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## Strategic dynamics and corporate performance: A longitudinal assessment

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Nr. 486

**Strategic dynamics  
and corporate performance:  
A longitudinal assessment**

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<b>Strategic dynamics and corporate performance: A longitudinal assessment</b>	<b>1</b>
<b>1. Introduction</b>	<b>1</b>
<b>2. Differentiation of strategic dynamics - A typology of         strategic change</b>	<b>2</b>
2.1 Data	2
2.2 Method	4
2.3 Results	6
<b>3. Comparative analysis of the relationship between economic         situation and the different types of strategic change</b>	<b>8</b>
3.1 Analysis of performance	9
3.2 Analysis of financial situation	11
3.3 Analysis of solvency rating	14
<b>4. Summary</b>	<b>17</b>
<b>Literature</b>	<b>19</b>
<b>Appendix</b>	<b>21</b>

# Strategic dynamics and corporate performance: A longitudinal assessment

Jens Leker

## 1. Introduction

Analysis of the relationship between strategic change and corporate performance has already been a topic of research. An up-to-date discussion of the respective results can be found in Parnell (1998, p. 20-24). Looking at the research results more closely, we notice that performance - which is usually measured in terms of RoA, RoI or the development of turnover - is modeled both as a dependent as well as an independent variable, depending on the aim of the research. One question addressed is how the development of a firm's economic situation can explain the undertaking of a strategic change. In such a case, corporate performance is considered to be an independent variable. Another issue being analyzed is what sort of consequences a strategic change has for the economic situation of a business. Corporate performance is in this case considered to be a dependent variable.

Summarizing the results of these studies into a chart, we are able to determine the following:

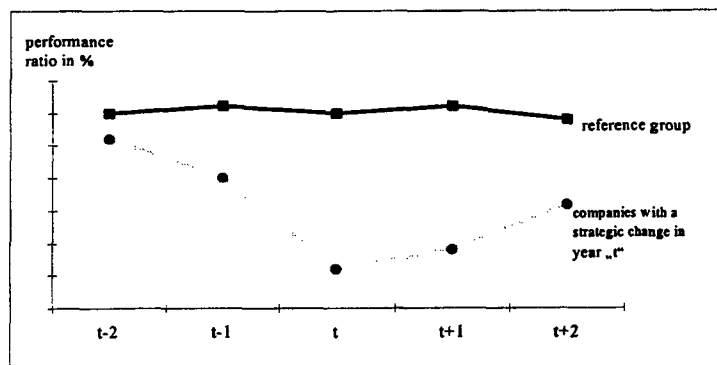


Figure 1: Strategic dynamics and corporate performance

The majority of researchers who examine the influence that the economic situation has on strategic change (Boeker 1989, p. 507, Webb, Dawson 1991, p. 203; Parnell 1998, p. 30; Greve 1998, pp. 80-82) have arrived at the result that the likelihood of a strategic change occurring at companies showing unsatisfactory corporate performance is significantly higher, and that this likelihood increases with a deterioration of the economic situation. This is a finding which is supported by theories of risk taking and aspiration levels (Greve 1998, pp. 59-66)

However, the studies analyzing the actual results that a strategic change has on corporate performance do not, as a matter of fact, come to any very clearly positive finding. One is thus confronted with research results claiming that a strategic change leads to an improvement in corporate performance, while at the same time there are studies observing a further deterioration or comparatively inferior development in the strategically altered companies compared to businesses maintaining a uniform strategic direction (Gannon, Smith, Grimm 1992, pp. 237-239; Parnell 1994, p. 25; Parnell 1998, p. 30).

Seen in relation to this research background, the question of whether most of these contradictions could be attributed to lack of differentiation seems justified. This is the point at which my research picks up the investigation, in that it examines whether it is correct to view "the" strategic change - in the sense of a 0/1-variable - or whether it might not be possible to discover different types of strategic changes, accordingly accompanied by different manners of corporate performance development.

## **2. Differentiation of strategic dynamics - A typology of strategic change**

### **2.1 Data**

To analyze the research question intended here, it is necessary to explain exactly when it is that we say a firm has executed a strategic change. In the framework of my research, we refer to a strategic change if this change has been specifically announced by the company's management and if it has, at the same time, been credibly introduced to a third party - in this case to the firm's bank. This pre-

condition leads to the fact that the strategic changes analyzed can for the most part be characterized as "radical" strategic changes, if we evaluate the extent of the changes on a continuous scale ranging from minor or incremental (Lindblom 1959; Quinn 1980) to radical or fundamental strategic changes (Miller, Friesen 1980; Tushman, Romanelli 1985).

The above definition shows great similarity to the usual research relying on responses from interviews with managers or on questionnaires filled out by top management (Snow, Hambrick 1980, pp. 532-536). Here, however, precise articulation of a strategic change is identified on the basis of document analysis - an analysis of the credit file of the firm in question, to be exact. For this reason, self-assessment by the top management is in no way related to or influenced by the aim of our study. The credit files made available for research contained mainly documents of general credit correspondence, balance sheets, records of solvency analysis, reports, registers and records of securities. The detailed credit reports, in particular, served as a source for identifying the framework of a new strategic direction. In this case, the plausibility test for additional confirmation of the top management's self-assessment (which would normally be essential under other research circumstances) is replaced by the bank's evaluation found within the credit reports.

Beginning with the compulsory head office customers of a major German bank which cooperated in this study, an analysis of all credit committee protocols for the period from November 1, 1993 through November 20, 1995 was possible - this two year time span represents the maximum possible prolongation period. From this procedure, nearly 180 companies whose protocols included indications of a new strategic direction could be identified. Analysis of the credit files led to a sample of 65 major corporations which, according to their own statements and confirmed by the bank, undertook and carried out a strategic change. The following table 1 shows the legal structures of these companies and their industries.

Distribution according to legal structure:	n
Public company, partnership limited by shares	30
(those quoted on stock exchange	24)
Company with limited liability (GmbH)	18
Mixed associations	12
Limited Partnership	4
Full Partnership	1
Distribution according to industries:	n
Mechanical engineering	11
Electrotechnology	7
Chemical	6
Trade	6
Measuring and controlling technology	5
Paper	4
Automobile / Automobile contractors	4
Other	22

Table 1: Sample description

## 2.2 Method

To achieve a characterization of the individual strategic changes, the credit files of the 65 corporations were analyzed in detail and the following criteria (Hauschildt 1997, pp. 7-16) were extracted:

- 1.) the motives cited for the strategic change,
- 2.) the objectives and defining activities surrounding the strategic change,
- 3.) the evaluation of the attending bank branch in terms of the risks of such a strategic change.

The following table 2 presents the variables for the each of the above areas:

**Motives behind a new strategic direction:**

1. maintaining competitiveness
2. critical situation
3. expansion
4. integration
5. opportunity

**Objects and defining activities of the strategic change**

**procurement/technology/production:**

6. construction
7. reduction
8. shifting to overseas

**sales sphere:**

9. growth
10. reduction
11. globalisation

**organization:**

12. inclusion of external third parties
13. change of management
14. owner gives up management
15. distinctive change of organization
16. distinctive reduction of employees

**Risk evaluation of the bank:**

17. high
18. medium

**Table 2: 0/1-Variables determining a strategic change typology**

These 18 variables serve as a basis for analyzing the degree to which the identified strategic changes share similar characteristics. A hierarchical cluster analysis for binary variables (Norusis, SPSS Inc., 1994 pp. 106-107; Bacher 1994, pp. 200-209; Backhaus et al. 1990, pp. 118-125) was then performed in order to develop a typology of strategic change.



## 2.3 Results

The results of the cluster analysis allow us to group the strategic changes which occurred in the 65 corporations we investigated into four different types, as follows:

- |   |
|---|
| <p><b>Type 1 "Expansionist" (n=20):</b><br/>expansive movement into new fields of business with the inclusion of third parties and new management</p> <p><b>Type 2 "Innovator" (n=19):</b><br/>movement to new fields of business by creating new production plants, introducing new technologies and/or innovative products</p> <p><b>Type 3 "Reallocator" (n=11):</b><br/>directed towards new purchase markets along with a reduction of old production facilities</p> <p><b>Type 4 "Concentrator" (n=15):</b><br/>focused on the main, basic business sectors</p> |
|---|

Table 3: Typology of strategic change

To determine the number of clusters we used the values of the fusion coefficients (Norusis, SPSS Inc. 1994, p. 91; Aldenderfer, Blashfield 1984, pp. 53-58). With fairly large increases in the value of the distance measure, these values indicated that either a two-cluster solution (Type 1: expansionist/innovator and Type 2: reallocator/concentrator) or a four-cluster solution (as described in table 3) would have been appropriate. Considering the aim of the study we opted for the four-cluster solution, which indicates - with remarkably smaller coefficients - that considerably more homogeneous clusters are being merged, compared to the cluster 2 solution.

The highly simplified descriptions show that the four different types range in their market oriented activities from external expansion to adopting new directions internally, from stabilizing changes aimed at new purchase markets to a distinct focus on reduction. All four types are characterized by distinct differences in how they deal

with their core competencies (Prahalad, Hamel 1990; Javidan 1998, pp. 62-70). The expansionist wants to buy and integrate new core competencies while the innovator is trying to build up and establish new core competencies on his own. The reallocator wants to transfer core competencies to lower wage countries while the concentrator tries to focus on the core competencies already established.

A comparison of these empirically derived types of strategic change with established typologies of strategic types (Miles, Snow 1978; Porter 1980) is partially restricted. In particular, it is important to note that a typology of strategic types and a typology of strategic change types differ considerably in the subject of investigation and underlying data sets. While the former characterize the existing strategy at a given moment, the latter typify the process surrounding a change in strategic direction. For this reason, identification of the overall strategies depends on a classification within an existing typology or on an empirical analysis of strategic elements (Brockhoff, Chakrabarti 1988, pp. 170-174; Brockhoff 1990, pp. 455-459; Conant, Mokwa, Varadarajan 1990). The identification of strategic changes relies, instead, on concepts and empirical data that would serve as a basis for evaluating the scope and the direction of the change in strategic course. A different typology-pattern consequently emerges (Ginsberg 1988). On the other hand, it looks promising to compare the intended change-induced strategic position with an existing strategy typology (Damanpour, Chaganti 1990, pp. 231-242; Hambrick 1983).

Drawing primarily on Miles' and Snow's (1978) strategy types, we can roughly characterize the intended strategic position of the expansionist as that of an analyzer, or in the words of Damanpour and Chaganti an "innovative diversifier" (1990, p. 237). The innovator, however, might be seen as being closer to the characteristics of a prospector.

The concentrator, similar to a defender in the Miles and Snow typology, has chosen to focus on his main business, while the reallocator is also moving in a defender-position, but somewhat more actively. Nevertheless, it should be kept in mind that our empirically derived typology of strategic change is strongly influenced by certain dynamic aspects (Brockhoff 1996, pp. 185-187) that are not delineated in traditional typologies of strategic types.

Making things yet more complicated, it ought also to be noted that our credit file analysis lends support to Snow and Hambrick, who

stated that: "Managers however typically do not think of their organizations as being Defenders, Prospecters, Analyzers, or Reactors. Instead, they may think of their organizations' strategies as resulting from concerns about being biggest, best, first, lowest priced, highest quality, and so forth" (Snow, Hambrick 1980, p. 530). In this respect, we refrain from further and even more subjective interpretations of the strategic change corporations in the light of traditional typologies of strategic types.

The next step is to investigate whether these identified types present a uniform picture in terms of their economic situation during the introduction of the new strategy, or whether we discover significant differences here.

### **3. Comparative analysis of the relationship between economic situation and the different types of strategic change**

The term "economic situation" is here specified by the results of the annual balance sheets. The analysis conducted thus includes all known shortcomings indicated in such balance sheets (Hauschildt 1996, pp. 1-14; Küting, Weber 1997, pp. 48-54; Leker 1993, pp. 33-80). These shortcomings must, however, be viewed in the relative sense, as nearly all comparable studies have also utilized balance sheets in analyzing economic situation.

For an initial evaluation of the differences between the published and actual corporate performance, we use along with return on equity and equity ratio two shareholder-oriented financial ratios (Chaganti, Damanpour 1991, p. 484; Samuels, Brayshaw, Craner 1995, pp. 12-21) and compare them with the solvency rating - as stated in the credit file - for an additional indicator of corporate performance. If the comparison reveals substantial differences, we must search for the reasons behind this. If the differences detected are only minor ones, however, we can assume that the description of the economic situation was relatively valid.

First we study a graphic comparison between the financial ratios of the corporations that underwent a strategic change versus those of a reference group. The reference group is comprised of an aggregate of approximately 18,000 companies differentiated only according to

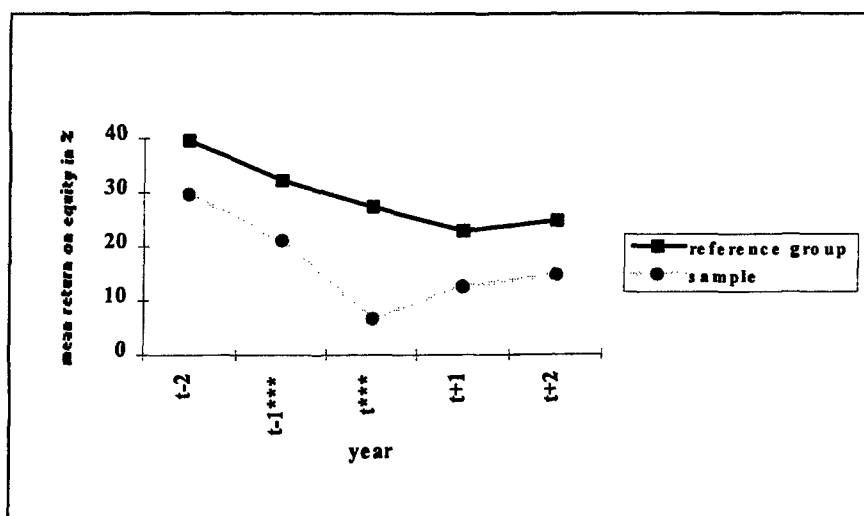
industry and year of balance sheet by the Federal Bank in its November issue (Deutsche Bundesbank 97-90).

We then more closely analyze the individual characteristics of the four empirically derived types of strategic changes. Due to the small number available for each type, only robust methods of analysis - examining the predominant tendency - are used here. We apply the U-test developed by Mann and Whitney for our comparison of unrelated samples, while testing for the related samples using the Wilcoxon test for pair differences (SPSS Inc. 1997, pp. 317-325; Zöfel 1988, pp. 144-164).

Finally, we look at the solvency ratings for the strategic change companies, comparing these with the results of the balance sheets analysis.

### 3.1 Analysis of performance

Viewing the development of return on equity for all 65 corporations in comparison with the reference group, it becomes apparent that the situation described at the beginning of this study holds true in the case of our own sample.



\*\*\*  $p < .001$ , indicates significant difference between this year and the preceding year within the sample using the Wilcoxon-Test.

Figure 2: Return on equity

First, return on equity of the corporations that have undertaken a strategic change in the year "t" of the period researched are considerably lower than the corresponding values of the reference group. Second, we notice a clear and significantly high deterioration of return on equity in the years prior to the change - whereas profitability of shareholders' investments shows a slightly improved development following the strategic change.

It is of further interest to note that the reference group also undergoes a moderate reduction in returns during the first four years of the research period. This indicates that the whole industry has been confronted with a difficult turn in the market during the research period.

Next, we will try to determine whether development of the profits progresses as per our analysis, in terms of the four types from our typology of strategic change.

*(a) Median<sup>†</sup>*

	<u>t<sub>2</sub></u>	<u>t<sub>1</sub></u>	<u>t<sub>0</sub></u>	<u>t<sub>1</sub></u>	<u>t<sub>2</sub></u>
Type of change	Median	Median	Median	Median	Median
1) Expansionist	26,55	23,95	25,54	18,74	19,31
2) Innovator	38,17	16,22 *	8,32 ** <sub>i</sub>	14,27	13,14
3) Reallocator	18,30 <sub>2</sub> *	18,60	7,13 <sub>1</sub> **	4,00 <sub>1</sub> *	10,49
4) Concentrator	23,42	11,97 ***	-2,16 <sub>1</sub> **	8,39	4,25

<sup>†</sup> N's were respectively 20, 19, 11 and 15 for the groups of change types as listed, because data are not available for all firms in t<sub>2</sub> and t<sub>2</sub>, the number of observations in these years may vary. \* P < .05; \*\* P < .01, \*\*\* P < .001

Median<sub>i</sub><sup>x</sup>; x = Significant difference between this year and the preceding year within the cluster-type using the Wilcoxon-Test; i = Significant difference between cluster-type i and the respective cluster-type within the analyzed year using the U-Test by Mann/Whitney.

Table 4: Descriptives for different groups of strategic change: Return on equity

It is obvious at first glance that the profit development among these four types is marked by noticeable and significant differences. We observe in type 1 (expansionist), for instance, a development contrary to the common tendency, in that here the return on equity is overall on quite a high level, even increasing as the year of change approaches. It is therefore significantly higher at the time of the change than the other three types. After the change has taken place, however, we find that - again, contrary to the general trend in companies with a strategic change and at the same time corresponding with the profit development of the reference group - the profit actually deteriorates and cannot even be entirely compensated in the second year following the change. For this reason, there is no longer a significant difference to be seen between type 1 and the other types at this point in the change process.

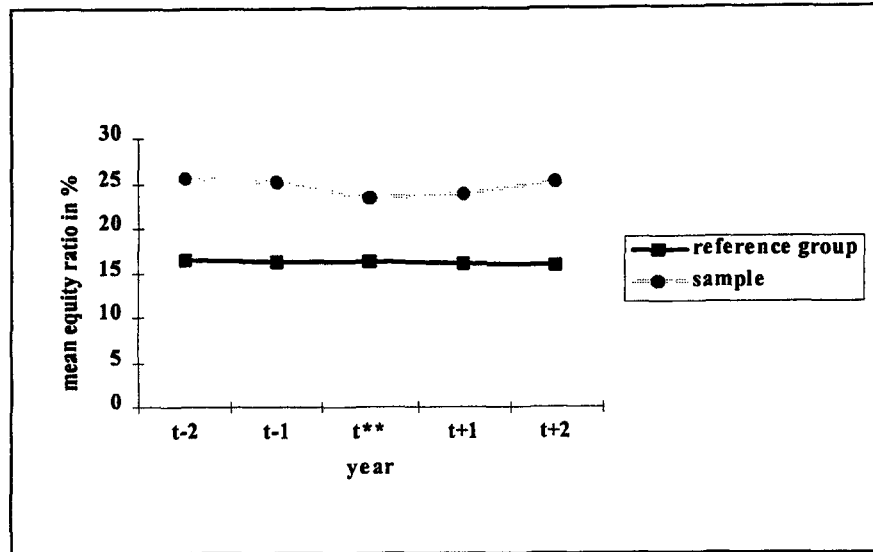
Type 2 (innovator) and type 4 (concentrator) show a significant decrease in profits in the period prior to change, and, with their dramatic and in both cases outstanding development, make the most distinctive impression from an aggregate viewpoint. The clear increase in post-change profits; too, is found only in these two types; whereby increase in the case of focus on main areas of business (type 4) does not appear to be of a lasting nature.

Type 3 corporations (reallocator) - where strategic changes are characterized by entry into new purchase markets and the removal of production to low wage countries - exhibit yet another form of profit development. Conspicuous here is the continued decrease in profits, beginning in the year before the change and enduring beyond the change itself. Only in the final year of the research period could this development be brought to a halt and an increase in return on equity be achieved.

In summary, we have thus found that observing return on equity in terms of the different types of strategic change actually exposes some remarkable differences. Particularly in the cases of type 1 (expansionist) and type 3 (reallocator) we notice development patterns that differ considerably from the standard results described above.

### **3.2 Analysis of financial situation**

For an analysis of the financial situation, we once again begin by looking at a comparison between those corporations which have undertaken a strategic change and those in the reference group.



\*\*  $p < .01$ , indicates significant difference between this year and the preceding year within the sample using the Wilcoxon-Test.

Figure 3: Equity ratio

In addition to a comparatively remarkable stability of the equity ratio in both groups, it is also conspicuous that the reference group's equity ratio is around 8 percent-points lower than that of the change corporations group during the research period. Consequently, we have obtained a result which raises the question of the representative quality of the reference group, while at the same time shedding new light on the differences in development of the equity profits.

If we keep in mind that the interpretation of return on equity is based on the interworking of the numerator and denominator of a given ratio, we can observe - being aware of the differences found in the equity ratio - that the change companies' low equity profit throughout the entire research period is attributable to the comparatively higher and not uniformly profitable equity ratio values. On the other hand, the decrease in return on equity in the strategic change year is explained by the underproportional success of the company, compared to the changes made in the equity.

In the following table, arranged by the types of strategic change, we discover similar results.

*(a) Median<sup>†</sup>*

	<i>t</i> <sub>2</sub>	<i>t</i> <sub>1</sub>	<i>t</i> <sub>0</sub>	<i>t</i> <sub>1</sub>	<i>t</i> <sub>2</sub>
Type of change	Median	Median	Median	Median	Median
1) Expansionist	30,04	32,12	27,75	28,03	20,50
2) Innovator	19,62 <sub>1**</sub>	16,79 <sub>1***</sub>	17,51 <sub>1***</sub>	15,85 <sub>1**</sub>	19,17
3) Reallocator	27,56	27,52	28,10 <sub>2*</sub>	28,73	32,19
4) Concentrator	20,68 <sub>1*</sub>	18,51 <sub>1**</sub>	15,54 <sub>1**</sub>	17,76 <sub>1*</sub>	22,96

<sup>†</sup> N's were respectively 20, 19, 11 and 15 for the groups of change types as listed, because data are not available for all firms in *t*<sub>2</sub> and *t*<sub>2</sub>, the number of observations in these years may vary. \* P < .05; \*\* P < .01, \*\*\* P < .001

Median<sub>i</sub><sup>x</sup>; x = Significant difference between this year and the preceding year within the cluster-type using the Wilcoxon-Test; i = Significant difference between cluster-type i and the respective cluster-type within the analyzed year using the U-Test by Mann/Whitney.

Table 5: Descriptives for different groups of strategic change: Equity ratio

The fact that the equity ratio in the year after the strategic change maintains a high constant confirms that the different paths of profit development discussed are also attributable to deviant changes in success.

Three further aspects stand out:

1. In at least four out of five years, the expansionist and the reallocator show a significantly higher equity ratio compared to the innovator and the concentrator - a result that could be useful in a resource-oriented analysis of the various change types (Grant 1991; Mahoney, Pandian 1992; Penrose 1959, pp. 65-87).
2. The expansionist's market-oriented shift leads to a later decrease in the equity ratio.
3. The distinctly different, expansive types of strategic change have no visible effects on the specified equity ratio. Recalling the interaction of the numerator and denominator, it appears that companies undertaking a strategic change tend to practice a nearly corresponding development of equity and total capital. This is certainly



a surprising phenomenon, as these two latter items are put through considerable changes during the strategic change.

### 3.3 Analysis of solvency rating

When a bank's credit analysts rate the solvency of a company, this is without a doubt influenced strongly by the balance sheet of the company in question (Bieg 1984, pp. 489-490; Breuer 1991).

Nevertheless, other important so-called qualitative indicators also play a role in such evaluations - for example, judgment of management quality and of opportunities in the sales market - which may well be in a position to produce a different result. In addition, the credit analyst's rating is carried out closer to the actual time at issue, and thus includes up-to-date developmental tendencies (Hauschildt, Leker 1995, cc. 1323-1335; Leins 1993).

In the following, we will more specifically scrutinize the ratings for the companies which have undergone a strategic change.

To this end, we will analyze:

**"Profit"**: a relative estimation of the company profit compared to its competitors based on a 9 point scale, where "1" equals the Standard & Poors issuer credit rating "AAA", and a higher number indicates a deterioration in profit ,

**"Capital"**: an evaluation of the financial structure on the basis of the equity capital and liable capital available, based on a 9 point scale,

**"Current"**: an estimate of the economic development since the last balance sheet on the basis of turnover and profits, based on a 9 point scale,

and analyze, moreover, the aggregated overall evaluation of **"Solvency"** (including the aspects "environment and production risks", "flexibility in adjusting to changes in demand", "management quality" and "flexibility of financial management").

Looking initially at the evaluations of all companies which have carried out a strategic change, the following results may be derived.

*(a) Means<sup>†</sup>*

	$t_2$	$t_1$	$t_0$	$t_1$	$t_2$
Ratings	Means	Means	Means	Means	Means
1) Profit	1,75	2,61 *	3,07	3,50	3,65
2) Capital	1,67	1,88	2,14	2,42	2,85 *
3) Current	3,42	4,00	3,66	3,13 *	3,05
4) Solvency	2,17	2,64	2,68	2,75	2,71

<sup>†</sup> N's were respectively 20, 19, 11 and 15 for the groups of change types as listed, because data are not available for all firms in  $t_2$  and  $t_1$ , the number of observations in these years may vary. \*  $P < .05$ ; \*\*  $P < .01$ , \*\*\*  $P < .001$

Median\*; x = Significant difference between this year and the preceding year within the cluster-type using the Wilcoxon-Test;

Table 6: Solvency-ratings for all companies undergoing a strategic change

To begin with, it is conspicuous that the aggregated solvency rating - with respect to the strategic change in year "t" and the profit analysis results - shows only a minor change during the time under observation.

After a small decrease at the beginning of the period under analysis, the solvency-indicator achieves and maintains a constant value at about 2.5 - this corresponds to a good to average solvency. In terms of the Standard & Poor's issuer credit rating system, 2.5 equals a rating between "A" and "BBB". The strategic change seems, therefore, to exert no significant influence on the credit analyst's solvency rating, at least from this overall viewpoint.

A somewhat different picture emerges, however, upon examining the individual component ratings more closely. For instance the estimations for the components profit and capital decline steadily throughout the entire analysis period. In particular, the significant deterioration in the estimate of profits prior to the strategic change corresponds with the results of the balance sheet analysis.

We notice, too, that the initially negative estimate of the current turnover and profit development show significant improvement in the change year and the year thereafter. This phenomenon, along with

the quality indicators, helps to stabilize the aggregated solvency rating.

In view of the tendencies explained above, it appears appropriate to concentrate at this point on the component estimate "Current", for each of the different types of strategic change.

*(a) Means<sup>†</sup>*

	<i>t</i> <sub>2</sub>	<i>t</i> <sub>1</sub>	<i>t</i> <sub>0</sub>	<i>t</i> <sub>1</sub>	<i>t</i> <sub>2</sub>
Type of change	Means	Means	Means	Means	Means
1) Expansionist	3,00	2,82	2,41 *	2,70	2,30
2) Innovator	-	4,86	4,82 <sub>***</sub>	3,67 *	3,32
3) Reallocator	5,00	4,29	3,80	2,55	4,36
4) Concentrator	-	3,90	3,67	3,47	2,73

<sup>†</sup> N's were respectively 20, 19, 11 and 15 for the groups of change types as listed, because data are not available for all firms in *t*<sub>2</sub> and *t*<sub>1</sub>, the number of observations in these years may vary. \* P < .05; \*\* P < .01, \*\*\* P < .001

Median<sub>i</sub>; x = Significant difference between this year and the preceding year within the cluster-type using the Wilcoxon-Test; i = Significant difference between cluster-type i and the respective cluster-type within the analyzed year using the U-Test by Mann/Whitney.

Table 7: Descriptives for different groups of strategic change: "Current" solvency-rating

Except for the type 1 "expansionist", who enjoys a high instance of agreement between the current turnover estimate/profit situation and the corresponding estimates derived from the balance sheet analysis, we find that the remaining types show certain remarkable discrepancies. If we consider that the analysts generally perform their evaluations with a time lag of nearly one year, and we make allowances for this in the form of some adjustments, the results may indeed come closer - but still, there are differences remaining. These differences might be explained to a degree, in that the credit analyst approaches the profit situation with a stronger emphasis on the creditor-oriented view of financial ratios and, moreover, takes qualitative indicators into account.

Despite this, it is noteworthy that in the up-to-date evaluation of the turnover/profit situation by the credit analysts, a distinctly positive rating emerges for the type 2 "innovator" and the type 4 "concentrator" following the strategic change.

The originally improved rating for type 3 "reallocator" in the year after the change, however, is curbed distinctly in the final year, putting this strategic change type back to the low level he occupied prior to the change.

#### 4. Summary

Having coordinated the results of the comparative analysis of the balance sheets, we arrive at the following conclusion: an undifferentiated analysis of companies that have undertaken strategic change leads to an unjustified generalization of the object of analysis.

The typology introduced here - four empirically derived types of strategic change - reveals different forms of the progression of economic situation, each influenced by respective change types. Type 1, in particular, and also type 3 show results that differ quite significantly from the other change types.

When we also take into account the solvency ratings of credit analysts, we find that the fluctuations demonstrated in the financial ratios are here expressed in a very reduced form.

For instance, the deterioration of the financial ratios for type 1 "expansionist" is seen only in the corresponding evaluation of the solvency component. All in all, the analysts' opinions point to this type as being the one which is not influenced - in terms of economic situation - by a strategic change.

Type 2 "innovator" and type 4 "concentrator" show, however, noticeable improvement in their economic situation after the strategic change has been implemented, at least where profitability is concerned.

Type 3 the "reallocator", too, can show financial ratios with an improvement in profitability following the strategic change. Yet these are strongly called into question by a continuously deteriorating profitability evaluation by the credit analysts, and a critical estimation of the path future developments will take.

These results recommend conducting further research which would analyze a longer research period following the strategic change, and also take other known strategic success factors (Buzzell, Gale 1987; Hauschildt, Grün 1993) into account.

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## Appendix

### Definitions of financial ratios:

1) Return on equity =  $(\text{net income} + \text{taxes on income} / \text{equity}) * 100$

2) Equity ratio =  $(\text{equity} / \text{total capital}) * 100$

with equity = subscribed capital + capital reserve + revenue reserve - reserve for own shares + retained profits + 0,5 \* special item with an equity component - capitalized startup and expansion costs - goodwill - unamortized debt discounts