

# **MOTIVES AND NON-ECONOMIC REASONS FOR BANK MERGERS AND ACQUISITIONS**

**by**

**Carsten Lausberg\* and Teresa Stahl\*\***

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\* Corresponding author: Dr Carsten Lausberg, M.S., Hochschule für Wirtschaft und Umwelt  
Nürtingen-Geislingen / Nuertingen-Geislingen University, Germany; [carsten.lausberg@gmx.de](mailto:carsten.lausberg@gmx.de).

\*\* Dipl.-Psych. Teresa Stahl, Freising, Germany.

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# MOTIVES AND NON-ECONOMIC REASONS FOR BANK MERGERS AND ACQUISITIONS

**Abstract:** The aim of our research was to identify non-economic reasons for bank mergers and substantiate their influence compared to economic reasons. We expand the current economic literature, which acknowledges the existence of personal motives and managerial self-interest, but mostly fails to proof their importance, by applying methods from psychological research. Personality inventories, interviews, and scenarios are used to investigate the relationship between selected motives (power, achievement, sensation seeking, and prestige) and decision-making behavior for 20 German bank managers and 40 subjects of a control group. A multiple regression analysis demonstrates the predictability of behavior according to the prominence of the four motives. Furthermore, the results support the conclusion that managers tend to accept great economic disadvantages in following their own motives.

## 1 Introduction

Mergers and acquisitions are a popular research topic, and after decades of intensive research it is safe to say that probably most of the reasons for bank mergers and acquisitions are *known*. However, we challenge the assumption that the reasons for bank mergers and acquisitions are fully *understood*. For a better understanding it is necessary to study the motives of the decision-makers because they are the driving force behind their behavior—and the motives have rarely been explored.

The bulk of the literature on M & A deals with macro- and microeconomic reasons, such as deregulation and economies of scale.<sup>1</sup> In recent years, however, the research focus has shifted to the expectations, characteristics, and behavior patterns of owners, managers, and other people involved in the decision-making process. Apart from early works, for instance by Levinson (1970) and Jervis (1971), this field started to develop in the 1990s in line with the growing interest in new institutional economics and interdisciplinary approaches like behavioral finance. It helped the new research stream that the economics of mergers did not look very favorable and thus could not fully explain the merger wave that took place in many industries around the world in the 1980s and 90s.<sup>2</sup>

One way to explain the importance of non-economic reasons (in the following also referred to as personal reasons<sup>3</sup>) is that managers act as agents for the company or the owners, but also pursue their own interests, especially if there is a lack of control. And that is usually the case in the early phase of a merger, from the point when the managers select an acquisition target until the owners and stakeholders get involved in the process.

It could be shown that managers' salaries—a rather obvious form of managerial self-interest—have a significant influence on merger decisions (Hubbard and Palia, 1995; Bliss and Rosen, 2001). Further connections between mergers and

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<sup>1</sup> Collections of mostly economic reasons for bank mergers and acquisitions are provided, for example, by Hawawini and Swary (1990), Lausberg and Rose (1995), Berger, Demsetz and Strahan (1999), Dermine (1999), and Beitel and Schiereck (2001).

<sup>2</sup> For a review of the literature on the success of bank mergers see Berger, Demsetz and Strahan (1999).

<sup>3</sup> At this point, please note that personal reasons can be economic as well, e.g., the prospect of a salary increase *from a manager's perspective*. The definition used here however, considers economic reasons only as those *from the perspective of the company*.

personal reasons were found by Amihud and Lev (1981), Morck, Shleifer and Vishny (1990), and Jensen and Murphy (1990)—however, without an exploration of the underlying motives. An exception is Roll (1986) with his Hubris Hypothesis, according to which excessive pride and optimism leads managers to overestimate the advantages of a merger and so to make decisions that objectively damage the company. New impulses stem from the behavioral finance field, where some researchers combine economic and psychological methods (see, for instance, the study of Malmendier and Tate (2005) on the influence of CEO overconfidence on investment decisions).

For bank mergers, a systematic analysis of personal motives and their influence is still lacking. Our study can contribute to close this gap. We investigated the influence of four selected motives (power, achievement, prestige, and sensation seeking) on merger decisions. In part two, we present the theoretical management and psychological principles from which the hypotheses for the empirical investigation are derived. Part three focuses on the methods of our empirical survey. The fourth part describes the methods of evaluation, the results, and their interpretation. Parts five and six contain a concluding discussion and a perspective for further research.

## **2 Definitions and Theoretical Principles**

### **2.1 Object of Economic Investigation**

Because of the sample size we do without the usual, but mostly legal differentiation between acquisitions and mergers and use the terms synonymously in the following. However, we have limited the study to voluntary mergers in order to exclude dominant external influences (e.g., by the banking supervisors). Further, the terms financial institution and bank are used synonymously, since all of the institutions observed here are universal banks<sup>4</sup> based in Germany—for reasons of homogeneity this includes both the overtaking and the overtaken institution.

The decision-making process in a merger is subject to the influence of individual and group-related factors on the one hand and organizational factors on the other. Since we were most interested in the individual factors, we only looked at one

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<sup>4</sup> This type of bank is prevalent in Europe. Universal banks have a license for both investment banking and commercial banking and also for other financial services.

rather homogeneous group, the bank managers, although they are not the only people involved in a merger. In most mergers, there is an inner circle of decision-makers, which consists of the Executive Committee and the Supervisory Board, and an outer circle of various stakeholders, such as the employees' representatives.

## **2.2 Object of Psychological Investigation**

According to a textbook definition (Weiner, 2000) there is no single agreed-upon definition for *motivation*, “but most agree that an analysis of motivation involves the creation of principles to explain why people and animals initiate, choose, or persist in specific actions in specific circumstances. Motivational formulations thus include statements about the needs and goals of the person as well as the incentives in the environment.” *Motives*, in contrast, are relative stable value tendencies that determine how an individual reacts to particular characteristics of a situation. Because individuals differ in the nature of their motives, it is possible to draw conclusions about motives from observed behavior and vice versa from motives to typical behavior.

This has important implications for the analysis of the relationship between motives and *decisions*, which is the central focus of our research. It has been observed by both cognitive and motivation psychology, for example by Heckhausen (1989). Sloman (1987) demonstrated how motives make rational decision-making processes susceptible to emotions and errors. Motives function as a filter and facilitate the rapid perception and processing of information. They are therefore not only to be regarded as weaknesses or deficiencies but as indispensable prerequisites to every decision. Like Heckhausen, Sloman also identifies criteria for the judgment of motives, for instance the urgency and the intensity with which the goal is pursued in spite of obstacles and opposition. This has influenced the development of methods for measurement, which will be investigated later.

## **2.3 Selection of Motives**

There are innumerable motivation theories and suggestions for the categorization of motives (for an overview see, for example, Porter, Bigley and Steers, 2003). For our purposes, it is sufficient to have a reference framework through which we can show which motives will be further investigated and which will be excluded. Maslow's (1943) hierarchical classification of motives, which has found

widespread acceptance in and beyond the field of psychology, is suited to this purpose. The levels of his needs pyramid are: physiological needs, safety needs, love and belonging, self-esteem, self-actualization.

The first and the third level are unlikely to play a role since it is not apparent how these needs could be fulfilled through a merger. It is possible to establish a relationship at the second level, however, securing one's professional existence and similar motives are more likely to be responsible for resistance to bank mergers, which is not the object of our study. Motives from the fifth category are also unlikely to have a direct relationship to the decision to merge because—according to Maslow—the need for self-realization involves a moral demand that goes far beyond professional success.

We are therefore concerned exclusively with the fourth level, the pursuit of performance, success, and recognition in professional and social life. From the multitude of possible motives we have selected the motives of power, achievement, prestige, and sensation seeking according to the following criteria:

- Scientific acceptance, i.e., the literature should support an existing relationship since the aim of the research is not basis research but rather the establishment of empirical evidence
- Acceptance in practice, i.e., the relation of the motive to bank mergers should be recognizable and plausible to allow concentration of the resources (chiefly, the time available with the interview partner) on the motives assumed to be of greatest importance
- Measurability of the influence, i.e., a valid, reliable, and objective method of measurement must be available

### **Power Motive**

The motive of power is the need to be able to exert influence over others. A person with a strongly developed power motive strives to experience the opportunity to exert control over others or to experience control itself and aims at increasing their source of power (see Schmalt, 1987).

A merger unquestionably presents such a possibility since it presents, for instance, the possibility of increasing both the number of subordinates and the number of opportunities to exert influence. Our hypothesis is therefore that a person with a

strong power motive regards a possible merger from the perspective of a potential increase in power and would therefore tend to decide in favor of the merger.

### **Achievement Motive**

The achievement motive is effective in all areas in which something can be judged successful or unsuccessful. The critical target condition against which behavior and experience is measured, is success or failure. The hope for success and the fear of failure are therefore the basic dimensions of achievement motivated behavior (Elliot and Church, 1997; Prochaska, 1998).

Persons with a highly developed achievement motive seek challenges through tasks that are estimated to be difficult but manageable. Takeovers are prototypical for such a challenge because they are known to be highly complex and because the managers of successful mergers are usually celebrated. We therefore assume that a person with a strong achievement motive will principally regard the challenge of a risky merger positively.

### **Sensation Seeking**

Sensation seeking is understood as the search for new, complex, and intensive perceptions, impressions, and experiences and the willingness to take physical, social, legal, and financial risks for the sake of these experiences (Zuckerman, 1994). This construct is composed of four components, of which only two seem appropriate for our study:

- Experience Seeking (ES) = desire for new experiences through travel, the enjoyment of art, interesting people, career change etc.
- Boredom Susceptibility (BS) = tendency to avoid monotonous, repetitive events and tasks as well as boring people

As a complex process in which many consequences are not foreseeable during the decision-making phase, a merger includes a multitude of risks. There is great danger that later the merger will be regarded as a failure which invariably results in a loss of reputation for the decision-makers. We assume therefore, that persons

with a very pronounced sensation-seeking motive show greater willingness to decide in favor of risky mergers.<sup>5</sup>

### **Prestige Motive**

Prestige is understood as recognition and esteem for a person, a group or a position by society. It strengthens self-esteem and satisfies the central human need for recognition (Goldschmidt, 1990). Prestige is characterized by a subjective component—evaluation according to the scale of values of the members of society—and an objective component—the importance that a person derives from this for himself/herself or others.

In the social sciences, the prestige motive has mainly been examined by sociologists who, for instance, have quantified the prestige value of various professions (see Wegener, 1992). Our work has a different focus: esteem for individuals—within companies and specialist circles—and the self-evaluation that results from this. In fact it is assumed that the social prestige value of a chairperson of the Executive Committee is, as a rule, only marginally improved by the increase in size resulting from a merger. Prestige is in this sense the quality attributed to a person by others based on his/her characteristics, actions, and abilities. Our assumption is that a decision-maker with a pronounced drive for prestige is generally in favor of a potential merger due to the perspective of an increase in prestige.

## **2.4 Hypotheses**

We have investigated two hypotheses and a third, subsidiary hypothesis:

- I. The four motives power, achievement, sensation-seeking, and prestige have an influence on merger decisions in the banking sector.
- II. The influence of the motives is stronger than the influence of economic disadvantages that may be incurred by the company as a result of the decision to merge.
- III. The four motives are activated more intensely in persons who have personally experienced a merger than in persons without this experience.

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<sup>5</sup> This thesis is also supported by Harlow and Brown (1990), who identified a positive correlation between the presence of the motive and tolerance towards risks associated with financial investments. For the topic of managerial risk taking see also March and Shapira (1987).

To test the hypotheses, we selected two samples and applied the methods of questioning, personality inventories, and scenarios.

### 3 Survey

#### 3.1 Sample

The sample of **decision-makers** was made up of 20 Executive Committee members or chairpersons from 15 German Banks. 61 members or chairpersons from 45 credit institutions were written to, which represents a response rate of 33%. The selection was made according to pragmatic principles from a database of German bank mergers from the last four years: the authors selected all the banks to which they had, or could establish personal or business contact. Given the difficulty of reaching the target group for an extensive personal interview, a purely random selection promised little success.

The survey started with a structured interview with the decision-makers, followed by the merger scenarios. Finally the personality inventories were processed.

The **control group** was recruited from advanced students of business administration at Hohenheim University. All subjects majored in banking because here it could be assumed that the specialized knowledge required for participation in the merger scenarios was present. During a lecture 42 students completed the personality inventory and the merger scenarios. This produced 40 complete data sets for analysis. As with the sample of decision-makers, the merger scenarios were conducted in varying order to avoid a sequential effect.

#### 3.2 Methods

##### 3.2.1 Structured Interview

The structured interview was intended to produce data for two purposes: firstly for the evaluation of the personality inventory and the establishment of relationships to decision-making behavior, and secondly for information about the interview partner in respect to their position, their professional experience and their attitude to the subject of bank mergers. The interview guidelines were made up of four parts:

- Participating companies, e.g., financial and income situation, merger experience

- Pre-merger process, e.g., initiator of the merger, recognizable resistance
- Personal evaluation of the merger, e.g., experienced obstacles, assumed motives
- Personal data, e.g., age, education

### **3.2.2 Personality Inventory**

Countless tests have been developed for measurement of motive characteristics in research and practice. A comparative presentation can be dispensed with here since many inventories could have served our purposes, and we had to modify the existing scales in any case so that it was necessary to ascertain the validity and reliability anew.

#### **Power Motive**

The motivation questionnaire “OSM Obermann Consulting Motivationsfragebogen” (hereafter: OSM) was developed by a personnel consulting company in 1999 especially for use in commerce and administration. All questions of the 15 subscales are concerned with professional life and do not consider the personal sphere. The OSM divides the construct of “work motivation” into 15 different dimensions. One of these motives is the power motive which is one of 10 items investigated.

#### **Achievement Motive**

The achievement motivation inventory “Leistungsmotivationsinventar (LMI)” (hereafter: LMI) was developed by Schuler und Prochaska (2001) and integrates the most important dimensions that are addressed in the various achievement motivation theories. The test differentiates between 17 dimensions such as persistence, readiness to learn, and competitive orientation and includes 11 items in our shortened version.

#### **Sensation Seeking Motive**

Research on Sensation Seeking mostly uses Zuckerman’s (1994) Sensation Seeking Scale V (SSS-V). However we decided to use the Arnett Inventory of Sensation Seeking (AISS) developed by Arnett (1994), among other reasons, because in the SSS-V many items are related to extreme sporting activities where age differences between the samples may have exerted an undesired influence. The AISS

is made up of the subscales Novelty Seeking and Intensity Seeking, each of which has ten items, which we reduced to seven.

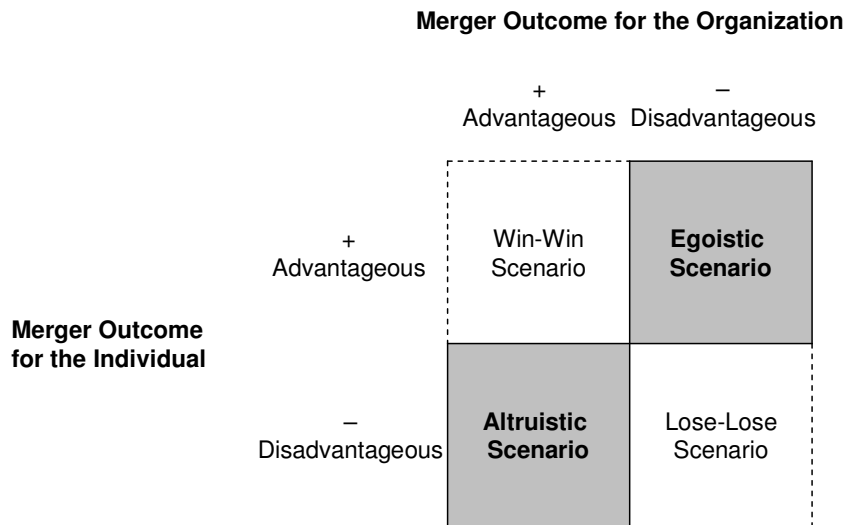
### **Prestige Motive**

Due to the lack of an adequate instrument for measurement of the prestige motive, we constructed a scale ourselves. The primary focus is on the need for appreciation of one's own performance through an expert third person. The inventory has 6 items.

### **3.2.3 Merger Scenarios**

#### **Construction**

The differentiation of economic and personal consequences of a merger into advantageous and disadvantageous results in a matrix with four fields, which we have labeled "Win-Win Scenario", "Altruistic Scenario", "Egoistic Scenario" und "Lose-Lose Scenario" (see Figure 1).



*Figure 1: Matrix of merger scenarios*

The altruistic and the egoistic scenarios are of particular interest for the research goals because in the other scenarios a high degree of consistency can be expected, independent of motives. Therefore, we have not further pursued the win-win and the lose-lose scenarios. Instead we have further divided the other two in order to produce a data pool with strong variations for statistical analysis, in spite of the dichotomous alternative answers.

We wrote a fictive case study for the scenarios and varied it according to the diverse advantages and disadvantages for the decision-maker and for the bank. Every interview partner processed all four scenarios and answered unequivocally with “yes” or “no” whether he would decide in favor of a merger in each situation. In addition, he had to indicate the sureness of his decision on a six-leveled scale (from “very sure” to “very unsure”).

### **Starting Position**

The barely two page long text was divided into a uniform starting position and the actual scenario (see next section). The interview partner must imagine himself in the position of the CEO of the described, fictive bank. For this they were provided with information about the size of the bank, the economic situation, the areas of responsibility, and the company culture, plus a description of their main personal interests. In short, the business position is satisfactory, although similar institutions have developed more positively, so that there are valid economic reasons but no necessity for a merger.

### **Operationalization of Motives**

Table 1 lists some of the personal and economic advantages and disadvantages of a merger that were used as dependent variables for the case study.

<b>Personality Factors</b>	<b>Advantages</b>	<b>Disadvantages</b>
<ul style="list-style-type: none"> <li>▪ Power</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased internal power</li> <li>▪ Retention of autonomy through a voluntary merger</li> </ul>	<ul style="list-style-type: none"> <li>▪ Loss of previous position</li> <li>▪ Reduction of the area of responsibility</li> </ul>
<ul style="list-style-type: none"> <li>▪ Achievement</li> </ul>	<ul style="list-style-type: none"> <li>▪ Challenge through new tasks</li> <li>▪ Opportunity to redesign personal field of activity</li> </ul>	<ul style="list-style-type: none"> <li>▪ Removal of the possibility of working independently</li> </ul>
<ul style="list-style-type: none"> <li>▪ Prestige</li> </ul>	<ul style="list-style-type: none"> <li>▪ Improved reputation in the industry</li> <li>▪ Contact to larger customers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Loss of reputation and image through reduction of area of responsibility</li> </ul>
<ul style="list-style-type: none"> <li>▪ Sensation Seeking</li> </ul>	<ul style="list-style-type: none"> <li>▪ Involvement in new merger induced tasks</li> <li>▪ Risk (“no risk, no fun”)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Retention of previous tasks</li> <li>▪ Retention of previous staff and colleagues</li> </ul>
<b>Economic Factors</b>	<b>Advantages</b>	<b>Disadvantages</b>
	<ul style="list-style-type: none"> <li>▪ Increase in market power</li> <li>▪ Synergy effects</li> <li>▪ Diversification</li> <li>▪ New business opportunities</li> </ul>	<ul style="list-style-type: none"> <li>▪ Loss of synergy effects</li> <li>▪ High integration efforts</li> <li>▪ Loss of image and trust with clients</li> </ul>

*Table 1: Some potential personal and economic advantages and disadvantages in mergers*

The variables were not varied one by one but so combined that the scenarios *in total* accorded a positive or negative tendency. For example, in the altruistic scenario no. 1 the CEO must give up his personally preferred department but keeps his representative post on a political board. In the altruistic scenario no. 2 he retains his preferred department but must accept an increase in size of the Executive Committee and hence a relative loss of power. In this way the number of scenarios could be constrained to four without damaging the aims of the research because the discriminatory power of the scenarios does not lie in the extremes but rather in the gray areas.

## **4 Analysis and Results**

### **4.1 Description of Samples**

The sample of decision-makers can be briefly described as follows: the sample was composed of members and chairpersons of Executive Committees mainly from middle sized (35%) and smaller banks (45%). In 85% of the cases, the decision-makers were questioned about a completed merger, in 15% of the cases about a failed merger. 60% of the interview partners have a qualification in business administration, followed by lawyers (15%) and economists (10%). The sample was male and mixed in terms of age.

The control group was made up of students of whom 78% were male and of whom 75% fell into the 20-25 year age group.

### **4.2 Item Analysis**

In the item analysis, the psychometric item characteristics were identified as specific values; the items of the personality inventory were evaluated according to the criteria of discriminatory power and homogeneity/internal consistency (see Fisseni 1997, p. 40f.), and unusable items were excluded.

#### **Discriminatory Power**

The discriminatory power index is defined as the correlation of an item with the total result. Generally a high differentiation index (larger than 0.5) is desired; items with a value close to zero should be excluded from the test. Appendix 1 shows the differentiation for each motive. To calculate the differentiation both samples were combined, and the average was calculated using the usual method, Fisher's Z. Four

items with a differentiation index of less than 0.25 were removed from their respective scales. A new differentiation analysis was then carried out with the corrected scales.

**Homogeneity** (of items in a scale) **and Internal Consistence** (of a scale)

These concepts aim to ensure the reliability of the scales, this includes items that display a high correlation. Items with perfect correlation are redundant and should be discarded along with weakly correlated items. The internal consistency of the personality inventories can be described as satisfactory throughout (see Appendix 2; due to the close relationship of the two measurements, we only show Cronbach's Alpha Coefficient here). The relatively low value for the achievement motive is presumably a result of the fact that the LMI had by far the greatest number of items and was cut back the most. Nevertheless the internal consistency of our scales seems high enough for our purposes.

### **4.3 Statistical Values**

#### **4.3.1 Personality Inventory**

The statistical values for the decision-makers look very similar for all the motives but the achievement motive, which has the highest mean value and the lowest standard deviation (see Appendix 3). To explore the statistical significance of the observed differences in mean values, paired t-Tests were conducted. Significant differences ( $\alpha < 0,05$ ) were found in only three of the six motive pairs—notably these are all combinations with the achievement motive. In the student sample the mean values of the individual motives also lie close together (see Appendix 4: Statistical values of the personality inventory (control group)

). The span of the scale is well used; especially for the motives power and prestige. The t-Tests produced significant differences in five of the six motive pairs. Only the motive pair power-prestige showed no significant difference. Therefore it can be stated that, statistically speaking, the motives of the student sample vary significantly.

In comparing the characteristic of motives of the decision-makers and students, it is conspicuous that the mean value for the decision-makers, with exception of the sensation-seeking motive, is on average a little higher, while the standard deviations are fundamentally lower. Admittedly, these differences are mostly not

significant since according to the paired t-Tests only the power motive demonstrates a weak significance ( $\alpha = 0,117$ ). For the further analysis, it can therefore be established that the existing relationship between decision-making behavior and motive characteristics can only to very small degree be traced back to differences between the motives of the decision-makers and the students.

#### 4.3.2 Decision-making Behavior

Table 2 shows the frequency of decisions in favor of and against mergers.

Decision-makers	n	Frequency		Percent	
		yes	no	yes	no
Egoistic Scenario I	20	17	3	85.0	15.0
Egoistic Scenario II	20	17	3	85.0	15.0
Altruistic Scenario I	20	12	8	60.0	40.0
Altruistic Scenario II	20	12	8	60.0	40.0
<b>Total</b>	<b>80</b>	<b>58</b>	<b>22</b>	<b>72.5</b>	<b>27.5</b>
Control group	n	Frequency		Percent	
		yes	no	yes	no
Egoistic Scenario I	40	10	30	25.0	75.0
Egoistic Scenario II	40	9	31	22.5	77.5
Altruistic Scenario I	40	36	4	90.0	10.0
Altruistic Scenario II	40	36	4	90.0	10.0
<b>Total</b>	<b>160</b>	<b>91</b>	<b>69</b>	<b>56.9</b>	<b>43.1</b>

Table 2: Frequency of the approval and disapproval of merger

It is conspicuous that the bank managers more often supported than rejected the fictive merger and that the agreement was greater in the scenarios with personal advantages than in those with economic advantages.<sup>6</sup> The students on the other hand more often rejected than supported a merger in the scenarios with personal advantages; in the scenarios with economic advantages they were clearly in favor of the merger. This indicates contrasting behavior between the two groups.

#### 4.4 Model

A regression model was employed to investigate the relationship between decision-making behavior and motive occurrence, and to determine to what extent decisions can be predicted through the presence of a particular motive. For this purpose we have used a multiple regression equation of the general form

$$y = b_1 * x_1 + b_2 * x_2 + \dots + b_k * x_k$$

<sup>6</sup> Scenarios I und II have the same or almost the same frequency in both groups. This is a matter of chance since the variation in individual responses disappears here, in the combined frequency.

where the dependent variable  $y$  represents the decision-making behavior in the respective scenario groups “altruistic” or “egoistic”. This variable is a combination of the decision and the confidence with which it is made; from this basis an index was developed for each of the scenario groups. The predictor variables  $x_1$  to  $x_k$  represent the mean value of the motives and the variable “age”, which was adopted as a control variable in order to be able to identify any possible effect of the large age difference between the two samples. The coefficients  $b_1$  to  $b_k$  represent the weight of the predictor variables.

#### **4.4.1 The Dependent Variable**

The *individual advantage index* is the index for the group of *egoistic* scenarios. It determines the degree of economic risk that will be accepted in order to realize the personal benefits of the merger. For the calculation, the decision (“yes” or “no”) was weighted with the confidence of the assertion. The resulting value for both scenarios in the egoistic category were averaged and transformed to a range of values between 0 and 1. This results in an individual advantage index for each test person.

The *corporate advantage index* is the index for the group of *altruistic* scenarios. This identifies the degree of personal disadvantage that will be accepted in order to realize the economic benefits for the company. The calculation is analogous to that of the individual advantage index.

The Kolmogorov-Smirnov test was calculated to prove the distribution of the indices. If the difference between the observed distribution and the assumed normal distribution is not significant, it can be assumed that the attribute has a normal distribution. The values shown in Appendix 5 are larger than the generally used significance levels, hence, we emanate from a normal distribution.

To ensure that the individual advantage index and the corporate advantage index do not represent different expressions of the same attribute, the statistical relationship was calculated with help of the Bravais/Pearson bivariate correlation analysis. The correlation coefficient amounts to 0.208 and is significant at a level of 11%. It can therefore be assumed that there is no statistically significant relationship between both indices.

#### 4.4.2 The Predictor Variables

For use in the multiple regression, the predictor variables must also satisfy a series of requirements:

For the rating scales used in the context of this study, one can assume an interval level scale. The scales were so constructed that the study participants could adequately attribute the same numerical difference to differences in the expression of the characteristic.

The assumption of multivariate normal distribution must be verified for the case where the sample size is  $n < 40$  and the number of variables is  $k > 10$ . The size of the total sample in this survey amounts to  $n = 60$  in relationship to  $k = 5$  variables, and verification is therefore not required.

A bivariate correlation analysis according to Bravais/Pearson was conducted to calculate the statistical relationship between the predictors. Table 9 shows the correlation of the individual predictors to one another; \*, \*\* or \*\*\* indicates significance at the 10%, 5% or 1% level, respectively.

	Power	Achievement	Prestige	Sensation Seeking	Age
Power	1	0.292	0.460**	0.014	0.192
Achievement	0.292	1	0.351	0.015	0.188
Prestige	0.460**	0.351	1	-0.158	0.125
Sensation Seeking	0.014	0.015	-0.158	1	-0.210
Age	0.192	0.188	0.125	-0.210	1

Table 3: Intercorrelation of the predictor variables

A significant correlation is found only between the power and prestige motives. It was decided not to remove one of the variables from the model however, because it is an instance of stochastic collinearity and the correlations are relatively small.

#### 4.4.3 Regression Analysis

##### Individual Advantage

Table 4 demonstrates that the strength of the relationship between the predictors and the criteria has a value of  $R = 0.516$ . The proportion of the variation in criteria that can be explained through the model ( $R^2$ ) amounts to approximately 27%. Conspicuous is that the decision-makers show a much higher  $R^2$  value than the

students. The model for the total sample is significant. It is highly significant for the decision-maker sample but not significant for the control sample. The individual advantage index for decision-makers can therefore be more clearly explained by the motive and the variable age, than is the case for the students.

The lower part of table 4 shows the distribution of predictability. The significant predictors have different distributions in the various samples. While the predictors power and achievement are significant for the total sample, age is significant for the decision-maker sample and prestige is significant in the student sample. An explanation for these inconsistencies may be that the sample size in the divided regression analysis is insufficient to allow a precise statistical calculation of the individual significance.

We find that the individual advantage index can be predicted with an acceptable error probability from the expression of motive and the age, even when no reliable statement is possible in relation to the actual significance of the predictors and their influence on the individual advantage index.

<b>Key Data</b>	<b>Total Sample</b>	<b>Decision-makers</b>	<b>Students</b>
R	0.516	0.867	0.371
R <sup>2</sup>	0.266	0.752	0.138
F	3.922	8.483	1.086
Significance	0.004**	0.001***	0.368
<b>Predictors</b>	<b>Sample Total</b>	<b>Decision-makers</b>	<b>Students</b>
<b>Power</b>			
Beta	0.312	0.412	0.277
Significance	0.063*	0.311	0.199
<b>Achievement</b>			
Beta	0.232	0.222	0.126
Significance	0.030*	0.385	0.487
<b>Prestige</b>			
Beta	0.077	0.333	-0.325
Significance	0.646	0.329	0.090*
<b>Sensation Seeking</b>			
Beta	-0.070	0.055	-0.163
Significance	0.562	0.740	0.349
<b>Age</b>			
Beta	-0.240	-0.261	0.041
Significance	0.640	0.096*	0.815

*Table 4: Statistical key figures and estimated weights (individual advantage index)*

### **Corporate Advantage**

In the corporate advantage index (see Table 5) the strength of the relationship between the predictors and the criteria is somewhat higher than in the individual

advantage index ( $R = 0.625$ ); 39% of the variance is explained through the model. In contrast to above, there is general consistency between the total sample and the partial samples. However, the model is not significant for the decision-makers, which means that the corporate advantage index for the students can be more clearly explained through motives and the variable age.

<b>Key data</b>	<b>Total Sample</b>	<b>Decision-makers</b>	<b>Students</b>
R	0.625	0.599	0.542
R <sup>2</sup>	0.390	0.358	0.294
F	6.908	1.563	2.826
Significance	0.0***	0.234	0.031**
<b>Predictors</b>	<b>Total Sample</b>	<b>Decision-makers</b>	<b>Students</b>
<b>Power</b>			
Beta	-0.218	-0.162	-0.273
Significance	0.152	0.8*	0.163
<b>Achievement</b>			
Beta	-0.365	-0.037	-0.395
Significance	0.006***	0.926	0.02**
<b>Prestige</b>			
Beta	-0.32	-0.369	0.03
Significance	0.833	0.497	0.875
<b>Sensation Seeking</b>			
Beta	-0.97	-0.301	-0.011
Significance	0.38	0.267	0.094*
<b>Age</b>			
Beta	0.535	0.093	-0.002
Significance	0.0***	0.717	0.991

*Table 5: Statistical key figures and estimated weights (company advantage index)*

As in the regression cycle for the individual advantage index, the significant predictors are distributed very differently across the two samples. As above, it is also true here that the corporate advantage index can be predicted with an acceptable error probability from the expressed motive and the age, but that no reliable statement about the significance of the individual predictors is possible.

#### **4.5 Analysis of the Structured Interview Data**

The quantitative interview data was collected using rating scales and questions with structured answers without a uniform format. The qualitative data was collected using open questions and evaluated using a summarized content analysis according to Mayring (2000). The aim of the analysis is to reduce the material so that only the essential content remains. From the entire data source, information with an interesting relationship to data from the personality inventory and the regressions model was selected for this paper.

When questioned about impulse for their own merger 85% of the test persons cited economic reasons (see Table 6).

Subcategories	Frequency (multiple answers possible)	Examples
Economic: - operative reasons	65%	"Cost and revenue synergies", "achievement of the critical company size"
Economic: - strategic reasons	20%	"Avoidance of a forced merger in the long term", "improvement of competitive position"
Non-economic reasons	15%	"Power motivation—merger at any price", "will remain the largest institution in the area"
Political reasons	30%	"regional orientation", "political reasons"

*Table 6: Reasons for the initiation of the merger process*

Non-economic reasons were given by only 15% of the interview partners and this sometimes quite openly ("power"). These results stand in conflict to the results from the analysis of the merger scenarios in which the influence of non-economic motives was stronger than that of economic motives. A possible explanation is that the influence of the non-economic motives takes place unconsciously; or the influence was not openly admitted, yet exposed through the scenario technique.

The question about evaluation of the general obstacles to a merger (but not the personally experienced merger!) produced interesting insights into the importance that the decision-makers accorded various problem areas and which could possibly also indicate hidden motives. Of particular interest was the problem of positions, especially the question of the chairpersons of the new Executive Committee and the Supervisory Board because it can be perceived as an obstacle which is heavily influenced by non-economic motives.

Obstacle	Mean	STD	Frequency distribution in %				
			Very important (5)	Important (4)	Rather important (3)	Rather unimport. (2)	Unimportant (1)
Position problem Exec. Committee	4.35	0.671	45	45	10	0	0
Position problem Advisory Board	3.55	1.192	25	30	25	15	5
Fragmentation of Responsibilities	3.15	0.812	0	40	35	25	0
Lack of economic advantages	3.6	1.044	20	40	20	20	0
Public opposition	2.5	1.054	5	10	30	40	15
Legal problems	2.4	1.095	5	15	10	55	15

*Table 7: Evaluation of obstacles during the realization of a merger*

In fact the data in Table 7 suggests that the problem of positions in the Executive Committee is regarded as the greatest problem (average = 4.35 and the most frequently cited obstacle in the category “very important”). In contrast, the lack of economic advantages is clearly less important. This allows the cautious conclusion that the motives which—according to the regression analysis—benefit a merger decision, conversely also hinder a merger.

That the decision-makers judge the problem of positions to be dominant is justified by responses to the question about changes in the Executive Committee and the Supervisory Board. In 70% of the studied mergers, one or more members of the Executive Committee left during the merger process (Supervisory Board 95%). A large proportion left involuntarily—often, according to those questioned, because of disagreement about the position of the new chairperson. This is a further indication and part of the explanation for the importance of non-economic reasons in the merger process.

A further aspect that was explored in the interview and could be considered to have an influence on decision-making behavior relates to the financial benefits of the Executive Committee and Supervisory Board members. Our results correspond to those of Bliss und Rosen (2001) who discovered that mergers had a consistently positive effect on benefits for Executive Committee members at US banks. As Appendix 6 shows, the benefits of the Executive Committee increased in 95% of all mergers. Since in response to a further question about the success of the merger (“How do you judge the economic success of the merger?”), only 60% indicated that their expectations had been fulfilled, we conclude that compensation increased independently of the success of the merger. The exact relationship could not be studied here, but these results support the assumption that the prospect of a higher salary contributes to supporting a merger.

## **5 Summarized Interpretation and Discussion**

**Hypothesis I:** It was not possible to reject the hypothesis of a significant influence of the four motives, power, achievement, sensation-seeking, and prestige on merger decisions in the banking sector. A significant relationship to decision-making behavior in both the altruistic and egoistic scenarios was established for the total sample. It was at least partly possible to predict the response behavior from the identified motive with statistical significance for both partial samples.

**Hypothesis II:** The hypothesis that the influence of the four motives on the decision-making behavior is stronger than the influence of possible economic disadvantages for the company was not rejected for the complete sample and the sample of decision-makers.

**Hypothesis III:** There is at least some evidence that a personal merger experience leads to a stronger activation of motives.

The differences that occurred between the partial samples can be interpreted in terms of the explorative ancillary hypothesis. One has to acknowledge that the inconsistent significance of the individual predictors in the regression analysis indicates that the partial samples were not large enough for the calculation of significance.

Furthermore the evaluation of our interviews strengthens doubts of the belief that economic reasons have the greatest influence on merger decisions. The discrepancies between the interview statements and the merger scenario results allow for two explanations: on the one hand that in spite of insured anonymity an essential portion of decisive motives were concealed for reasons of social acceptability; on the other hand that the influence of personal motives, i.e., non-economic reasons is not apparent to the decision-makers and is therefore derived indirectly from their statements and decision-making behavior. It is, however, highly probable that a combination of both explanations is correct, which offsets the apparent contradiction and lets the interview statements support the other results.

## **6 Outlook**

The results of this explorative study may help to answer some important questions in connection with bank mergers. However, they also open a wide field for future research and practical application.

First of all, it would be advisable to repeat the study with a larger, randomly chosen sample. In doing so, it would be interesting to extend the observation to include other types of industries, banks, mergers, decision-makers—and motives, of course. We believe that the motives chosen here can explain most of what motivates bank managers to pursue a merger idea, but we cannot be sure that motives ignored here are not equally relevant explanations.

For **psychological research** it could be interesting, for example, to find out if there is a merger-prone type of manager with a characteristic set of motives. We are not sure where such an insight would lead to, but one thing is definitely not possible: to choose persons as bank CEOs who are merger-averse by nature. Because the personal motives that are possibly undesirable during a merger are exactly those that we otherwise expect from a manager: high performance orientation, striving for power and the willingness to enter into corporate risks.

The fundamental question for **economic research** from our point of view is whether personal motives and non-economic reasons have a measurable effect on the individual bank, the shareholders, the banking system, and the economy. It would be conceivable to bring phenomena that are known to be partly caused by non-economic mechanisms—e.g., the herding mechanism for merger waves (see Cabral, 2002) or the poor performance of some mergers (see Morck, Shleifer and Vishny, 1990)—into relationship with the motives of bank managers.

If the above mentioned effects of non-economic reasons prove to have a substantial negative effect, then this is also a matter for the **banking supervisors**. Recognition of the possibility that personal motives dominate the economic reasons should lead the regulators to adopt an even more critical position when authorizing mergers, because it is not their task to support the needs of bank managers.

For **banking practice** we believe that the greatest value of a deeper understanding of manager motives is on the owners' side since they must fear that decisions involving a conflict of personal and economic interests will be made at their expense. As we know, there is a relatively high asymmetry of information between principal and agent that cannot be eliminated through controls. Therefore the development of an optimal incentive system is necessary for a solution. This would have to make the salary independent of the company's size or growth and instead provide incentives which ensure that only merger decisions that are optimal for the company lead to material benefits (increased remuneration) and immaterial benefits (satisfaction of the non-economic motives) for the decision-makers.

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## Appendices

Motive	Discriminatory Power		
	Minimum	Average	Maximum
Power	0.3740	0.5668	0.7711
Achievement	0.2708	0.3698	0.5456
Prestige	0.2574	0.5691	0.7309
Sensation Seeking	0.2517	0.3749	0.4954

*Appendix 1: Differentiation in the individual motive scales*

Motive	Cronbach's $\alpha$	
	Original Inventory	Scale Used
Power	0.80 (OSM)	0.8557
Achievement	0.86 (LMI)	0.6883
Prestige	–	0.7812
Sensation Seeking	0.75 (AISS)	0.7264

*Appendix 2: Result of consistency analysis of the scales used*

Motive	n	Mean	STD	MIN	MAX	Distribution
Power	20	4.07	0.41	3.10	4.70	1.60
Achievement	20	4.76	0.31	4.18	5.36	1.18
Prestige	20	4.00	0.46	3.17	4.83	1.67
Sensation Seeking	20	4.22	0.52	3.00	5.00	2.00

*Appendix 3: Statistical values of the personality inventory (decision-makers)*

Motive	n	Mean	STD	MIN	MAX	Distribution
Power	40	3.73	0.81	1.20	5.00	3.80
Achievement	40	4.59	0.51	3.36	5.27	1.91
Prestige	40	3.77	0.85	1.17	5.00	3.83
Sensation Seeking	40	4.23	0.66	3.31	5.38	2.08

*Appendix 4: Statistical values of the personality inventory (control group)*

		Individual Advantage Index	Corporate Advantage Index
Parameter of Normal Distribution	Mean	0.834	0.363
	STD	0.257	0.352
Most Extreme Differences	Absolute	0.041	0.031
	Positive	0.026	0.031
	Negative	-0.041	-0.021
Kolmogorov-Smirnov Z		0.319	0.242
Asymptotic Significance		0.348	0.459

*Appendix 5: Result of tests on the normal distribution of the advantage indices*

	Percent of Cases	
	Executive Committee	Supervisory Board
Increased benefits	95%	30%
Benefits remained unchanged	5%	70%
Reduced benefits	0%	0%

*Appendix 6: Change in benefits for the Exec. Committee and the Supervisory Board*