	○	○	○	○

11. Are there other soft factors where demand has changed strongly?

○ **No**

○ **Yes, the demand regarding the following soft factors has changed, as well (please also indicate direction):**

Demographic information

12. Your gender is:

- Female
- Male
- Divers/ Prefer not to answer

13. In which country are you working at the moment?

14. Into which group falls your company?

- Broker
- Research boutique
- Asset management
- Pension fund
- Insurance
- Other (please specify)
- Wealth management
- Family Office
- Sovereign wealth fund
- Hedge fund

Demographic information

15. What is the size of the company you are working for (Assets under management in bn. US$)?

- <10
- 10-50
- 51-200
- 201-500
- >500

Demographic information

16. What is the size of the company you are working for (Number of equity analysts)?

- <10
- 11-40
- 41-100
- 101-200
- >200

Demographic information

17. What is the size of the company you are working for (Number of employees)?

- ◯ <20
- ◯ 20-200
- ◯ 201-2.000
- ◯ 2.001-20.000
- ◯ >20.000

Demographic information

18. What is your role in your company?

- ◯ Analyst
- ◯ Portfolio manager
- ◯ Investment advisor
- ◯ Other (please specify)

19. Do you have a sector focus?

- ☐ Energy
- ☐ Materials
- ☐ Industrials
- ☐ Consumer Discretionary
- ☐ Consumer Staples
- ☐ Healthcare
- ☐ Financials
- ☐ Information Technology
- ☐ Communication Services
- ☐ Utilities
- ☐ Real Estate
- ☐ Generalist
- ☐ Small und Midcap
- ☐ ESG
- ☐ Other (please specify)

20. Do you have a particular tilt in your decision process (multiple selections are possible)?

- [ ] Fundamental
- [ ] Qualitative
- [ ] Quantitative
- [ ] Bottom-up
- [ ] Top-down
- [ ] Active
- [ ] Passive
- [ ] ESG/ SRI
- [ ] Style (e.g. Value, quality, smallcap)
- [ ] Trading oriented
- [ ] Longterm oriented
- [ ] Other (please specify)

21. How long have you been working in the financial industry (in years)?

- ◯ <5
- ◯ 5-10
- ◯ 11-15
- ◯ 16-20
- ◯ 21-25
- ◯ >25

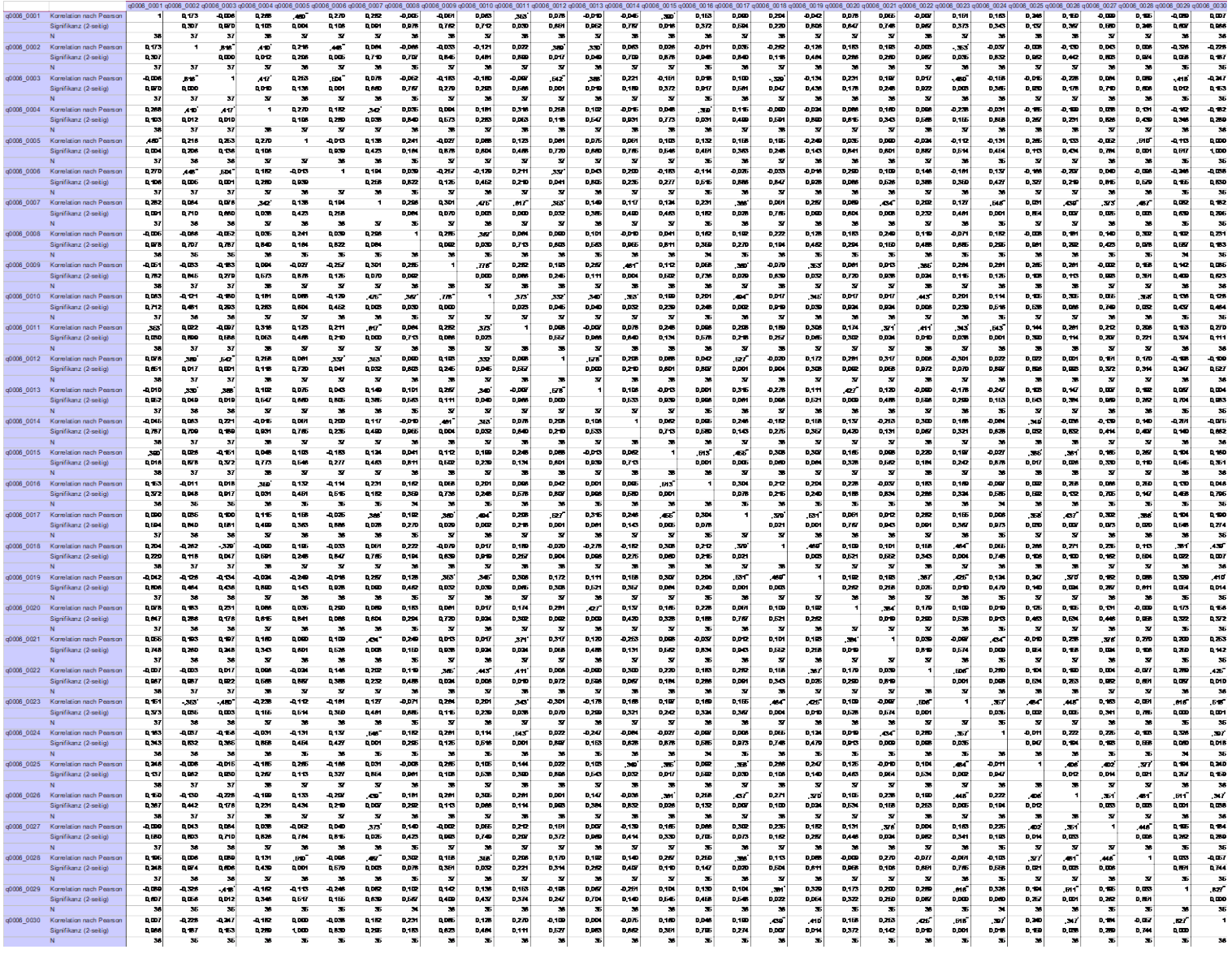
22. After evaluation of the survey and depending on the outcome, I might want to examine individual results closer. For this follow-up I would like to do selective interviews. In case you are generally willing to participate in an interview, please contact me on the email address below. This process ensures your anonymity in this questionnaire.

- ◯ Yes, I will contact you on m_baeumer@gmx.de
- ◯ No, thank you

Appendix 3: Correlation matrix for items in question 1

		q0001_0001	q0001_0002	q0001_0003	q0001_0004	q0001_0005	q0001_0006	q0001_0007	q0001_0008	q0001_0009	q0001_0010	q0001_0011	q0001_0012	q0001_0013	q0001_0014	q0001_0015	q0001_0016	q0001_0017	q0001_0018	q0001_0019	q0001_0020	q0001_0021	q0001_0022	q0001_0023	q0001_0024	q0001_0025
q0001_0001	Korrelation nach Pearson	1	-0,277	-0,185	-0,158	-,357*	-0,077	-0,144	-,318*	-0,039	-0,269	0,249	-0,010	-0,124	-0,101	0,141	-0,199	0,204	-,298*	0,227	0,207	0,172	0,141	-0,029	0,272	-0,004
	Signifikanz (2-seitig)		0,069	0,230	0,305	0,009	0,621	0,351	0,035	0,801	0,077	0,104	0,950	0,422	0,513	0,361	0,442	0,184	0,050	0,135	0,178	0,265	0,362	0,852	0,074	0,980
	N	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	43	44	42
q0001_0002	Korrelation nach Pearson	-0,277	1	0,112	0,158	0,200	0,173	0,033	,405**	-0,028	0,202	-0,207	0,239	-,428**	0,024	0,223	-0,199	-0,005	,454**	-0,091	-0,129	0,175	0,035	0,051	0,154	0,018
	Signifikanz (2-seitig)	0,069		0,469	0,294	0,182	0,251	0,833	0,005	0,856	0,178	0,167	0,110	0,003	0,874	0,137	0,200	0,975	0,001	0,548	0,391	0,243	0,819	0,739	0,306	0,907
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0003	Korrelation nach Pearson	-0,185	0,112	1	0,177	0,239	,442**	0,181	0,269	0,244	0,031	0,158	0,016	-0,184	0,050	0,076	0,191	0,050	,460**	-0,001	0,079	0,032	-0,023	,479**	-0,056	0,053
	Signifikanz (2-seitig)	0,230	0,469		0,240	0,110	0,002	0,228	0,064	0,102	0,836	0,186	0,918	0,222	0,744	0,614	0,202	0,740	0,002	0,996	0,601	0,835	0,880	0,001	0,711	0,731
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0004	Korrelation nach Pearson	-0,158	0,158	0,177	1	,513**	0,041	0,122	,345*	-0,027	,337*	-,302*	0,191	0,141	0,127	0,189	0,152	0,127	0,164	-0,185	0,121	-0,022	-0,259	,472**	0,032	-0,086
	Signifikanz (2-seitig)	0,305	0,294	0,240		0,000	0,786	0,418	0,019	0,859	0,006	0,042	0,204	0,348	0,401	0,209	0,314	0,399	0,277	0,219	0,423	0,884	0,084	0,001	0,832	0,580
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0005	Korrelation nach Pearson	-,357*	0,200	0,239	,513**	1	0,058	,359*	0,152	0,278	,359*	-0,244	0,105	0,159	,318*	-0,178	0,148	0,030	0,235	-0,241	-,368*	-0,098	-0,139	,518**	-0,157	0,011
	Signifikanz (2-seitig)	0,009	0,182	0,110	0,000		0,570	0,014	0,313	0,061	0,017	0,154	0,487	0,184	0,031	0,238	0,334	0,843	0,116	0,108	0,012	0,515	0,357	0,000	0,297	0,940
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0006	Korrelation nach Pearson	-0,077	0,173	,442**	0,041	0,058	1	0,273	0,014	0,117	0,042	,378*	,316*	0,079	0,139	0,239	0,057	0,019	,445**	0,259	0,241	-0,024	,326*	0,185	0,035	0,172
	Signifikanz (2-seitig)	0,621	0,251	0,002	0,786	0,570		0,067	0,924	0,438	0,781	0,010	0,033	0,603	0,357	0,110	0,523	0,900	0,002	0,087	0,106	0,873	0,010	0,451	0,816	0,283
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0007	Korrelation nach Pearson	-0,144	0,033	0,181	0,122	,359*	0,273	1	,460**	0,038	0,248	-0,091	0,094	-0,027	0,021	0,007	0,107	,385*	0,284	-0,042	-0,001	0,004	0,173	,298*	0,138	0,101
	Signifikanz (2-seitig)	0,351	0,833	0,228	0,418	0,014	0,067		0,001	0,803	0,096	0,548	0,536	0,858	0,888	0,964	0,489	0,008	0,076	0,783	0,993	0,973	0,249	0,048	0,901	0,514
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0008	Korrelation nach Pearson	-,318*	,405**	0,269	,345*	0,152	0,014	,460**	1	0,041	,313*	-,312*	0,060	0,280	-0,080	0,195	0,004	,291*	,415**	-0,006	0,147	0,150	0,011	0,170	0,277	-0,025
	Signifikanz (2-seitig)	0,035	0,005	0,104	0,019	0,313	0,924	0,001		0,786	0,034	0,035	0,690	0,051	0,599	0,488	0,978	0,050	0,004	0,525	0,339	0,321	0,946	0,266	0,063	0,874
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0009	Korrelation nach Pearson	-0,039	0,028	0,244	-0,027	0,278	0,117	0,038	-0,041	1	,428**	0,270	0,198	0,091	0,278	,345*	,380*	,325*	0,198	-,368*	0,091	0,236	-0,021	0,170	-0,103	-,347*
	Signifikanz (2-seitig)	0,801	0,856	0,102	0,859	0,061	0,438	0,803	0,786		0,003	0,070	0,188	0,548	0,062	0,019	0,009	0,026	0,187	0,015	0,555	0,114	0,888	0,263	0,464	0,021
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0010	Korrelation nach Pearson	-0,269	0,202	0,031	,337*	,359*	0,042	0,248	,313*	,428**	1	-0,093	0,142	0,190	0,178	0,146	-,328*	,385*	0,277	0,046	-0,078	0,095	-0,064	0,091	0,030	-0,183
	Signifikanz (2-seitig)	0,077	0,178	0,836	0,026	0,017	0,781	0,096	0,034	0,003		0,539	0,345	0,466	0,236	0,334	0,028	0,013	0,062	0,762	0,606	0,531	0,674	0,550	0,843	0,235
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0011	Korrelation nach Pearson	0,249	-0,207	0,158	-,302*	-0,244	,378*	-0,091	-,312*	0,270	-0,093	1	0,241	0,098	,394**	,445**	,380*	0,105	0,033	,426**	0,075	0,161	0,259	-0,039	0,076	-0,094
	Signifikanz (2-seitig)	0,104	0,167	0,150	0,042	0,154	0,010	0,548	0,035	0,070	0,539		0,107	0,703	0,007	0,002	0,030	0,486	0,827	0,003	0,622	0,290	0,090	0,798	0,614	0,545
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0012	Korrelation nach Pearson	-0,010	0,239	0,016	0,191	0,105	,315*	0,094	0,060	0,198	0,142	0,241	1	-,446**	0,254	0,133	,385*	0,052	,313*	-0,075	0,009	0,179	0,060	-0,013	-0,183	-0,239
	Signifikanz (2-seitig)	0,950	0,110	0,918	0,204	0,487	0,933	0,536	0,690	0,188	0,345	0,107		0,002	0,093	0,380	0,006	0,733	0,034	0,622	0,952	0,233	0,692	0,936	0,223	0,118
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0013	Korrelation nach Pearson	-0,124	,428**	-0,184	0,141	0,159	0,079	-0,027	0,269	0,091	0,190	0,098	,440**	1	0,207	,326*	0,146	-0,246	,393*	-0,073	0,010	0,202	0,004	0,103	0,158	0,001
	Signifikanz (2-seitig)	0,422	0,003	0,222	0,348	0,184	0,603	0,858	0,061	0,546	0,466	0,703	0,002		0,167	0,030	0,337	0,100	0,041	0,632	0,947	0,079	0,972	0,501	0,295	0,996
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0014	Korrelation nach Pearson	-0,101	0,024	0,050	0,127	,318*	0,139	0,021	-0,080	0,278	0,178	,394**	0,254	0,207	1	0,287	,408**	0,020	0,239	0,214	0,206	-0,010	-0,001	0,295	-0,181	-0,215
	Signifikanz (2-seitig)	0,513	0,874	0,744	0,401	0,031	0,357	0,888	0,599	0,062	0,236	0,007	0,089	0,167		0,054	0,005	0,896	0,109	0,162	0,074	0,945	0,995	0,198	0,238	0,161
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0015	Korrelation nach Pearson	0,141	0,223	0,076	-0,189	0,178	0,239	0,007	0,105	,345*	0,146	,445**	0,133	,320*	0,287	1	-0,076	0,058	,340*	,307*	0,109	,336*	0,173	-0,195	,374*	0,099
	Signifikanz (2-seitig)	0,361	0,137	0,614	0,209	0,238	0,110	0,964	0,488	0,019	0,334	0,002	0,380	0,030	0,054		0,615	0,698	0,021	0,012	0,471	0,023	0,251	0,211	0,010	0,525
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0016	Korrelation nach Pearson	-0,199	-0,199	0,191	0,152	0,148	0,057	0,107	0,004	,380*	,328*	,380*	,385*	0,145	,408**	-0,076	1	0,261	0,148	0,101	-0,041	0,099	0,164	0,176	-0,247	-,331*
	Signifikanz (2-seitig)	0,442	0,300	0,202	0,314	0,334	0,523	0,480	0,978	0,009	0,026	0,026	0,008	0,337	0,005	0,615		0,080	0,326	0,503	0,787	0,513	0,277	0,247	0,038	0,028
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0017	Korrelation nach Pearson	0,204	-0,005	0,050	0,127	0,030	0,019	,386*	,291*	,325*	,365*	0,105	0,052	-0,246	0,020	0,058	0,261	1	0,010	,388*	0,042	0,195	,334*	0,002	0,156	-0,170
	Signifikanz (2-seitig)	0,184	0,955	0,740	0,393	0,843	0,900	0,008	0,050	0,029	0,013	0,490	0,733	0,100	0,896	0,698	0,080		0,948	0,011	0,780	0,224	0,023	0,988	0,302	0,270
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0018	Korrelation nach Pearson	-,298*	,454**	,460**	0,164	0,235	,445**	0,284	,415**	0,198	0,277	0,033	,313*	,393*	0,239	,340*	0,148	0,010	1	0,127	0,177	,357*	0,005	0,281	0,046	0,059
	Signifikanz (2-seitig)	0,050	0,001	0,002	0,277	0,116	0,002	0,076	0,004	0,187	0,067	0,827	0,034	0,041	0,109	0,021	0,338	0,948		0,400	0,238	0,015	0,957	0,062	0,759	0,749
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0019	Korrelation nach Pearson	0,227	0,091	-0,001	-0,195	0,241	0,259	-0,042	-0,060	,358*	0,046	,426**	0,075	-0,073	0,214	,307*	0,101	,318*	0,127	1	0,095	,295*	,305*	-0,095	0,103	0,038
	Signifikanz (2-seitig)	0,138	0,548	0,996	0,219	0,108	0,082	0,783	0,525	0,015	0,762	0,003	0,622	0,632	0,162	0,042	0,512	0,031	0,400		0,531	0,048	0,037	0,788	0,497	0,804
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0020	Korrelation nach Pearson	0,207	-0,129	0,079	-0,121	,308*	0,241	-0,001	0,147	0,061	-0,078	0,075	0,089	0,090	-0,206	0,109	-0,041	0,042	0,177	0,095	1	0,211	-0,074	0,079	0,157	-0,105
	Signifikanz (2-seitig)	0,178	0,391	0,601	0,423	0,012	0,106	0,993	0,329	0,686	0,606	0,622	0,552	0,547	0,074	0,471	0,787	0,780	0,238	0,531		0,159	0,625	0,606	0,298	0,498
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0021	Korrelation nach Pearson	0,172	0,175	0,032	-0,022	-0,098	-0,024	0,094	0,150	0,236	0,095	0,161	0,179	0,282	-0,010	,336*	0,059	0,165	,357*	,295*	0,211	1	0,007	0,107	,374*	-0,020
	Signifikanz (2-seitig)	0,265	0,243	0,835	0,884	0,515	0,873	0,673	0,321	0,114	0,531	0,286	0,233	0,079	0,946	0,023	0,693	0,274	0,015	0,049	0,159		0,962	0,482	0,028	0,897
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0022	Korrelation nach Pearson	0,141	0,035	-0,023	-0,259	-0,139	,378*	0,173	0,061	-0,021	-0,064	0,259	0,060	0,064	-0,001	0,173	0,164	,334*	0,008	,305*	-0,074	0,007	1	-0,290	0,213	,329*
	Signifikanz (2-seitig)	0,362	0,819	0,880	0,084	0,357	0,010	0,249	0,690	0,888	0,674	0,090	0,692	0,672	0,995	0,251	0,277	0,023	0,957	0,037	0,625	0,962		0,054	0,155	0,034
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0023	Korrelation nach Pearson	-0,029	0,091	,479**	,472**	,518**	0,115	,298*	0,176	0,170	0,091	-0,039	-0,013	0,103	0,295	-0,155	0,176	0,002	0,281	-0,095	-0,079	0,107	-0,290	1	-0,031	-0,134
	Signifikanz (2-seitig)	0,852	0,739	0,001	0,001	0,000	0,451	0,048	0,246	0,263	0,550	0,798	0,935	0,501	0,150	0,311	0,247	0,988	0,062	0,788	0,605	0,482	0,054		0,842	0,391
	N	43	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	43
q0001_0024	Korrelation nach Pearson	0,272	0,154	-0,056	0,032	-0,157	0,035	0,138	0,277	-0,103	0,030	0,076	-0,183	0,158	-0,181	,374*	-0,247	0,150	0,046	0,103	0,157	,324*	0,213	0,031	1	0,237
	Signifikanz (2-seitig)	0,074	0,308	0,711	0,832	0,297	0,816	0,361	0,063	0,494	0,843	0,614	0,223	0,295	0,230	0,010	0,098	0,302	0,759	0,497	0,298	0,028	0,165	0,842		0,059
	N	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	45	46	44
q0001_0025	Korrelation nach Pearson	-0,004	0,018	0,053	0,086	0,011	0,177	0,101	0,025	-,347*	-0,183	-0,094	-0,239	0,001	-0,215	0,099	-,331*	0,170	0,050	0,035	0,105	-0,070	-,329*	0,134	0,237	1
	Signifikanz (2-seitig)	0,980	0,907	0,731	0,580	0,946	0,263	0,514	0,874	0,021	0,235	0,545	0,118	0,996	0,161	0,525	0,028	0,270	0,749	0,804	0,498	0,647	0,034	0,391	0,059	
	N	42	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	43	44	44

Appendix 4: Correlation matrix for items in question 6



Appendix 5: Correlation matrix for items in question 1 and question 6

		q0006_0001	q0006_0002	q0006_0003	q0006_0004	q0006_0005	q0006_0006	q0006_0007	q0006_0008	q0006_0009	q0006_0010	q0006_0011	q0006_0012	q0006_0013	q0006_0014	q0006_0015	q0006_0016	q0006_0017	q0006_0018	q0006_0019	q0006_0020	q0006_0021	q0006_0022	q0006_0023	q0006_0024	q0006_0025	q0006_0026	q0006_0027	q0006_0028	q0006_0029	q0006_0030
q0001_0001	Korrelation nach Pearson	0,114	-0,225	-0,241	-0,313	-0,073	-0,023	-0,236	-0,203	-0,102	-0,254	0,059	-0,157	-0,075	0,245	0,216	0,125	-0,249	0,056	-0,057	0,277	-0,181	0,064	,528*	0,019	,374*	-0,077	-0,045	-0,225	0,045	0,118
	Signifikanz (2-seitig)	0,504	0,187	0,157	0,059	0,673	0,894	0,166	0,243	0,549	0,135	0,731	0,352	0,662	0,144	0,200	0,473	0,144	0,572	0,743	0,101	0,290	0,706	0,001	0,913	0,024	0,651	0,794	0,186	0,784	0,500
	N	37	36	36	37	36	36	36	35	37	36	37	37	36	37	37	35	36	37	36	36	36	37	36	35	37	37	36	36	35	35
q0001_0002	Korrelation nach Pearson	0,010	0,043	0,111	-0,113	0,030	0,127	0,157	0,065	,351*	-0,123	0,075	0,127	,357*	-0,235	0,074	0,101	0,140	0,126	0,103	0,052	0,028	-0,258	-0,176	-0,197	-0,052	0,197	0,155	0,302	0,035	0,000
	Signifikanz (2-seitig)	0,925	0,801	0,511	0,501	0,860	0,454	0,355	0,609	0,016	0,468	0,656	0,446	0,025	0,166	0,657	0,348	0,408	0,444	0,543	0,586	0,868	0,070	0,296	0,250	0,623	0,235	0,359	0,069	0,839	1,000
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0003	Korrelation nach Pearson	,418*	0,089	-0,006	0,274	0,291	0,077	,391*	0,176	0,030	0,178	0,155	0,186	0,113	-0,185	0,108	0,025	0,101	0,012	0,107	,325*	0,015	-0,159	-0,143	0,141	0,105	0,136	0,207	,430**	0,021	0,100
	Signifikanz (2-seitig)	0,009	0,602	0,834	0,098	0,233	0,652	0,030	0,304	0,859	0,291	0,351	0,262	0,505	0,054	0,451	0,887	0,342	0,941	0,529	0,049	0,928	0,232	0,399	0,413	0,529	0,414	0,220	0,008	0,903	0,554
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0004	Korrelation nach Pearson	-0,043	,597**	,726**	0,221	0,117	0,318	0,102	-0,069	-0,089	-0,133	-0,116	,426**	,495**	0,282	-0,123	-0,039	0,241	-,335*	-0,196	0,077	-0,068	-0,061	-0,274	-0,240	0,253	-0,083	0,169	0,219	-,370*	-0,188
	Signifikanz (2-seitig)	0,799	0,000	0,000	0,182	0,489	0,055	0,548	0,595	0,593	0,432	0,488	0,008	0,005	0,089	0,482	0,821	0,150	0,040	0,492	0,649	0,744	0,717	0,101	0,159	0,126	0,619	0,317	0,193	0,026	0,269
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0005	Korrelation nach Pearson	-0,006	,425*	,512**	,452**	0,153	,379*	,350*	0,003	0,128	0,188	0,288	,461**	,347*	0,135	-0,128	-0,127	0,302	-0,279	-0,081	-0,025	0,110	-0,032	-,495**	0,003	-0,089	-0,184	0,235	,348*	-0,275	-0,222
	Signifikanz (2-seitig)	0,971	0,008	0,001	0,004	0,366	0,021	0,034	0,986	0,445	0,265	0,080	0,004	0,035	0,421	0,450	0,461	0,069	0,090	0,633	0,884	0,517	0,851	0,004	0,985	0,595	0,289	0,162	0,035	0,104	0,193
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0006	Korrelation nach Pearson	,495**	0,324	0,301	0,291	0,290	0,291	0,187	0,000	-0,280	-0,052	,439**	0,153	0,005	-,493**	,378*	0,140	0,135	0,235	0,095	0,081	0,252	0,150	-0,013	0,214	0,006	0,148	0,103	0,093	0,142	0,205
	Signifikanz (2-seitig)	0,001	0,050	0,341	0,114	0,213	0,189	0,268	0,971	0,089	0,758	0,006	0,358	0,974	0,002	0,019	0,415	0,427	0,155	0,731	0,635	0,079	0,237	0,940	0,209	0,969	0,377	0,534	0,586	0,407	0,231
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0007	Korrelation nach Pearson	0,235	0,147	0,169	,492**	0,033	0,218	,408*	0,254	0,079	0,284	,331*	,365*	0,280	-0,093	-0,023	0,198	0,169	0,046	0,157	,368*	,338*	0,101	0,133	0,270	0,015	-0,041	,325*	0,274	0,083	0,012
	Signifikanz (2-seitig)	0,160	0,386	0,388	0,002	0,844	0,196	0,004	0,189	0,639	0,088	0,043	0,024	0,093	0,578	0,892	0,247	0,320	0,789	0,352	0,029	0,041	0,548	0,432	0,196	0,927	0,805	0,047	0,101	0,630	0,948
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0008	Korrelation nach Pearson	0,009	0,101	0,244	0,140	0,075	,411*	0,278	,395*	0,058	0,124	0,002	0,152	,328*	-0,006	,391*	0,002	0,042	0,198	0,185	0,269	0,022	-0,176	-0,055	0,071	0,072	0,059	0,222	0,295	0,027	0,036
	Signifikanz (2-seitig)	0,955	0,440	0,146	0,402	0,661	0,012	0,096	0,029	0,727	0,464	0,990	0,361	0,047	0,974	0,025	0,992	0,807	0,312	0,272	0,120	0,895	0,293	0,745	0,683	0,666	0,723	0,186	0,113	0,877	0,834
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0009	Korrelation nach Pearson	0,254	0,135	-0,017	0,205	-0,011	0,227	,375*	0,174	,456**	,491**	,448**	,329*	0,220	0,198	0,280	0,006	,457**	0,073	0,314	0,212	0,089	0,220	0,099	0,175	0,114	0,217	0,024	,325*	-0,110	-0,203
	Signifikanz (2-seitig)	0,123	0,428	0,920	0,218	0,948	0,177	0,022	0,309	0,004	0,005	0,005	0,044	0,191	0,233	0,095	0,693	0,002	0,662	0,065	0,205	0,600	0,184	0,559	0,307	0,497	0,190	0,887	0,049	0,522	0,226
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0010	Korrelation nach Pearson	0,131	,531**	,472**	0,318	0,080	0,180	0,259	0,067	0,129	0,133	0,284	,369*	,445**	0,140	0,026	-0,134	0,256	-0,175	0,086	0,293	0,271	0,021	-0,221	-0,052	0,106	0,005	-0,009	0,217	-0,235	-0,106
	Signifikanz (2-seitig)	0,434	0,001	0,003	0,052	0,638	0,286	0,072	0,690	0,440	0,433	0,073	0,023	0,006	0,402	0,877	0,437	0,123	0,293	0,615	0,079	0,105	0,899	0,189	0,749	0,528	0,975	0,957	0,196	0,158	0,534
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0011	Korrelation nach Pearson	0,291	-0,230	-,327*	-0,041	0,137	0,090	0,085	0,190	0,033	0,143	0,309	-0,131	-0,218	-0,020	-,526**	0,329	0,186	,338*	0,313	0,073	0,141	,401*	0,310	0,232	0,121	0,177	-0,003	0,072	0,302	,395*
	Signifikanz (2-seitig)	0,076	0,169	0,048	0,805	0,420	0,573	0,616	0,524	0,845	0,400	0,059	0,434	0,074	0,905	0,000	0,050	0,271	0,042	0,059	0,670	0,406	0,013	0,062	0,174	0,468	0,288	0,712	0,672	0,074	0,033
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0012	Korrelation nach Pearson	0,005	0,288	0,178	0,054	0,045	0,311	0,100	0,000	0,003	0,202	0,145	,334*	0,125	0,180	,495**	,507**	,439**	0,188	0,224	0,171	0,013	0,106	-0,046	-0,029	0,014	0,154	0,109	0,153	-0,128	-0,031
	Signifikanz (2-seitig)	0,884	0,083	0,292	0,747	0,791	0,061	0,327	0,997	0,986	0,230	0,384	0,040	0,460	0,279	0,002	0,002	0,007	0,479	0,182	0,310	0,940	0,518	0,788	0,868	0,933	0,365	0,511	0,366	0,458	0,858
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0013	Korrelation nach Pearson	-0,017	-0,146	0,023	0,063	0,101	0,233	0,186	0,204	0,036	0,222	0,283	0,059	0,095	0,258	0,237	,488**	,448**	,346*	0,261	0,276	-0,056	0,259	0,195	-0,156	0,058	0,222	0,110	,345*	0,018	0,100
	Signifikanz (2-seitig)	0,920	0,389	0,892	0,707	0,549	0,165	0,271	0,233	0,832	0,188	0,111	0,724	0,746	0,069	0,070	0,003	0,010	0,033	0,119	0,098	0,674	0,069	0,247	0,365	0,600	0,181	0,518	0,034	0,915	0,552
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0014	Korrelation nach Pearson	0,082	0,084	0,089	0,017	-0,179	0,229	0,213	0,137	,341*	0,229	0,303	0,224	-0,047	-,468**	0,223	0,025	,356*	0,027	,328*	0,091	0,052	,381*	0,093	,374*	0,051	0,071	-0,021	0,095	0,107	0,281
	Signifikanz (2-seitig)	0,623	0,623	0,599	0,919	0,289	0,173	0,206	0,420	0,038	0,191	0,065	0,177	0,781	0,003	0,178	0,885	0,031	0,874	0,049	0,591	0,760	0,018	0,584	0,025	0,631	0,671	0,902	0,574	0,534	0,097
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0015	Korrelation nach Pearson	,334*	-0,305	-0,322	-0,037	-0,046	0,056	0,209	0,218	0,117	0,131	,329*	-0,017	-0,238	0,022	,338*	0,227	0,198	,531**	,369*	0,134	0,153	,347*	,560**	,337*	0,232	,408**	0,089	0,212	,377*	0,211
	Signifikanz (2-seitig)	0,041	0,330	0,052	0,824	0,786	0,747	0,207	0,202	0,486	0,441	0,022	0,921	0,166	0,896	0,038	0,182	0,240	0,001	0,026	0,429	0,367	0,033	0,000	0,045	0,076	0,003	0,612	0,206	0,023	0,216
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0016	Korrelation nach Pearson	0,077	0,220	0,154	0,269	0,071	0,000	,378*	0,136	,494**	,078*	,344*	,346*	0,280	,418**	0,317	0,274	,457**	0,057	,346*	0,022	0,056	,485**	0,149	0,090	0,015	0,014	0,078	0,281	-0,006	0,135
	Signifikanz (2-seitig)	0,646	0,191	0,364	0,207	0,674	0,997	0,024	0,429	0,002	0,000	0,034	0,033	0,093	0,009	0,052	0,105	0,004	0,604	0,034	0,895	0,743	0,002	0,378	0,600	0,931	0,704	0,646	0,092	0,595	0,431
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0017	Korrelation nach Pearson	-0,072	0,222	0,186	0,193	-0,312	0,314	0,257	0,068	0,141	0,110	0,232	,366*	,365*	0,126	-0,036	0,003	-0,001	0,024	0,256	,534**	,437**	0,019	0,029	0,050	0,148	0,049	0,283	0,169	0,175	0,193
	Signifikanz (2-seitig)	0,667	0,188	0,270	0,475	0,060	0,058	0,125	0,704	0,400	0,516	0,161	0,024	0,031	0,452	0,832	0,984	0,996	0,887	0,073	0,001	0,007	0,910	0,863	0,774	0,374	0,770	0,116	0,519	0,305	0,491
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0018	Korrelation nach Pearson	,363*	0,073	0,045	0,259	0,148	0,242	,435**	0,223	-0,041	0,166	,386*	,328*	0,083	-0,231	0,183	0,180	,540**	,488**	0,235	-0,175	0,044	0,000	0,101	0,179	0,189	0,257	,417**	0,269	0,132	0,236
	Signifikanz (2-seitig)	0,025	0,667	0,793	0,117	0,381	0,297	0,007	0,192	0,807	0,330	0,017	0,045	0,625	0,163	0,271	0,293	0,001	0,002	0,162	0,300	0,795	1,000	0,552	0,297	0,255	0,119	0,010	0,105	0,442	0,160
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0019	Korrelation nach Pearson	0,047	-0,120	-0,195	-0,177	-,373*	0,019	0,286	0,121	0,255	0,123	,495**	0,036	0,075	-0,063	0,258	-0,089	0,300	0,259	,676**	0,215	0,312	,395*	,456**	,482**	0,245	,328*	0,211	-0,195	,357*	,465**
	Signifikanz (2-seitig)	0,778	0,478	0,246	0,288	0,023	0,912	0,086	0,481	0,122	0,459	0,009	0,831	0,657	0,622	0,060	0,607	0,065	0,117	0,000	0,202	0,060	0,013	0,005	0,003	0,138	0,049	0,210	0,269	0,028	0,004
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0020	Korrelation nach Pearson	0,309	0,040	-0,046	-0,023	0,217	0,159	-0,033	0,291	0,055	0,024	-0,079	0,021	0,099	-0,153	-0,005	-0,034	0,045	,408*	-0,114	0,102	-0,122	0,056	,326*	0,073	0,039	0,028	-0,151	-0,159	0,121	0,193
	Signifikanz (2-seitig)	0,059	0,816	0,786	0,889	0,196	0,346	0,848	0,139	0,744	0,888	0,636	0,901	0,727	0,360	0,760	0,844	0,779	0,011	0,500	0,339	0,472	0,566	0,049	0,673	0,814	0,867	0,372	0,374	0,482	0,259
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0021	Korrelation nach Pearson	0,295	-0,095	0,064	0,104	0,084	0,175	,408*	0,270	0,001	0,057	0,184	0,233	0,030	0,165	0,216	0,308	,473**	,371*	,348*	0,105	0,178	0,037	0,305	0,167	0,253	0,315	,336*	0,311	0,054	0,120
	Signifikanz (2-seitig)	0,196	0,582	0,708	0,533	0,620	0,301	0,014	0,111	0,993	0,736	0,268	0,159	0,858	0,353	0,194	0,053	0,003	0,022	0,035	0,529	0,293	0,828	0,067	0,329	0,126	0,054	0,042	0,061	0,758	0,485
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0022	Korrelation nach Pearson	0,117	-0,024	-0,148	0,117	-0,305	0,292	0,121	0,127	-0,185	-0,043	,344*	-0,155	-0,168	-,328*	0,157	0,230	-0,280	0,119	0,203	0,276	,395*	0,284	0,196	0,223	-0,209	-0,046	0,128	-0,123	0,325	,374*
	Signifikanz (2-seitig)	0,486	0,887	0,387	0,486	0,066	0,079	0,475	0,460	0,267	0,802	0,035	0,352	0,319	0,044	0,236	0,178	0,094	0,478	0,228	0,098	0,015	0,084	0,245	0,192	0,207	0,783	0,450	0,469	0,053	0,026
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0023	Korrelation nach Pearson	0,287	0,054	0,258	,410*	0,227	0,088	,435*	-0,139	0,025	0,119	0,228	0,302	0,327	0,163	0,009	0,095	0,254	-0,145	-0,013	-0,110	0,017	-0,229	-0,070	0,023	0,248	0,038	0,159	,526**	-0,134	-0,140
	Signifikanz (2-seitig)	0,111	0,755	0,126	0,012	0,183	0,917	0,007	0,427	0,885	0,480	0,178	0,069	0,051	0,335	0,956	0,580	0,135	0,391	0,942	0,522	0,923	0,173	0,684	0,894	0,139	0,822	0,344	0,001	0,444	0,423
	N	37	36	36	37	36	36	36	35	37	36	37	37	36	37	37	35	36	37	36	36	36	37	36	35	37	37	36	36	35	35
q0001_0024	Korrelation nach Pearson	0,137	-0,043	0,002	0,081	0,095	0,042	-0,042	0,177	-0,202	-0,284	0,155	-0,230	0,022	-0,033	0,044	0,241	-0,118	0,223	-0,039	0,297	0,123	0,078	,396*	0,238	,351*	0,124	0,135	0,040	,433**	,331*
	Signifikanz (2-seitig)	0,413	0,800	0,990	0,627	0,574	0,807	0,805	0,303	0,224	0,114	0,354	0,165	0,895	0,846	0,791	0,155	0,486	0,178	0,819	0,074	0,469	0,642	0,015	0,156	0,031	0,457	0,425	0,814	0,008	0,049
	N	38	37	37	38	37	37	37	36	38	37	38	38	37	38	38	36	37	38	37	37	37	38	37	36	38	38	37	37	36	36
q0001_0025	Korrelation nach Pearson	0,005	0,013	-0,123	0,060	0,150	0,157	-0,048	0,218	0,005	-0,132	0,095	-0,150	-0,060	,374*	0,150	-0,014	-0,135	0,109	0,050	0,046	,368*	-0,033	0,119	0,058	0,232	0,200	,412**	0,147	,356*	,353*
	Signifikanz (2-seitig)	0,575	0,942	0,473	0,640	0,384	0,359	0,779	0,208	0,977	0,442	0,577	0,376	0,617	0,023	0,246	0,936	0,433	0,388	0,745	0,790	0,827	0,848	0,489	0,617	0,079	0,236	0,005	0,394	0,022	0,037
	N	37	36	36	37	36	36	36	35	37	36	37	37	36	37	37	35	36	37	36	36	36	37	36	35	37	37	36	36	35	35

Declaration in lieu of oath

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Frankfurt, 30.06.2020