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ABSTRACT

This study addresses the pre-acquisition financial characteristics of privately held acquiring and acquired companies involved in 143 Belgian takeovers between 1992 and 1994. Specifically, the research examines the profitability, liquidity, financial structure, added value and failure risk using statistical analysis of industry-adjusted variables. Our findings show that acquisition is not an alternative to bankruptcy since acquired companies do not report high failure risk, but exhibit higher than industry liquidity and solvency. The acquirers achieve a higher growth rate in total assets and sales than the acquired firms but experience a negative industry-adjusted liquidity and are highly levered, suggesting evidence for a growth-resource mismatch or a financial fit between acquirers and their targets.

1. INTRODUCTION

The economic consequences of mergers and acquisitions have been studied in a large number of studies. The empirical literature on the financial effects of takeover has drawn on two principal sources of statistical evidence: stock market data and accounting-based data. However, the vast majority of the takeover literature deals with the impact of merger and acquisition announcements on the share price of the bidding and the target company. Even in Belgium, where the number of quoted companies, and hence the number of takeovers between public companies is limited, most acquisition studies have used the event-study methodology to assess economic gains from takeover (Van Hulle, 1990 and Van Hulle et al., 1991). Lack of Belgian accounting data, however, is not an issue, since all Belgian companies, bigger and smaller, are bound to deposit their annual accounts with the 'Balanscentrale' of the Belgian Central Bank.

Relatively few studies have addressed the operating performance of companies involved in takeover, due in part to both lack of data availability and methodological problems. Those studies that do investigate the operating performance generally focus on the post-acquisition performance and only study the pre-acquisition performance of acquirers and their targets to compare it with the acquirer's post-acquisition performance. A further drawback of almost all studies of operating performance in mergers and acquisitions (both pre –and post acquisition), is that those studies are usually restricted to samples of very big companies with publicly traded securities (e.g. Healy et al., 1992, Higson and Elliott, 1994, Parrino and Harris, 1999). Exception to this rule is the research by Ravenscraft and Scherer for the USA (1987 and 1989) and Cosh et al. (1993) and Cosh and Hughes (1994) for the UK.

Our paper attempts to fill some of the gaps described above. First of all, we focus on the pre-acquisition financial profile of acquiring and acquired companies, using accounting-based data. The principal aim of this paper is to investigate if acquiring and acquired firms do have a specific pre-acquisition financial profile. We do not only study pre-acquisition profitability (like most studies), but our analysis also includes measures of liquidity, leverage, added value and failure risk. Secondly, our sample only contains privately held companies, that were involved in a takeover. The nature of the acquisition process is substantially different between large companies with quotations on stock exchanges and small privately held companies.

We can link this issue with literature on Corporate Governance. In the 'Corporate Governance' literature there are three basic ownership models, (1) the open corporate model or the capital-market-based system of corporate finance, (2) the closed corporate model or the financial-intermediary-based system of corporate finance and (3) the industrial-group-based system of corporate finance. With regard to our research we are particularly interested in the first two systems. The open corporate model is typical for the US, the UK and Canada. This model is characterised by a large number of independent, publicly traded corporations, a great reliance on public capital markets and a very active market for corporate control. Countries fitting this model have very large, liquid stock and bond markets and the companies in these countries are able to raise enormous funds to finance corporate investments. The closed corporate model is common in most European countries, such as Germany, France, Holland and Belgium and consists of a large number of mid-sized, closely held companies. In this model capital markets play small, but growing, roles in corporate finance and the stock market is rather illiquid (Megginson, 1997; Moerland, 1995; Daems, 1995).

Large differences are possible in the way control is acquired between the market of corporate control and the private company for sale market. Firstly, in the case of privately held companies, it is not possible to offer a public bid because these companies have very tight

ownership structures. There is no separation of ownership and control. In this case, control can not be acquired against their will and as a result hostile takeovers don't occur. A hostile takeover bid is only possible for companies with separation of ownership and control, where the bid appeals directly to the shareholders of the other company. Secondly, for privately held companies acquisitions are more difficult because they are financially constrained compared to publicly traded companies. It is very difficult and expensive for them to raise new equity capital to pay the acquisition (Daems, 1998). Therefore, one might expect that the lack of stock market quotations, the tightness of shareholdings, the involvement of owner-managers and differences in the way in which seller and buyer are brought together, will result in significant differences in the relative characteristics of acquired and acquiring companies.
In Belgium, families, groups and holdings account for the main parts of the ownership structure. The reference shareholders don't want to lose control over their company and they are not supportive to the interference of external persons (Daems, 1998). That may be one of the reasons why there are few takeovers in Belgium compared to other countries and why it is interesting to study the takeover market for privately held companies.

Furthermore, it is known that most small businesses are closely held, but not all closely-held firms are small. Since our sample contains both larger and smaller privately held companies, this allows us to compare the pre-acquisition characteristics of both larger and smaller targets and acquirers. Our research is thus motivated by the lack of empirical research on the operating performance of unquoted companies, larger and smaller ones, involved in takeovers.

In this study of 143 takeovers, we attempt to answer two fundamental questions. First, are acquired firms underperformers or are they financially stronger than their industry counterparts. Second, are acquiring firms superior in terms of profitability, liquidity,

leverage,…, relative to their industries, and their targets? We also attempt to determine whether significant differences exist between small and large acquired and acquiring firms.

We do not know the exact motives of the acquisitions in our sample, but there are some possibilities frequently stated in other studies, that may be applicable. Both the acquirers and the acquired companies can gain from benefits in market share and economies of scale, from diversification into new products or markets and from vertical integration. Besides this, the acquired companies can gain access to better financial resources, their shareholders are able to diversify their personal wealth and finally an acquisition may solve problems of management succession (Daems, 1998; Cosh and Hughes, 1994; Moerland, 1995)

Furthermore it could be interesting to analyse the method of payment in our sample. However there was no information available about this topic.

The paper is organised as follows. Section 2 gives a brief review of previous pre-acquisition performance research. In section 3 we describe the methodology used in this paper. This includes data collection, accounting-based performance measures and methodology. The empirical results from the pre-takeover research are presented in section 4. Section 5 contains the discussion of our empirical results and the paper ends with our conclusions in section 6.

2. EVIDENCE FROM PREVIOUS RESEARCH

Before analyzing the pre-acquisition profile of acquiring and acquired companies, let's briefly review what we know from prior studies. In the past, pre-takeover operating performance has been studied in three different types of research.

1. First, a number of empirical studies have attempted to construct statistical models using publicly available financial information to predict acquisition targets. These acquisition

likelihood models compare financial features of companies that were acquired with those of non-target companies. In this way they try to find discriminating characteristics of potential targets to predict what companies are probable takeover targets. (Stevens, 1973; Dietrich and Sorensen, 1984; Palepu, 1986; Barnes, 1990 and Higson and Elliot, 1993). Generally these studies do not address the pre-takeover performance of the acquirers.

2. A second type of studies that address pre-takeover performance issues, are the post-takeover performance studies. Most accounting studies address both the pre-takeover performance of the target and the acquiring companies and the post-takeover performance of the acquiring company. This kind of research using financial accounting data, seeks to determine whether on average takeovers are followed by changes in profitability. To begin, these studies investigate the profit potential of the acquired companies, as manifested in their pre-takeover earnings. Since the targets' annual accounts information is absorbed into the acquirers' accounts, it can be expected that the pre-takeover performance of target companies will influence the post-takeover performance of the acquirer. These so-called before-after-comparisons assess the impact of acquisition by comparing the acquirer's post-acquisition performance with an asset-weighted average of the performance of the acquirer and its target in the pre-acquisition period (e.g. Ravenscraft and Scherer, 1987a, b and 1989; Higson and Elliot, 1994, Cosh and Hughes, 1994)[1].
3. Third, a number of studies have tried to link the post-takeover performance of the acquirers to the pre-takeover characteristics of the acquirer and their targets. In this way they try to identify the factors that drive post-acquisition success or failure (Cosh et al., 1990; Parrino and Harris, 1999). Other studies explore the hypothesis that mergers can create value through purely financial means such as the use of excess cash and unused debt capacity.

[1] For an excellent summary of post-acquisition studies using accounting data, see Chatterjee and Meeks (1996)

They suggest a specific financial motive for merger based on a complementary fit between targets and acquirers (Myers and Majluf, 1984; Bruner, 1988; Smith and Kim, 1994).

There are three possible hypotheses with regard to the pre-takeover performance of acquired companies. Or acquired firms show poor performance in the pre-acquisition period, or they may perform equally to their industries, or they may be better performing than their industry counterparts. The results of previous research are rather mixed and probably so is reality.

With regard to the pre-takeover performance of acquired companies, Pastena and Ruland (1986) point to the fact that a lot of acquired firms are financially distressed and that for these firms a merger or acquisition is often the only alternative to bankruptcy. Therefore one could expect that takeover targets are mainly companies that have performed badly or had a weak financial position in the years prior to takeover. This hypothesis constitutes one of the main reasons why takeover target prediction models give great importance to measures of profitability and leverage. However, contrary to what is suggested, few evidence is found on the claim that takeover targets are mainly poor performing companies. For instance Higson and Elliott (1993) don't find a significant link between poor operating performance in terms of profitability and the likelihood of being a takeover target. Features that do matter are size and a mismatch between growth and resources.

According to Higson and Elliott (1993) firm size is an important discriminator between acquired and non-acquired companies. However, the importance of size in determining acquisition likelihood can be attributed to the fact that it is mainly proxying the much lower propensity to be acquired of the very largest firms. In this respect it is important to note that the majority of the studies mentioned only deals with takeovers of big, listed companies. Another

feature of takeover targets is presented by Palepu (1986). The latter finds that takeover targets are often characterised by a mismatch between growth and resources. Companies that experience an important growth (as measured by sales growth), but don't have enough resources to support this growth are often takeover targets. Alternatively, companies with a great availability of financial and other resources but with a lack of profitable investment opportunities to allocate these resources, are also attractive takeover targets.

Palepu (1986) measures the availability of financial resources with liquidity and solvency ratio's (net liquid assets to total assets and debt to equity). Liquidity however doesn't seem to have a strong explaining power and doesn't differ significantly between acquired and non-acquired companies. Solvency on the contrary seems to be an important feature to predict takeover targets. These findings are confirmed by empirical research by Clark and Ofek (1994). They find a debt to assets ratio of 28,8% for the acquirers in their sample versus 39,2% for the takeover targets. Hence leverage or solvency in general seems to be a strong discriminator between acquired and non-acquired companies. However, it is important to state that the leverage of the target company should not be too high, for this has a significant negative impact on the acquirer's financial structure after the acquisition (Theodossiou et al.,1996). Finally, Pastena and Ruland (1986) insist that, as the financial distress of a takeover candidate worsens, its need for an acquirer increases but its attractiveness as a takeover candidate decreases.

As we stated before, pre-takeover performance is also studied in post-takeover studies. However the findings of this research are inconclusive. On the one hand, some studies have shown acquired companies to be appreciably less profitable on average than their acquirers or control groups, whereas other studies report acquisition targets to be extraordinarily profitable

pre-takeover. These differences in performance levels, however, seem to be correlated with the size of the companies under investigation. Ravenscraft and Scherer (1987a) were the first to confine their merger and acquisition analysis to small, unquoted companies and they ask themselves how it is possible that their pre-acquisition results '*differ so strikingly from those of other studies*'. They conclude by stating that '*our sample, unlike others, includes smaller and (often related to smallness) privately held companies*'. The smaller the size of the acquired companies, the greater their pre-takeover profitability seems to be. Stated differently, the smaller the acquisition, the more acquirers favored (within the large population of candidates) firms of superior profitability (Ravenscraft and Scherer, 1989).

It is obvious that size is an important variable in takeover research. An important feature of this research however is that it mainly focuses on takeovers of large, billion dollar asset companies. Few studies have addressed the performance of smaller, unquoted companies involved in takeover. Furthermore most accounting studies were carried out by Anglo-Saxon economists. Little is known about the performance of target and acquiring companies in the takeover market in Western European countries such as Belgium - a market that is dominated by takeovers of smaller, privately held companies.

3. DATA AND METHODOLOGY

3.1. Data

Our main performance data come from the CD-ROM's of the National Bank of Belgium (Belgium's central bank) for the years 1989-1993. It concerns published annual accounts of non-financial Belgian companies subject to the Royal Decree of October 8, 1976 on the reporting of Belgian annual accounts. In Belgium companies are bound to deposit their annual accounts in a prescribed form dependent on their size. A distinction can be made between

companies that have to prepare their annual accounts in a complete form and companies that prepare their annual accounts in an abbreviated form. The first group of companies are characterized by a number of employees of more than 100 or at least two of the following criteria have to be exceeded: number of employees (yearly average): 50; sales (V.A.T. excluded) (yearly average): 170 million Belgian francs and total assets: 85 million Belgian francs[2]. Companies that don't meet these criteria, are allowed to prepare their annual accounts in an abbreviated form. The CD-ROM's of the National Bank of Belgium contain the numerical data of all annual accounts of non-financial Belgian companies that are bound to apply disclosure requirements.

Our sample of takeovers was originiated from the same CD-ROM's. In Belgium, a company that is taken over ceases to exist and therefore no longer has to publish and deposit annual accounts with the Balanscentrale of the National Bank of Belgium. Companies that are taken over adopt the legal status of 'Absorption by another company'. Via the CD-ROM of the National Bank of Belgium it was possible to select a list of companies having this legal status. In 1992 463 companies were acquired according to this criterium, in 1993 338 acquisitions were listed and in 1994 the number of Belgian companies that were acquired amounted to 567. In addition, the list of acquired companies was restricted to companies with complete form annual accounts. In this way, we excluded very small or 'micro' companies from our analysis. As it was our intention to analyse the financial ratios of these companies, this restriction was necessary because companies with abbreviated form annual accounts do not have to apply full disclosure requirements (e.g. there is no obligation to report the level of sales).
Excluding the takeovers of companies with abbreviated form annual accounts, the population of takeovers was reduced to 59 targets with complete form annual accounts in 1992, 47 in 1993

[2] The criteria for sales and total assets were changed from 1994 to 200 million BEF and 100 million BEF.

and 85 in 1994. Thus the total population was reduced from 1.368 companies that were acquired to 191 acquired firms. To this point we only knew what companies were taken over. Their acquirers were not mentioned on the CD-ROM's nor was it possible to trace all the acquirers in Belgian financial newspapers (as most of these companies were often too small). Finally, the acquiring companies were traced with the help of the National Bank of Belgium. Of course, the approach described above only includes takeover attempts that succeeded and it does not take into account unsuccessful takeover attempts. Undoubtedly, it would be useful to study those companies that were a takeover target but were never taken over. The results of a comparison of pre-acquisition characteristics between successful and unsuccessful acquisition targets would definitely provide meaningful insights into the takeover process. Unfortunately, it is very difficult to identifiy targets of unsuccessful takeover attempts, since we study unquoted companies and therefore, we cannot rely on financial press coverage about these takeover attempts.

TABLE 1

Composition of the research population

	Population of Belgian acquired firms	
Year of acquisition	Complete + abbreviated form annual accounts	Complete form annual accounts
1992	463	59
1993	338	47
1994	567	85
Total	1.368	191

Table 1 summarizes the number of Belgian acquired firms in our population for the period 1992-1994. Furthermore some companies were excluded from the population of complete form

takeovers because of lacking information or because of their special situation. Companies in financial intermediation (NACE code[3] 8132), property companies (NACE code 850) and companies in the 'other services' industry (NACE code 8361) were excluded from our population as it was not our aim to study these 'special' companies. The total number of excluded companies amounted to 48. Finally the sample consists of 143 acquisitions. As we include multiple takeovers in our sample, i.e. takeovers in which acquirers acquired more than one company, the number of acquired companies in our sample is bigger than the number of acquirers. 143 companies were acquired by 123 different acquirers. The sample contains 109 'single' acquirers and 14 'multiple' acquirers that acquired 34 target companies. Table 2 shows the number of multiple and single acquirers and their targets.

TABLE 2

Distribution of the number of acquiring and acquired companies: single and multiple takeovers.

	Number of companies acquired	Number of Acquiring companies
Single takeovers	109	109
Multiple takeovers	34	14
2 companies acquired	22	11
3 "	3	1
4 "	4	1
5 "	5	1
Total	143	123

[3]NACE-codes are industry codes appointed to each Belgian company since 1979 by the Belgian 'National Institute for

3.2. Accounting measures of performance

In order to evaluate the performance of target and acquiring companies the different basic elements of the financial situation of a company are investigated: profitability, liquidity, financial structure or solvency and added value. We use 4 different profitability measures to evaluate the performance of acquiring and acquired companies, 2 liquidity measures, 2 solvency measures and 2 measures of added value. These 10 financial ratios are presented in table 3. Previous research by Ooghe and Camerlynck (1999) on Belgian annual accounts has shown that these ten ratios provide a comprehensive view of a company's financial situation.

Statistics' (N.I.S.). This industry classification serves the same purpose as the well-known SIC classification, and has been established for industry taxonomy within the European Union.

TABLE 3

Overview of the performance measures for which industry values are available

Variable	Description	Definition	Codes
NRS	Net return on sales before taxes	Net operating income / sales	(|70/64| - |64/70| + |9125|) / (|70|)
NRTA	Net return on total assets before taxes	Net result, before interest costs, before taxes / total assets	(|70/66| - |66/70| - <65> + |780| - |680| - |9126| - <656>) / (|20/58|)
NRSE	Net return on shareholders' equity after taxes	Profit or loss for the period after taxes / shareholders' equity	(|70/67| - |67/70| / (<10/15>)
CFRSE	Cash flow return on shareholders' equity	Cash flow / shareholders' equity	(|70/67| - |67/70| - <631/4> - 635/7> + <656> -|780| + |680| + |8079| - |8089| + |8279| - |8289| + |8475| - |8485| - |9125|) / (<10/15>)
FIR	Financial independence ratio	Shareholders funds / total liabilities	(<10/15>) / (|10/49|)
CFCD	Cash flow coverage of debt	Cash flow / debt	(|70/67| - |67/70| - <631/4> - 635/7> + <656> -|780| + |680| + |8079| - |8089| + |8279| - |8289| + |8475| - |8485| - |9125|) / (|16| + |17/49|)
CR	Current ratio	Current assets / current liabilities	(|29/58| - |29| - |42/48| + |492/3|)
NCR	Net cash ratio	Cash + cash equivalents – short term financial debt / current liabilities	(|50/53| + |54/58| - |43|) / (|29/58| - |29|)
GAVE	Gross added value per employee	Gross added value / number of employees	(|70/74| - |740| - |60| -|61|) / (|9087|)
PEE	Personnel expenses per employee	Personnel expenses / number of employees	(<62>) / (|9087|)

The net return on sales before taxes indicates the relative size of operating income in relation to sales. In this way it is an indicator for the operational performance of a company. A second, and one of the most common tests involves the rate of return on assets. The third profitability measure focuses on the ratio of shareholder income to shareholders' equity, the rate of return on equity. We also study the gross or cashflow return on shareholders' equity. The difference between gross and net return on equity lays in the non-cash expenses, which are either excluded (gross) or included (net) as expenses.

The two measures of liquidity are the current ratio and the net cash ratio. The latter relates cash and cash equivalents minus short term financial debt to current liabilities. We also use two measures of leverage or solvency. The financial independence ratio is the complement of the debt to total assets ratio. The second ratio that was used to evaluate the solvency of the acquirers and acquired companies, is the coverage of debt by the cash flow. This ratio is an indicator for the debt repayment potential of the company for it relates the liabilities of debt to the cash flow that can be used to redeem these liabilities.

In the past, the use of accounting data in empirical research has raised some reliability concerns. "Tax avoidance" and "earnings management" are important sources of distortions in the annual accounts of Belgian and other companies. In order to address these reliability issues, some recent studies display a preference for cash flow measures and for 'fundamental' measures (Higson and Elliott, 1993). We have added the cash flow return of shareholders' equity as our fourth profitability measure and we include two more 'fundamental' measures to our post-acquisition analysis: gross added value per employee and personnel expenses per employee (both in thousands of Belgian francs).

Finally, takeovers are often seen as a means of restructuring distressed firms. Therefore we include two variables that have proven to be reliable predictors of company failure: a short term and a long term logit score. These two indicators of failure risk integrate different, sometimes contrasting aspects of a company's financial situation and they are the result of two failure prediction models (one short term model, 1 year prior to failure and one medium term model, 3 years prior to failure) that were estimated on a sample of Belgian annual accounts by Ooghe, Joos and De Vos (1991) (Ooghe et al., 1995). The logit scores vary between 0 and 1 and reflect the risk of the company. The higher the score, the bigger the risk of the company or the weaker its financial health. The variables of the two logit scores are presented in appendix 1.

Despite the fact that we have included failure prediction scores and some more 'fundamental' measures to our analysis, this cannot resolve the concern that the legal entities of which the annual accounts are studied in this paper, do not entirely reflect the economic reality. It would definitely be useful not only to study the annual accounts of the legal entities that acqure or that are being acquired, but rather the economic entities, comprising of several related legal entities.

3.3. Methodology

We use industry data to calculate industry-adjusted performance of the acquirers and the acquired companies. For the ten financial ratios and two logit scores described above, industry values were available through a study performed by the Department of Corporate Finance of the Ghent University[4]. This study, which is called 'The financial situation of the Belgian companies', gives an objective overview of the financial situation and performance of the Belgian companies over a time frame from 1989 until 1998. The study provides the three

[4]Ooghe and Camerlynck (1999), 'The financial situation of the Belgian companies'.

quartiles for the entire population of Belgian annual accounts and for several subgroups divided by region (Flanders, Wallonia and Brussels), size class (bigger companies with complete form annual accounts, smaller and medium-sized companies with abbreviated form annual accounts and companies without employees) and industry class (17 industry classes[5]). Especially the latter division was useful for the analysis presented here.

In this paper we investigate the pre-acquisition characteristics of the acquired and the acquiring companies. All values presented in our study are calculated relative to their industry medians (unless mentioned differently). This is achieved by first calculating the values of each variable for a sample company and then subtracting from each the median value of the same variable for the industry in which the sample company falls (both measured over the same years). It are these adjusted variables that are used in the analysis so that it are their differences from their industry medians, which are being examined. The formula used to calculate industry-adjusted values is:

$$X_i - Q_{2\text{-industry y}}$$

with

X_i = firm value of firm i

$Q_{2\text{-industry y}}$ = median of industry y of firm i

We prefer industry medians rather than averages because of the occurrence of outlying observations which distort the averages. In some cases it might be relevant to standardize the industry-adjusted values by dividing them by a measure for the dispersion of the industry values around the median. Ooghe, Joos and Sierens (1998) present the following method in

[5]For an overview of the 17 industry classes and the number of acquired and acquiring companies per industry, see appendix.

which the difference between the firm value and its industry median is divided by the difference between the third and the first quartile (or the interquartile range) of that industry:

$$X_i - Q_{2\text{-industry y}} / (Q_{3\text{-industry y}} - Q_{1\text{-industry y}})$$

with

X_i = firm value of firm i

$Q_{2\text{-industry y}}$ = median of industry y of firm i

$Q_{3\text{-industry y}} - Q_{1\text{-industry y}}$ = interquartile range or (3rd quartile – 1st quartile) of industry y of firm i

By comparing a firms' value with its industry median we exclude industry effects, that might have nothing to do with the event which is being studied here, i.e. the acquisition. Our pre-acquisition analysis compares the acquired firms' and the acquiring firms' pre-acquisition characteristics both with their industries' and with each others' performance.

Since the companies in our sample were acquired in different years, our research population could be divided into three parts according to the year in which the acquisition took place (1992, 1993 or 1994). Annual accounts information was collected for each of the three populations for the three-year period prior to acquisition. This implies that industry information had to be collected from 1989 until 1993. The procedure is explained in table 4.

TABLE 4

Population procedure

Relative year	Companies for which annual accounts information is available	Year to which the data relate
Year(-3)	Targets and acquirers in 1992	1989
	Targets and acquirers in 1993	1990
	Targets and acquirers in 1994	1991
Year(-2)	Targets and acquirers in 1992	1990
	Targets and acquirers in 1993	1991
	Targets and acquirers in 1994	1992
Year(-1)	Targets and acquirers in 1992	1991
	Targets and acquirers in 1993	1992
	Targets and acquirers in 1994	1993

The next two sections of the paper address the main questions of our research. First, are acquired firms underperformers or are they financially stronger than their industry counterparts. Second, are acquiring firms superior in terms of profitability, liquidity, leverage, added value and failure risk relative to their industries and their targets?

4. PRE-ACQUISITION CHARACTERISTICS

The results of the empirical research are reported as follows. First, we examine the size and growth characteristics of the acquired firms and their acquirers. Second, we compare both the acquired firms and their acquirers with their industry performance as to determine whether acquired firms are underperformers and acquirers have superior pre-acquisition performance. Third, we compare the industry-adjusted values of the acquired firms and their acquirers. Since we examine the corporate performance for a period of three years prior to takeover, it is possible to investigate whether these differences in performance change in time. This might be

relevant because it could reveal reasons for the takeover. Finally, we study the industry-adjusted pre-acquisition performance of the multiple acquirers and their targets and compare it with the pre-acquisition performance of the single acquirers and their targets.

4.1. Size and growth characteristics of the acquiring and acquired companies

We remind that all companies in our sample have complete form annual accounts. In Belgian terms, companies having complete form annual accounts are 'big companies' and companies having abbreviated form annual accounts are called 'small and medium sized enterprises' or SME's. However, it should be clear that definitions of 'big' and 'small' are very relative. In their study of acquisition activity in the small business sector in the UK, Cosh and Hughes (1994) make use of a British survey of over 2000 SME's (SRBC 1992). In that survey small and medium sized companies are businesses employing less than 500 workers. To see this in perspective, in Belgium the number of companies employing more than 500 workers is only about 300 in the 1990s, relative to a total number of more than 200.000 companies that deposit their annual accounts with the 'Balanscentrale' of the Belgian central bank. This means that in terms of the survey mentioned above, there would only be about 300 big companies in Belgium. In Belgian terms however, there are between 13.000 and 14.000 companies with complete form annual accounts or 'big' companies in the 1990s[6].

The point we're trying to make is that our sample, despite our restriction to companies with complete form annual accounts (i.e. big companies in Belgian terms), includes both 'large' and 'small' companies. In our pre-acquisition analysis we divide our sample of 143 acquired firms in large and small companies. We define small companies as companies having total assets of less than 100 million BEF in the year prior to acquisition and large companies having total

assets of more than 100 million BEF. Based on this division point of 100 million BEF in year(-1), 57 of the 143 acquired companies in our sample are small and 86 are large. The number of small companies among the acquirers is, as expected, much lower : 22 acquirers have total assets of less than 100 million BEF in year(-1) and 121 acquirers are large.

Table 5 shows the size and growth characteristics of the acquired firms and the acquiring firms for the three years prior to acquisition. Total assets, sales and number of employees are reported, both in absolute levels (medians and means), for the thee years separately and in growth (medians and means), over the three-year period. We also report the percentage of firms having positive, and having negative growth. This is done for the whole sample and for the two halves: large firms and small firms.

The big differences between the mean levels and the median levels suggest outlying observations. We therefore prefer to discuss the median levels and growth percentages. It is clear that the acquiring firms are much bigger than the companies acquired, as well in terms of total assets, sales and number of employees. The median number of employees of the acquirers in our sample is only 44 in year(-1) versus 17 for the acquired firms. The median growth values reveal interesting differences between acquiring and acquired firms. The median growth in total assets and in sales is significantly greater for the acquiring companies than for their targets, with a median growth in total assets of 8,39% for the acquired versus 13,47% for their acquirers and a median growth in sales of 4,90% versus 9,16%. Also the percentage of companies having positive growth is bigger for the acquirers and significantly with respect to the median growth in sales (54% positive growth versus 62%). These results seem to confirm the results of previous studies that acquired firms are less dynamic than their acquirers.

[6] Source: Ooghe and Camerlynck (1999) and the CD-ROM's of the National Bank of Belgium

The distribution of these growth values between large and small firms provides some interesting results. We find the larger firms, both the large acquired firms and the large acquirers, to have higher growth percentages prior to acquisition than the smaller companies. This result is in contrast with earlier studies that have found small acquired firms to be faster growing (and more profitable) than the larger ones (e.g. Ravenscraft and Scherer, 1987a, Cosh et al., 1993). This might be due to the definitions of large and small companies. Even the group of bigger firms contains a lot of relatively small ones.

4.2. Tests of acquired firms versus industry

The pre-takeover characteristics of the acquired sample of 143 companies are shown in table 6. All values in the table are medians. The values presented in the first column of the table are the medians of 143 values for 12 variables, measured over a three-year pre-takeover period. First, we calculated the values of these 12 variables for the 143 sample companies. For each company we identified it's industry class using it's NACE-code and redefining it into one of our own 17 industry classes. Next, we subtracted the median industry value from the company value. Both the company and industry values were measured over the same years. This resulted in industry-adjusted values for each company. Finally, we calculated the medians of the sample companies' industry-adjusted values and these are reported in table 6.

Table 6 contains two parts : a left part with medians of industry-adjusted values and a right part with medians of industry & size adjusted values. Our database of industry values does not only consist of general industry values but also contains industry values by size class : industry quartiles for the bigger companies (with complete form annual accounts) that fall within the same industry and the same for SME's with abbreviated form annual accounts. In the left part

of table 6 we use the general industry medians to adjust for industry effects. These medians were calculated for all companies within an industry, both the bigger companies with complete form annual accounts and the smaller, 'micro' companies with abbreviated form annual accounts. In the righter part of table 6, we use the industry medians of the companies with complete form annual accounts. In this way, we do not only adjust for industry but also for the form of the annual accounts (which is correlated with size).

As Kolmogorov-Smirnoff tests show that the variables are not normally distributed, non-parametric statistical tests have to be used to compare the variables (Siegel and Castellan, 1988). Our choice of statistical test should take the relatedness of our samples into account. Since we compare financial ratios of acquired companies with their industries (table 6) and of acquiring companies with their industries (table 7), tests for two-related samples are recommended (Wilcoxon signed rank test).

We find the acquired companies in our sample to be somewhat more profitable than their industry medians. The differences are highly significant with respect to the net return on total assets and the net return on equity, using both medians of industry-adjusted values (left part) and medians of industry & size –adjusted values (right part). The acquired companies' cashflow return on equity is only significantly different from its industry when using industry & size –adjusted values. The net return on sales is the only variable that is systematically below its industry median, though not significantly.

These results confirm the results of other studies focusing on takeovers of smaller, privately held companies. Ravenscraft and Scherer (1989) found that the acquired firms' pre-merger profitability exceeded their home industry and the more so, the smaller their size. The division

of our sample between large and small firms, however does not indicate that the pre-acquisition profitability increases with decreasing size of the target. The profitability picture of the small acquired firms is mixed. On the one hand, the smaller companies exhibit below industry median cashflow returns on equity (though not significant) and significant negative industry-adjusted net returns on sales in year(-2). On the other hand, their net return on assets and on equity is substantially above their home industry norms and improves as the acquisition date approaches. Ravenscraft and Scherer (1987a) report similar findings of rising profitability.

In terms of liquidity, we find significantly higher (than industry) current ratios in the three pre-acquisition years for the medians of industry & size adjusted values. The other measure of liquidity is the net cash ratio and for this measure we find lower than industry values, however only significant in comparison with the general industry medians in year(-3) and year(-2). Furthermore, the medians for the net cash ratio indicate an improvement of the cash balance as the acquisition date approaches. The difference between large and small acquired firms is quite obvious based on the medians for the liquidity ratios reported in table 6. The small targets exhibit in almost every year of the pre-acquisition period higher medians of industry-adjusted values than their larger counterparts. This is in contrast with findings by Cosh et al. (1993) who make a distinction between large and small acquired firms with a division point of £1m net assets. Using similar measures of liquidity, the small acquired firms in their 40 companies-sample on average have lower relative liquidity than the large acquired ones.

The industry-adjusted and industry & size -adjusted values for the two measures of solvency are all significantly different from zero. In general, acquired companies are less leveraged or financially more independent than their industries. We stress however the different movement from year(-3) to year(-1) with respect to the financial independence ratio when using the

median of industry-adjusted values or the median of industry & size-adjusted values. The industry-adjusted median of FIR decreases from 9,89% in year(-3) to 1,73% in year(-1), whereas the industry & size-adjusted median increases from –0,07% to 4,57%. So, addition of the size effect to the industry adjustment makes the change from year(-3) to year(-1) go in the opposite direction (increasing in stead of decreasing). This indicates an important size effect, in addition to the industry effect, in the leverage change in the 1989-1993 observation period. Another illustration of the importance of size is the clear difference in leverage and cashflow coverage between large and small acquired firms. The small acquired firms show substantially higher financial independence rates than their larger counterparts. The other solvency measure, the cashflow coverage of debt, shows a positive trend in the pre-acquisition period. In year(-3) we find a slightly but significantly negative industry-adjusted median (-0,06%) and in year(-1) the median value for this variable has climbed to a significant positive difference of 5,52%. A similar positive evolution is found for the industry & size-adjusted values. Again the small acquired firms display higher medians than the larger targets.

The fourth dimension of the financial situation we study is added value. On the one hand, we find a significantly positive median of industry-adjusted gross added value (GAVE) and personnel expenses per employee (PEE). On the other hand, the GAVE and PEE of the acquired companies are not significantly different from the median of the companies with complete form annual accounts within their industry (industry & size adjustment). This difference is quite logical since the results of our industry study (Ooghe and Camerlynck, 1999) have indicated that bigger companies, i.e. with complete form annual accounts, have higher gross added value per employee but also higher personnel expenses per employee than Belgian companies overall.

Finally, we also calculated industry-adjusted failure scores using the logistic regression failure prediction model by Ooghe, Joos and De Vos (1991). For the long term logit scores, the sample company values are significantly (at the 1% level) lower than their industry. This means that the long term failure risk is smaller for the acquired companies in our sample than for the companies in their industry as a whole. Furthermore this failure risk decreases from –0,1116 (or –0,0608) in year(-3) to –0.1266 (or –0,0622) in year(-1). For the short term logit score we find less significant differences from zero. In year(-1) however, a significantly negative (at the 5% level) industry-ajdusted median (-0,0115) was found, whereas this variable was not significantly different from zero (0,0084) in year(-2) and significantly positive (at the 10% level) in year(-3). This suggests that the short term risk of failure decreases as the acquisition date approaches. Similar conclusions can be drawn from the medians for the industry & size-adjusted values. These results suggest that acquisition is not an alternative to bankruptcy for the acquired firm. With a cut-off score of 0,6883 for the short term logit score, 10 acquired firms out of 143 companies could be classified within the group of failing companies one year prior to acquisition. There is only one target company for which the long term logit score exceeds the cut-off score of 0,7863 in year(-1).

4.3. Tests of acquiring firms versus industry

The acquiring firms show a similar profitability profile relative to their industry medians as the companies acquired by them. The net return on sales is not significantly different from their industry contrary to the net return on total assets (NRTA) and the net return on shareholders' equity (NRSE). Acquiring firms have significantly positive industry-adjusted NRTA and NRSE. Especially the large firms have above average returns on assets and on equity. The smaller number of small acquirers (22) show below average NRTA and NRSE in year(-3) and

year(-2). However their profit performance has improved substantially in year(-1) relative to the 2 previous years. The cashflow return on shareholders' equity (CFRSE) is only systematically different from zero when compared with the industry & size medians. We also notice a similar marked improvement of the small acquirers' CFRSE in year(-1) as with their NRTA and NRSE.

We find negative, though not significant industry-adjusted current ratios. The liquidity picture of the acquirers seems even more negative when looking at the net cash ratio. This variable gets increasingly and significantly more negative for the acquirers as the year of acquisition approaches, especially for the large acquirers. As with the acquired firms, the small acquirers display a better overall liquidity position.

Table 7 shows negative industry-adjusted values for the FIR indicating that acquirers are more levered than their industry averages, though not significantly. What emerges most clearly is the big difference in financial independence between large and small acquirers. The larger acquirers report negative, though not significantly different from zero, industry-adjusted medians for the FIR, whereas the small acquirers are much less levered than the large acquirers, showing industry-adjusted median far above zero. This substantial difference between large and small acquirers is remarkable, especially because of the low number of small acquirers (22) compared to the number of large acquirers (121[7]). We stress that 8 of the 22 small acquirers have acquired a large company. It is therefore not surprising that these smaller acquirers are somewhat less levered before acquisition in order to be able to lever up so they could finance the acquisition of a much larger entity using debt. Despite the 'high' industry-adjusted medians (positive for the small acquirers and negative for the large firms),

[7] We recognize that the data of the acquirers contain both the data of the single (109) and multiple acquirers (14) and therefore include double figures. For a separate analysis of the multiple acquirers, cf. infra 4.5.

they are not significantly different from zero. This is in contrast with the highly significant industry-differences of the cashflow coverage of debt. Relative to the companies with complete form annual accounts within their industry (industry & size adjustment), the acquirers have a significantly higher coverage of their debt by the cash flow. Again the better position of the small acquirers is marked.

The results in table 7 reveal higher gross added value per employee (GAVE) for the acquiring companies than their industry medians of the companies with complete form annual accounts. As was expected, the personnel expenses per employee (PEE) are also higher than for their industry counterparts, but when compared with the PEE of their industry counterparts with complete form annual accounts (industry & size adjustment), their PEE are lower, though not significant. This means that acquirers add more value per employee than their counterparts, but have equal or even lower personnel expenses per employee.

The short term logit score is significantly different from zero, indicating that the short term failure risk of the acquiring companies is higher than for their industry counterparts. Especially the small acquirers report high industry-adjusted short term failure scores two and one year prior to takeover. The results for the long term logit score yield a somewhat different picture. Similar to the short term risk is that the small acquirers are riskier than the large acquirers, but relative to their industries the acquirers display below average long term failure risk whereas the short term risk is above the level of their home industry. This conclusion holds, both when the acquiring firms' values are compared with the general industry median and with the industry median of the companies with complete form annual accounts (industry & size adjustment).

4.4. Tests of acquired firms versus acquiring firms

In table 8 we compare the industry-adjusted values of the acquired firms with those of their acquirers. Two slightly different techniques are used to calculate the industry-adjusted values (see 3.3 methodology). The first industry-adjustment is achieved by subtracting the industry median from the firm value. The second method divides the difference between the firm value and its industry median by the interquartile range of its industry, thereby standardizing the industry-adjusted value. For both industry adjustments, table 8 reports the number of targets having higher values than their acquirers and vice versa, i.e. the number of acquiring firms having higher values than their targets. The highest number in the comparison between targets and acquirers is printed in bold. We also report the p-value of the Wilcoxon signed rank tests that were used to test the statistical significance of the differences between the industry-adjusted values of acquired and acquiring firms.

What emerges most clearly from table 8 are the relatively few significant differences between the targets and their acquirers. We find more or less equal results based on our two different approaches for industry adjustment. Significance however is more pronounced when using the first approach.

The profitability picture is rather mixed, with targets and acquirers showing similar profitability records, though with the acquired firms showing some improved profit performance. Targets have higher net returns on sales in year(-3) and year(-2) than their acquirers, though not significant. During the three years pre-acquisition, targets have higher net returns on total assets than their acquirers though only significant in year(-3). The net return on shareholders' equity (NRSE) is more or less equal for the acquirers and their targets. In year(-2) the number of targets with higher NRSE than their acquirers is equal to the number of

acquirers having a higher NRSE than their targets. On average cashflow returns on shareholders' equity (CFRSE) are higher for the acquirers than for the acquired firms in the pre-acquisition period. However, in the year before the acquisition, the number of acquired firms having higher cashflow returns than their acquirers is higher and the situation is reversed. As with the net return on equity however, the differences are not significant. Nevertheless, the results for the CFRSE suggest that the target firms have increased their financial resources substantially. This is also confirmed by the results of the comparison of the liquidity and solvency measures between target companies and their acquirers.

Contrary to the quite similar profitability record, we find marked differences in liquidity between targets and their acquirers. The results from table 6 showed significant supranormal liquidity (current ratio significant at the 1% level in year(-2) and year(-1) and net cash ratio at the 5% in year(-3) and 10% level in year(-2)) for the acquired firms in the pre-acquisition period. On the contrary, the acquirers exhibit below industry liquidity, significant at the 1% level for the net cash ratio and unsignificant for the current ratio (table 7). The different industry-relative liquidity levels are also reflected in table 8: the current ratio is significantly higher for the acquired firms (at the 1% level) in year(-2) and year(-1). Equally the acquired firms display systematically higher net cash ratios than their acquirers in the pre-acquisition period (though only significant at the 5% level in year(-1)).

Analysis of the results for the solvency ratios yields similar results. Earlier we found significant supranormal values for the FIR and the CFCD of the acquired companies. Especially the small acquired firms showed low leverage and high coverage of their debt by the cashflow compared to their industry median. The acquirers however exhibit negative industry-adjusted financial independence. This difference in solvency between targets and acquirers is

also shown clearly in table 8. The number of acquired firms having higher solvency ratios than their acquirers is systematically greater than the number of acquirers with higher solvency ratios, though only significant in year(-3) for the current ratio.

In terms of added value, a higher number of acquiring companies have a bigger gross added value per employee but also greater personnel expenses per employee in the two years prior to the acquisition. This result could be expected since the acquiring companies are mainly large companies that, as we stated earlier, generally have bigger gross added value per employee, but also greater personnel expenses per employee.

However, the clearest and most significant difference between target companies and their acquirers in the pre-acquisition period involves the failure risk as measured by the short term and the long term logit scores. We find the acquiring firms to be riskier, both in the short and the long term than the acquired companies. This is quite remarkable since the study of Ooghe and Camerlynck (1999) about the financial situation of the Belgian companies has shown that smaller companies have significantly higher logit scores than the larger firms. Since the acquired firms in our sample contain a large number of smaller companies, one could expect those companies to exhibit a higher failure risk than their bigger acquirers. The results for the failure scores are also a manifestation of the fact that the target companies in our sample are not potentially failing companies. Their pre-acquisition profitability (with respect to the NRTA, NRSE and CFRSE) is significantly superior relative to their industries and so is their liquidity and solvency.

4.5. Tests of acquired and acquiring firms: multiple versus single takeovers

We have shown earlier that, even when the target company has complete form annual accounts, this does not mean that acquired firms are mainly big firms. Our sample of acquired firms contains some smaller companies and, as Higson and Elliott (1994) have argued, small targets are commonly part of a programme of acquisitions made in the same or adjacent periods. In analyzing the companies in our sample, we have come across the same acquirers more than once, causing the number of acquired companies to be bigger than the number of different acquirers in our sample. 143 companies were acquired by 123 different acquirers. The sample contains 109 ‘single’ acquirers and 14 ‘multiple’ acquirers that acquired 34 target companies.

Contrary to Meeks (1977) and in compliance with Higson and Elliott (1994), we do not exclude multiple acquisitions from our sample acquirers because by excluding them, the sample would be limited to unexperienced acquirers. Acquirers that acquire several companies in a short time frame, are an essential part of the private takeover market and should therefore not be excluded. In the following analysis, we shall investigate the characteristics of multiple acquirers and compare them with those of single acquirers. Furthermore we will study the target firms of the multiple acquirers separately and compare them with the single target companies. We can expect that companies having some experience in acquiring other companies, might acquire companies with different financial characteristics than companies that only acquire one company in the observation period. The results are presented in table 9 and 10. Table 9 contains the size and growth characteristics of the multiple and single acquirers and of the companies acquired by them. In table 10 the medians of the industry-adjusted values for the ten ratios and two logit scores are presented.

Some remarkable findings are shown in table 9. Panel a. of table 9 presents the results for the targets of the single and multiple acquirers; panel b. focuses on the single and multiple acquirers. We find that targets of multiple acquirers are about the same size as targets of single acquirers when using total assets as the size measure. Using sales as the relevant size measure, we find that 'multiple targets' have higher sales levels than the targets of single acquirers. The median growth of total assets and of sales show similar results. The median growth of total assets of the 'multiple targets' is negative (-10,70%) and substantially lower than the median assets growth of the 'single targets' (7,83%). The median growth of sales however is stronger for the 'multiple targets' (10,14%) than for the 'single targets' (8,88%). Another point to note is that the percentage of companies having positive sales growth is substantially higher for 'multiple targets' than for 'single targets' All these results seem to suggest that the sales generating ability of the companies acquired by multiple acquirers, is bigger than for firms acquired by single takeovers. We calculated the sales to total assets ratio for both groups and found significantly higher sales to total assets ratios for the 'multiple targets' than for the 'single targets'.

The same size descriptive variables were calculated for the multiple and single acquirers in panel b. of table 9. As expected, we find the multiple acquirers to be substantially bigger, in total assets, sales and number of employees, than the single acquirers. Remarkable however is our finding that multiple acquirers on the one hand display a higher asset growth than their single counterparts (median of 27,86% versus 10,39%) but on the other hand a lower sales growth (median of –3,66% versus 14,72%). This is exactly the opposite of the situation of the acquired firms, where the 'multiple targets' show lower asset growth but higher sales growth than the 'single targets'. It seems that multiple acquirers, who experience a negative (or a small

positive) sales growth, specifically want to acquire companies with a high sales generating ability in order to improve their own sales generating ability.

The results for the sales to total assets ratio seem to confirm this hypothesis as both the median and the average of the ‘multiple acquirers’ decrease as the acquisition event approaches. Also, this ratio is smaller and quite stable over the three years pre-acquisition for the single acquirers.

The results of the comparison of multiple and single acquirers and their targets versus the industry median in terms of profitability, liquidity, solvency, added value and failure risk are shown in table 10. The multiple acquirers have about the same industry-adjusted profitability as their single counterparts. Only in year(-3) the multiple acquirers have a significantly higher industry-adjusted net return on total assets. Turning to the profitability of the targets of the multiple acquirers, we find them having higher medians of industry-adjusted profitability values than the targets of single acquirers. The differences however are only significant for the net return on total assets in year(-3) and year(-2). It seems that multiple acquirers acquire somewhat more profitable companies.

In terms of liquidity we find no substantial differences between multiple and single acquirers. We do find however that the targets of multiple acquirers have a somewhat better liquidity position, especially when using the net cash ratio as principal measure. Targets of both single and multiple acquirers report negative industry-adjusted values for the net cash ratio. The net cash ratio of the ‘single targets’ is more negative than the value for the ‘multiple targets’ and the difference between both is significant in year(-3) and year(-2).

We don't find significant differences in solvency between single and multiple acquirers and their targets. Based on the sign of the medians however, it is clear that the targets of the multiple acquirers are levered more than the targets of the single acquirers. The 'multiple targets' exhibit below industry median financial independence ratios, whereas the 'single targets' display positive medians of industry-adjusted financial independence. An opposite conclusion can be drawn for the cashflow coverage of debt (CFCD) of the multiple and single acquirers. The single acquirers have negative industry-adjusted medians for the CFCD and the multiple acquirers have positive values over the three-year pre-acquisition period.

The measures of added value do not differ significantly between single and multiple acquirers and between their targets. We do find however increasing gross added value per employee for the targets of single acquirers versus decreasing gross added value amongst the targets of multiple acquirers. Also, the personnel expenses per employee appear to be systematically lower for the targets of multiple acquirers, though only significant at the 10% level in year(-1).

Finally, the findings for the two measures of failure risk show more clear patterns and significant differences. The logit scores for the short term and the medium term show the targets of the multiple acquirers to be less riskier than the targets of single acquirers. It appears that multiple acquirers favor companies with lower failure risk, as measured by the two logit scores. These differences are statistically significant for the short term logit score in year(-2) (at the 5%-level) and year(-1) (at the 1%-level) and for the long term logit score in year(-2) (at the 10%-level). The differences between single and multiple acquirers are less pronounced. We find lower long term logit scores for the multiple acquirers than for the single acquirers, though not significant. Interesting however is our finding that the short term risk is greater for the multiple acquirers in year(-2) and year(-1), whereas the short term logit score was even lower

than the single acquirer's risk in year(-3). The short term risk indicator seems to predict the occurrence of some important events in the recent history of the multiple acquirers, namely that they are going to acquire multiple targets.

For the multiple targets as a group, we may summarize that the financial characteristics of these companies can be described as a high sales generating ability and an above average pre-acquisition profitability. Their liquidity is lower than for the single target companies and so is their solvency. This is in contrast with our earlier findings that the acquired firms in general exhibit high liquidity and solvency. Multiple targets also have lower personnel expenses per employee than the single targets and display less failure risk, based on the two logit scores. The differences between multiple and single acquirers are less pronounced. In the three years prior to acquisition, the multiple targets have higher cashflow coverage of debt and lower long term failure risk.

5. DISCUSSION OF EMPERICAL RESULTS

We find the acquired companies in our sample to be somewhat more profitable than their industry medians, highly liquid and lowly levered (based on the above industry current ratio and financial independence ratio). The two other measures of liquidity (net cash ratio) and solvency (cash flow coverage of debt) show a positive trend in the pre-acquisition period. The long term logit scores are significantly lower than their industry, indicating that the long term failure risk is smaller for the acquired companies in our sample than for the companies in their industry as a whole. For the short term logit score the results are less pronounced. We do find however a decreasing short term risk of failure as the acquisition date approaches. In summary,

these results suggest that acquisition is not an alternative to bankruptcy for the acquired firm. On the contrary, the acquired companies are financially healthy firms.

The acquiring firms show a similar profitability profile relative to their industry medians as the companies acquired by them. We find negative, though not significant industry-adjusted current ratios. The liquidity picture of the acquirers is more negative when looking at the net cash ratio. This variable gets increasingly and significantly more negative for the acquirers as the the year of acquisition approaches. Similar to the bad liquidity position, we find the acquirers to be highly levered, compared to their home industry. Remarkable is also that, relative to the companies with complete form annual accounts within their industry, the acquirers add more value per employee than their counterparts but have equal or even lower personnel expenses per employee. In this respect the acquiring companies are highly performant.

The short term logit score is significantly different from zero, indicating that the short term failure risk of the acquiring companies is higher than for their industry counterparts. The results for the long term logit score yield a somewhat different picture. Relative to their industries, the acquirers display below average long term failure risk, whereas the short term risk is above the level of their home industry. The high failure risk of the acquirers is undoubtedly a manifestation of the low liquidity and high leverage of these firms.

The results of the logit scores for the acquiring firms are in contrast with the results of the acquired firms' logit scores. Both in the long term and the short term, the acquirers display significantly more failure risk than their targets. Thus, the hypothesis that acquired firms are mainly financially distressed firms and are underperforming in their pre-acquisition years does

not hold. Conversely, the acquiring firms show normal and slightly above industry profitability, but low liquidity and bad solvency reflected in a substantially higher failure risk.

Further research was done with regard to the multiple and single acquirers and their targets in our takeover sample. We hypothesized that multiple acquirers with some experience in acquiring companies might acquire firms with different financial characteristics than single acquirers. The results confirmed our hypothesis in multiple ways. We found that the targets acquired by multiple acquirers have a higher sales generating ability (sales/total assets) than the firms acquired by single acquirers. Furthermore, the multiple acquirers on the one hand display a higher asset growth, but on the other hand a lower sales growth than their single counterparts. Conversely, the multiple targets show lower asset growth but higher sales growth than the 'single targets'. It seems that multiple acquirers, who experience a decreasing sales generating ability specifically want to acquire companies with a high sales to assets ratio. Further, we find that targets of multiple acquirers have somewhat higher industry-adjusted profitability, lower liquidity and higher leverage than their single counterparts. The targets of the multiple acquirers in our sample also exhibit less failure risk than the targets of the single acquirers.

Do these results provide a rationale for the takeovers in our sample? We believe they do. We have found multiple manifestations of the rule that high growth (as measured by growth in sales and total assets) and financial slack (as manifested in high liquidity and low leverage) do not go hand in hand with each other. Both the acquirers and the target firms seem to experience a growth-resource imbalance. On the one hand, the acquiring companies showed substantial growth over the pre-acquisition period, both in total assets and in sales. On the other hand, the acquiring firms had lower liquidity and higher leverage than their industry control. Within the group of acquiring firms differences were found between the subgroups of large and small

acquirers. The large firm acquirers had higher growth than the smaller, but they also showed lower liquidity and higher leverage. The acquired firms showed reverse characteristics compared to their acquirers. The target companies displayed lower growth figures (in comparison with the acquirers), but were far more liquid and had lower leverage than their home industries. As with the acquirers however, we found that the large firms within the acquired firms had higher growth but lower liquidity and unused debt capacity than the small firm targets.

Thus, it seems that acquirers try to solve their own growth-resource imbalance by acquiring companies with complementary financial characteristics. Our separate analysis of single and multiple takeovers has shown this is even more so for multiple acquirers than for single acquirers. In previous research, authors have pointed towards a financial motive for merger. Bruner (1988) investigates whether mergers can create value for shareholders through purely financial means such as the use of excess cash and unused debt capacity. Kim and Smith (1994) hypothesize that acquisitions can solve resource allocation problems by combining slack-poor firms with firms having free cash flow.

Various theoretical foundations have been suggested for such a financial motive. Myers and Majluf (1984) demonstrate that undervalued firms, lacking financial slack, sometimes forgo investments to avoid transferring wealth to new investors. Conversely, Jensen (1986) argues that managers of firms with free cash flow sometimes invest unprofitably to avoid payouts to shareholders. In both cases there is a resource misallocation that can be solved by combining slack-poor firms and firms with free cash flow. Thus, acquisitions can avoid underinvestment with the slack-poor firm and unprofitable investment with the slack-rich firm.

Complementarity in financial slack between merging firms would mean: either slack-rich acquirers buy slack-poor targets, or vice versa. However, there is no consensus on whether the financial slack is in the acquiring firm or in the acquired firm. Bruner (1988) hypothesizes from the Myers-Majluf theory that value will be created in merger when firms rich in financial slack acquire slack-poor firms. According to Myers and Majluf (1984), the value created through a merger of complements arises from the additional positive net present value (NPV) investment that can be taken by the merged firm, but that the slack-poor firm might pass up. The value created does not depend on who buys whom, but rather on the cost of alternative ways of financing the target's investment. Bruner (1988) argues that the external financing, necessary to finance the acquisition, would preclude a cash-poor firm from buying a cash-rich firm. A slack-rich firm on the contrary can supposedly finance the deal and the target's prospective investments, and therefore Bruner (1988) contends that only mergers in which slack-rich firms acquire slack-poor firms create value. Kim and Smith (1994) however argue that the Myers-Majluf model applies to slack-poor acquirers as well.

Remains the question how the slack-poor acquirer can finance the deal. Kim and Smith (1994) seem to have solved this puzzle: "a firm that is slack-poor in terms of its ability to finance certain real asset investments need not be slack-poor for acquisition of financial claims on existing assets with established market values". This conclusion seems to apply to our empirical findings. We find slack-poor, high growth firms with valuable investment opportunities acquiring slack-rich, low growth targets. But how do these low-liquidity and highly levered acquirers finance the acquisition? One can imagine that target assets are used to secure acquisition financing and that target cash flows are used to service acquisition debt. Clearly, if the entire free cash flow of the target is used to finance the acquisition of the target, there is little left to finance the acquirer's positive-NPV investments and there is no financing

gain. However, the financing needs of the acquirer may extend over a longer period, and the long-run cash generating ability of the target may exceed the current debt service requirements of the acquisition.

6. CONCLUSION

In this paper, we analyze the pre-acquisition financial characteristics of privately held companies involved in takeovers. Previous research on pre-acquisition operating performance of acquired and acquiring companies is sparse, certainly of small, privately held companies and has produced rather conflicting results. Our pre-takeover research was aimed at testing the hypothesis that target companies are underperformers and acquiring companies superior in terms of profit performance, liquidity, solvency, added value and failure risk. Our approach in testing these hypotheses was twofold. We did not only compare the acquiring and acquired firms' performance with their industry performance but also with each other, thereby trying to detect possible matches in financial profiles.

We do not find that acquired firms are mainly financially distressed firms or that they are underperformers in the pre-acquisition period. On the contrary, we find the target companies in our sample to be somewhat more profitable than their industry medians. We also find substantially lower than industry long term logit scores, indicating that the long term failure risk is smaller for the acquired companies than for their industry as a whole. Similar to the acquired firms, the acquirers showed above industry profitability and this is also the case for the long term failure risk, which is significantly below industry levels.

Contrary to the quite similar profitability record, we find significant differences between acquirers and their targets with respect to their liquidity and solvency. Relative to their home industries, target companies are highly liquid and lowly levered, whereas the acquirers show bad liquidity and solvency positions. The excellent liquidity and solvency of the target companies confirms our rejection of the hypothesis that acquisition is the only alternative to bankruptcy for these companies. This is also manifested in the highly significant difference in failure risk (as measured by the short term and the long term logit scores) between target and acquiring companies. We find the acquiring firms to be riskier, both in the short and the long term, than the acquired companies.

We have also looked at the importance of size for the pre-acquisition profile of the acquired and acquiring companies, since previous research had indicated that there might be some size effect accounting for the differences in research results between studies focusing on large, public companies involved in takeovers and those studying the private takeover market. The division of our sample between large and small firms, however does not indicate that the target's pre-acquisition profitability increases with the decrease of it's size. The smaller targets in our sample do not exhibit higher profitability than the larger targets, on the contrary. This is quite remarkable since our industry study (Ooghe and Camerlynck, 1999) has shown that the smaller companies in Belgium generally have higher profitability than larger companies. Another remarkable finding is that the smaller targets have both lower short term and long term failure risk than the larger targets, whereas the smaller acquirers display higher short term and long term failure risk than the larger ones. For Belgian companies in general, the smaller firms have lower short term risk but higher long term risk than the larger companies.

Another extension of our research was the analysis of multiple and single acquirers and their targets. We took the a priori hypothesis that companies having some experience in acquiring other companies (‘multiple acquirers’), might acquire companies with different financial characteristics than companies that only acquire one company (‘single acquirers’). This seems to be the case for our sample of 14 ‘multiple acquirers’ and 34 ‘multiple targets’. Multiple acquirers buy targets with a higher sales generating ability (higher sales growth and higer sales to total assets ratios) compared to the targets of single acquirers. The multiple acquirers themselves however, display a higher asset growth but lower sales growth than their single counterparts, which is exactly the opposite of the situation of the acquired firms. It seems that multiple acquirers, who experience a negative (or a small positive) sales growth, specifically want to acquire companies with a high sales generating ability. In other words, they look for complementary firms in terms of sales and growth.

The results described above provide some evidence that target and acquiring companies have a complementary financial profile in the short pre-acquisition period that is under investigation in this paper. Both the acquirers and the target firms seem to experience a growth-reesource imbalance. It appears that slack-poor, high growth firms with valuable investment opportunities acquire slack-rich, low growth targets. The acquirers try to solve their own growth-resource imbalance by acquiring companies with complementary financial characteristics. Separate analysis of single and multiple takeovers has shown this is even more so for multiple acquirers than for single acquirers.

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APPENDIX 1

FAILURE PREDICTION MODEL: OOGHE - JOOS - DE VOS (1991)

Population:	Belgian enterprises publishing their results (complete or abbreviated form)
Period:	1985-1990
Definition of failure:	declaration of bankruptcy by court or request of legal composition
Sample:	
Sound:	347 (original) + 170 (validation) annual accounts
Failed:	268 (original) + 218 (validation) annual accounts
Method:	systematic selection
Estimation technique:	logistic regression
Number of variables	11
Model	models, 1 and 3 years prior to failure, each with different variables and coefficients.

	Variables	Codes complete form
	1 year prior to failure	
X1	Direction of the Financial Leverage (1 if > 0, 0 if <0)	{(|70/66| - |66/70| + |780| - |680| - <65> -|9126|) / |20/58|} - {(-<65> - |9126| - |6560| + |6561|) / (|17| + |42/48|)}
X2	Accumulated Profits + Reserves/Total Liabilities less deferrals and accruals	(|13| + |140| - |141|) / (|10/49| - |492/3|)
X3	Cash / Total Assets	(|51/53| + |54/58|) / |20/58|
X4	Overdue Short-Term Priority's Debts (1 if >0, 0 else)	(|9072| + |9076|)
X5	Operational Net Working Capital / Total Assets	(|3| + |40/41| - |44| - |45| - |46|) / (|20/58|)
X6	Net Operating Result / Working Assets	(|70/64| - |64/70| + |9125|) / (|20| +|21| + |22/7| + |3| + |40/41|)
X7	Financial Debts (Short Term)/Short-term Liabilities	(|430/8|) / (|42/48|)
X8	Guaranteed Portion of Amounts Payable by the Firm	(|9061| + |9062|) / (|17| + |42/48|)
CO	Cut-off score : **0.6883**	
	3 years prior to failure	
X1	Accumulated Profits + Reserves/Total Liabilities	(|13| + |140| - |141|) / (|10/49| - |492/3|)
X2	Publication lag	
X3	Overdue Short-Term Priority's Debts (1 if >0, 0 else)	(|9072| + |9076|) 1 if >0, else 0
X4	Operational Cash-flow before Taxes – Capital Investments/Total Assets	{(|70/66|- |66/70| - <65> - |9126| - <631/4> + <635/7> + |807| - |808| + |827 | - |828| + |847| -|848| - |860| - |861| - |9125|) - (|816| - |817| + |822| - |823| - |829| + |830| + |836| - |837| + |842| +| 843| -|849| + |850| - <8545> + |858| - |859|)} / (|20/58|)
X5	Relationships with Affiliated Enterprises	(|9291| + |9381| + |9401|) / (|20/58|)
X6	Debt/Total Liabilities	(|17| + |42/48|) / (|10/49| - |492/3|)
CO	Cut-off score: **0.7863**	

(*) The coefficients are not given because they are used by the Belgian credit information bureau Graydon Belgium under an exclusive license contract.

APPENDIX 2
NUMBER OF SAMPLE COMPANIES PER INDUSTRY

Industry (a)	NACE-BEL Codes (b)	National Bank of Belgium codes	Number of companies							
			Acquired firms				Acquiring firms			
			1992	1993	1994	Total	1992	1993	1994	Total
1. Agriculture	01+02+05	PU 210	1	1	0	2	0	2	0	2
2. Utilities	10+11+12+40+41	PU 220	0	0	0	0	0	0	0	0
3. Manufacturing	Industry 4- 8 (c)	PU 290	7	11	14	32	9	9	16	34
4. Metal	13+27+28+29+30+ 31+32+33+34+35+ 371	PU 2304 +2313 + NACE-BEL 13 and 371	1	5	5	11	1	6	5	12
5. Food	15+16	PU 270	4	3	5	12	4	1	6	11
6. Chemicals	143+144+145+23+ 24+25+372	DE 23 + PU 2301 and 2312 +NACE-BEL 143 until 145	0	0	2	2	1	0	2	3
7. Textiles and apparel	17+18+19	PU 2801 and 2802	1	1	1	3	2	1	2	5
8. Timber	20+361+3662	PU 2803	1	2	1	4	1	1	1	3
9. Paper and printing	21+22	PU 2811	1	0	3	4	1	0	2	3
10. Construction	141+142+26+45	PU 2302 and 300 + NACE-BEL 141 and 142	2	1	4	7	1	1	4	6
11. Wholesale	51	DE 51	10	5	25	40	7	6	18	31
12. Retail	50+52	DE 50 and 52	1	0	3	4	1	1	0	2
13. Hotel, restau- rant & catering	55	PU 320	0	3	5	8	0	2	1	3
14. Transportation	60+61+62+63	PU 3301	3	1	8	12	2	3	7	12
15. Real estate	70	PU 3402	5	4	6	15	4	2	7	13
16. Business services (d)	64+67+71+72+73+ 74-74151+90	PU 3302, 3401 and 3403	6	3	7	16	7	2	6	15
17. Personal services	92+93+95	PU 3404	2	1	0	3	1	1	0	2
Total	Industry 1-2, 4-17	10	38	30	75	143	33	29	61	123

(a) Industry classification based on Ooghe and Camerlynck (1999)
(b) NACE-BEL industry codes are based on the earlier NACE-codes (see footnote n° 3) and are comparable with SIC-codes
(c) Industry n°3 (Manufacturing) encloses industries n°4, 5, 6, 7 & 8
(d) Exclusive management activities of holdings (NACE-BEL 74.151) and coordination centra (NACE-BEL 74.152) beause of there special nature

APPENDIX 3
TABLES

TABLE 5
Size and growth characteristics of acquired and acquiring firms: total assets, sales and number of employees of all firms, large firms and small firms

	All firms			Large firms			Small firms		
Acquired firm	year(-3)	year(-2)	year(-1)	year(-3)	year(-2)	year(-1)	year(-3)	year(-2)	year(-1)
Total assets									
# observations	128	140	141	79	86	86	49	54	55
# missing values	15	3	2	7	0	0	8	3	2
# zero's	0	0	0	0	0	0	0	0	0
Median level (000 BEF)	115.925	128.939	147.754	271.334	269.148	277.520	27.712	31.089	33.191
Average level (000 BEF)	316.518	339.718	365.911	483.662	526.635	575.703	47.042	42.037	37.872
Median growth (%)		8,39%			11,30%			4,73%	
Average growth (%)		55,74%			84,03%			8,19%	
Positive growth (%)		64%			62%			53%	
Negative growth (%)		36%			38%			47%	
Sales									
# observations	140	140	142	84	86	86	56	54	56
# missing values	3	3	1	2	0	0	1	3	1
# zero's	16	4	4	7	2	2	9	2	2
Median level (000 BEF)	101.911	132.532	136.170	226.213	260.885	279.366	25.032	41.515	36.988
Average level (000 BEF)	459.383	476.100	481.975	711.038	711.081	731.267	81.901	101.873	99.134
Median growth (%)		4,90%			5,96%			4,72%	
Average growth (%)		87,80%			115,83%			38,75%	
Positive growth (%)		54%			55%			52%	
Negative growth (%)		46%			45%			48%	
Number of employees									
# observations	140	140	142	84	86	86	56	54	56
# missing values	3	3	1	2	0	0	1	3	1
# zero's	25	18	22	11	9	8	14	9	14
Median level (000 BEF)	13,5	15,5	17	28,5	28,5	29	6	7	6
Average level (000 BEF)	38	39	38	54	55	54	14	14	14
Acquiring firm	year(-3)	year(-2)	year(-1)	year(-3)	year(-2)	year(-1)	year(-3)	year(-2)	year(-1)
Total assets									
# observations	128	136	140	107	115	118	21	21	22
# missing values	15	7	3	14	6	3	1	1	0
# zero's	0	0	0	0	0	0	0	0	0
Median level (000 BEF)	335.563	429.349	439.739	505.759	570.268	645.039	32.217	57.083	50.760
Average level (000 BEF)	1.984.496	2.551.113	2.654.708	2.364.473	2.983.344	3.140.812	48.426	88.536	47.423
Median growth (%)		13,47%			14,15%			4,92%	
Average growth (%)		68,65%			79,63%			13,76%	
Positive growth (%)		68%			69%			67%	
Negative growth (%)		32%			31%			33%	
Sales									
# observations	128	136	140	107	115	118	21	21	22
# missing values	15	7	3	14	6	3	1	1	0
# zero's	11	9	5	5	4	2	6	5	3
Median level (000 BEF)	333.698	393.924	350.654	482.081	447.439	467.333	39.271	57.223	23.666
Average level (000 BEF)	1.759.406	2.081.994	2.100.232	2.078.604	2.405.619	2.477.822	133.018	309.760	74.972
Median growth (%)		9,16%			10,05%			-0,86%	
Average growth (%)		62,29%			69,99%			12,48%	
Positive growth (%)		62%			65%			47%	
Negative growth (%)		38%			35%			53%	
Number of employees									
# observations	128	136	140	107	115	118	21	21	22
# missing values	15	7	3	14	6	3	1	1	0
# zero's	16	18	16	14	15	12	2	3	4
Median level (000 BEF)	41	43	44	50	51	49	8	10	8
Average level (000 BEF)	168	254	240	198	295	283	16	28	10

TABLE 6

Tests of pre-acquisition characteristics of the acquired companies versus industry

		Acquired companies					
		Medians of Industry-adjusted values[1]			Medians of Industry & size-adjusted values[2]		
	Relative year	All firms	Large firms	Small firms	All firms	Large firms	Small firms
Number of companies		143	86	57	143	86	57
Profitability							
Net Return on Sales (%)	(-3)	-0,12% ***	0,44% **	-1,55%	-0,46%	0,51% **	-1,45%
	(-2)	-0,66%	0,15%	-2,05% *	-0,35%	0,00%	-1,80% *
	(-1)	-0,53%	-0,54%	-0,19%	-0,59%	-0,53%	-0,83%
Net Return on Total	(-3)	0,43% *	0,20% *	0,86% **	1,15% *	1,02% *	2,15% *
Assets (%)	(-2)	1,27% *	1,48% *	0,76% *	1,63% *	1,67% *	1,33% *
	(-1)	1,96% *	1,49% *	3,10% *	2,62% *	1,69% *	4,28% *
Net Return on Share-	(-3)	3,28% *	5,81% *	1,04%	2,78% *	4,30% *	0,28%
holders' Equity (%)	(-2)	4,13% *	4,55% *	2,91% **	2,40% *	3,67% *	1,37% ***
	(-1)	4,04% *	3,73% *	4,74% *	2,02% *	1,44% *	2,22% **
Cash Flow Return on	(-3)	-5,53%	1,96% **	-13,50% *	1,59% **	6,29% *	-6,93%
Shareholders' Equity (%)	(-2)	-3,35%	4,19% **	-9,53%	3,11% *	10,71% *	-3,72%
	(-1)	0,48% **	9,57% *	-5,70%	1,78% *	11,68% *	-6,46%
Liquidity							
Current Ratio (x)	(-3)	-0,07	-0,15 **	0,18	0,09 *	0,02	0,35 *
	(-2)	0,10 *	0,00	0,42 *	0,13 *	-0,06	0,34 *
	(-1)	0,07 *	-0,03	0,32 *	0,05 *	-0,07	0,28 *
Net Cash Ratio (%)	(-3)	-5,69% **	-6,71% *	-4,29%	0,12%	-1,13%	1,82%
	(-2)	-5,32% ***	-5,32% **	-5,35%	-0,90%	-1,32%	1,79%
	(-1)	-3,84%	-4,83% **	0,51%	0,70%	-0,86%	4,03% **
Solvency							
Financial Independence	(-3)	9,89% *	5,31% ***	23,02% *	-0,07% **	-1,43%	11,01%
Ratio (%)	(-2)	1,94% **	-5,58%	9,35% **	4,22% *	-2,65%	12,07% *
	(-1)	1,73% *	-9,20%	18,17% *	4,57% *	-6,48%	19,17% *
Cash Flow Coverage of	(-3)	-0,06% *	-0,17% **	0,01% ***	3,06% *	2,63% *	5,95% *
Debt (%)	(-2)	2,47% *	0,95% *	5,85% *	4,91% *	3,36% *	13,01% *
	(-1)	5,52% *	-0,10% **	14,03% *	8,48% *	2,19% *	16,07% *
Added value							
Gross Added Value	(-3)	282,44 *	674,91 *	82,07	-120,59	178,70 *	-323,618 ***
per Employee (000 BEF)	(-2)	419,67 *	721,16 *	172,26	-90,74	50,11 **	-313,977 **
	(-1)	361,83 *	523,50 *	238,00 **	-223,00	-39,83	-374,581 ***
Personnel Expenses	(-3)	391,11 *	417,03 *	362,01 *	35,23	74,60	-33,550
per Employee (000 BEF)	(-2)	419,38 *	431,11 *	412,57 *	60,79	90,30 **	-23,000
	(-1)	419,04 *	461,37 *	329,55 *	-37,98	62,33	-121,203
Failure risk							
Short Term Logit Score	(-3)	0,0066 ***	0,0446 **	-0,0219	-0,0044	0,0340 ***	-0,0411
	(-2)	0,0084	0,0108	0,0008	-0,0155	-0,0084	-0,0299
	(-1)	-0,0115 **	0,0116 **	-0,0795	-0,0158 ***	0,0283 **	-0,0773
Long Term Logit Score	(-3)	-0,1116 *	-0,1050 *	-0,1205 *	-0,0608 **	-0,0546 **	-0,0715
	(-2)	-0,1143 *	-0,0945 *	-0,1286 *	-0,0653 *	-0,0556 **	-0,0755 **
	(-1)	-0,1266 *	-0,1077 *	-0,1460 *	-0,0622 *	-0,0438 **	-0,0836 **

Notes:

[1] All values in the table are medians of industry-adjusted values, i.e. differences between company values and industry values. The industry-adjusted values were calculated by subtracting from the values of the sample company the median of the industry in which that sample company falls. Both the company and industry values were measured over the same years.

A positive value indicates that more than half of the sample companies have values higher than their industry medians.

A negative value indicates that more than half of the sample companies have values lower than their industry medians.

[2] The same method as in [1] was followed. The only difference lays in the calculation of the industry-adjusted values. The industry-adjusted values were calculated by subtracting from the values of the sample companies the median of the (bigger) companies with complete form annual accounts within the industry in which that sample company falls. In this way the company values are not only industry-adjusted but also size-adjusted.

* Indicates that the firm value is significantly different from the industry median at the 1% level

** Indicates that the firm value is significantly different from the industry median at the 5% level

*** Indicates that the firm value is significantly different from the industry median at the 10% level

For definitions of Large and Small Firms see text.

TABLE 7

Tests of pre-acquisition characteristics of the acquiring companies versus industry

		Acquiring companies					
		Medians of Industry-adjusted values[1]			Medians of Industry & size-adjusted values[2]		
	Relative year	All firms	Large firms	Small firms	All firms	Large firms	Small firms
Number of companies		143	121	22	143	121	22
Profitability							
Net Return on Sales (%)	(-3)	0,05%	0,08%	-2,19%	-0,45%	-0,09%	-2,50%
	(-2)	-0,19%	0,01%	-1,09%	0,00%	0,11%	-1,76%
	(-1)	0,73% ***	0,87% **	-2,23%	0,47%	0,81% **	-1,85%
Net Return on Total	(-3)	0,17% *	0,40% **	-0,28%	1,13% *	1,13% *	0,81%
Assets (%)	(-2)	0,23% *	0,65% *	-0,74%	1,51% *	1,60% *	0,30%
	(-1)	1,72% *	1,69% *	2,70% **	2,09% *	1,94% *	3,00% *
Net Return on Share-	(-3)	3,41% *	4,80% *	0,63%	2,95% *	3,24% *	1,11%
holders' Equity (%)	(-2)	1,55% *	1,55% *	-0,12%	0,39% *	0,39% *	1,49%
	(-1)	3,53% *	3,11% *	6,24% **	1,77% *	1,56% *	4,92% *
Cash Flow Return on	(-3)	-2,57%	-2,57%	-4,27%	3,05% **	4,73% *	-1,84%
Shareholders' Equity (%)	(-2)	1,66%	4,29% ***	-6,31%	4,49% *	7,22% *	-2,65%
	(-1)	3,43% *	3,27% *	4,55%	5,35% *	5,25% *	8,45%
Liquidity							
Current Ratio (x)	(-3)	-0,06	-0,08	-0,05	-0,11	-0,12	-0,03
	(-2)	-0,14	-0,12	-0,16	-0,12	-0,12	-0,10
	(-1)	-0,11	-0,11	-0,05	-0,10	-0,10	0,04
Net Cash Ratio (%)	(-3)	-6,10% *	-6,32% *	4,30%	0,19%	-4,76%	10,51%
	(-2)	-8,73% **	-8,62% ***	-9,45% ***	-2,75%	-0,53%	-4,10%
	(-1)	-9,21% *	-11,98% *	0,34%	-5,04% **	-7,21% *	4,02%
Solvency							
Financial Independence	(-3)	-4,33%	-4,93%	11,11% **	-2,67%	-4,76%	16,63% **
Ratio (%)	(-2)	-2,59%	-3,15%	3,23%	-0,90%	-1,26%	8,38%
	(-1)	-1,91%	-2,11%	9,03%	-0,91% ***	-0,98%	12,38% **
Cash Flow Coverage of	(-3)	-0,17% ***	-0,17%	10,32% **	3,02% *	2,67% *	15,77% *
Debt (%)	(-2)	1,06% ***	1,25% ***	-2,14%	3,40% *	3,35% *	4,30% ***
	(-1)	0,54% *	-0,18% **	4,86% **	4,13% *	3,00% *	9,11% *
Added value							
Gross Added Value	(-3)	506,71 *	578,09 *	351,81	45,00 ***	55,36 **	-145,29
per Employee (000 BEF)	(-2)	602,36 *	602,36 *	168,81	25,88	68,26 ***	-481,19
	(-1)	683,46 *	763,50 *	81,55	211,28 **	309,38 *	-548,42
Personnel Expenses	(-3)	286,22 *	286,22 *	304,21 **	-42,10	-33,41	-198,48
per Employee (000 BEF)	(-2)	403,00 *	457,26 *	272,91 *	-12,00	53,75 ***	-139,09
	(-1)	369,27 *	373,39 *	333,92 **	-9,92	8,11	-199,08 **
Failure risk							
Short Term Logit Score	(-3)	0,1185 *	0,1519 *	0,0556 ***	0,0736 *	0,0760 *	0,0301
	(-2)	0,0813 *	0,0564 *	0,2249 *	0,0467 *	0,0415 *	0,1958 *
	(-1)	0,1018 *	0,0974 *	0,1619 **	0,0823 *	0,0806 *	0,1520 **
Long Term Logit Score	(-3)	-0,0892 *	-0,0838 *	-0,1025 ***	-0,0333 **	-0,0250 **	-0,0347
	(-2)	-0,0675 *	-0,0734 *	-0,0118	-0,0242	-0,0300 **	0,0363
	(-1)	-0,0674 *	-0,0786 *	-0,0002	-0,0308	-0,0412 **	0,0634

Notes:

[1] All values in the table are medians of industry-adjusted values, i.e. differences between company values and industry values. The industry-adjusted values were calculated by subtracting from the values of the sample company the median of the industry in which that sample company falls. Both the company and industry values were measured over the same years.

A positive value indicates that more than half of the sample companies have values higher than their industry medians.

A negative value indicates that more than half of the sample companies have values lower than their industry medians.

[2] The same method as in [1] was followed. The only difference lays in the calculation of the industry-adjusted values. The industry-adjusted values were calculated by subtracting from the values of the sample companies the median of the (bigger) companies with complete form annual accounts within the industry in which that sample company falls. In this way the company values are not only industry-adjusted but also size-adjusted.

* Indicates that the firm value is significantly different from the industry median at the 1% level

** Indicates that the firm value is significantly different from the industry median at the 5% level

*** Indicates that the firm value is significantly different from the industry median at the 10% level

TABLE 8

Tests of acquired versus acquiring companies' financial characteristics

		Industry-adjustment A $X_i - Q_{2\text{-industry y}}$				Industry-adjustment B $X_i - Q_{2\text{-industry y}} / (Q_{3\text{-industry y}} - Q_{1\text{-industry y}})$			
	Relative year	N[1]	N[2] target>acquirer	N[3] target<acquirer	P-value	N[1]	N[2] target>acquirer	N[3] target<acquirer	P-value
Profitability									
Net Sales Margin (%)	(-3)	106	**55**	51	0,85	106	**57**	49	0,68
	(-2)	120	**61**	59	0,62	114	53	**61**	0,92
	(-1)	127	62	**65**	0,42	127	62	**65**	0,49
Net Return on Total Assets (%)	(-3)	118	**67**	51	0,09 ***	118	**65**	53	0,14
	(-2)	132	**72**	60	0,52	126	**68**	58	0,76
	(-1)	136	**74**	62	0,19	136	**74**	62	0,24
Net Return on Share-holders' Equity (%)	(-3)	118	57	**61**	0,36	118	57	**61**	0,37
	(-2)	132	66	66	0,92	126	**64**	62	0,90
	(-1)	136	**69**	67	0,47	136	66	**70**	0,57
Cash Flow Return on Shareholders' Equity (%)	(-3)	118	53	**65**	0,28	118	53	**65**	0,28
	(-2)	132	61	**71**	0,88	126	60	**66**	0,84
	(-1)	136	**71**	65	0,69	136	**70**	66	0,83
Liquidity									
Current Ratio (x)	(-3)	117	57	**60**	0,10 ***	117	58	**59**	0,85
	(-2)	131	**86**	45	0,00 *	125	**79**	46	0,02 **
	(-1)	134	**85**	49	0,00 *	134	**86**	48	0,03 **
Net Cash Ratio (%)	(-3)	118	**65**	53	0,19	118	**61**	57	0,28
	(-2)	132	**78**	54	0,18	126	**70**	56	0,28
	(-1)	136	**76**	60	0,02 **	136	**76**	60	0,02 **
Solvency									
Financial Independence Ratio (%)	(-3)	118	**66**	52	0,02 **	118	**70**	48	0,00 *
	(-2)	132	**72**	60	0,26	126	**70**	56	0,30
	(-1)	136	**73**	63	0,23	136	**73**	63	0,20
Cash Flow Coverage of Debt (%)	(-3)	117	**66**	51	0,15	117	**61**	56	0,30
	(-2)	131	**66**	65	0,31	125	**64**	61	0,31
	(-1)	134	**69**	65	0,33	134	**69**	65	0,30
Added value									
Gross Added Value per Employee (000 BEF)	(-3)	89	**45**	44	0,57	102	**53**	46	0,96
	(-2)	98	44	**54**	0,23	98	47	**51**	0,35
	(-1)	100	40	**60**	0,01 *	105	45	**60**	0,02 **
Personnel Expenses per Employee (000 BEF)	(-3)	102	**54**	48	0,55	102	51	51	0,53
	(-2)	104	51	**53**	0,17	98	46	**52**	0,37
	(-1)	105	52	**53**	0,95	105	50	**55**	0,77
Failure risk									
Short Term Logit Score	(-3)	63	27	**36**	0,40	62	28	**34**	0,54
	(-2)	96	39	**57**	0,06 ***	94	37	**57**	0,03 **
	(-1)	107	37	**70**	0,01 *	105	36	**69**	0,02 **
Long Term Logit Score	(-3)	63	30	**33**	0,71	62	29	**33**	0,99
	(-2)	96	37	**59**	0,02 **	94	45	**49**	0,10 ***
	(-1)	107	38	**69**	0,01 *	105	39	**66**	0,03 **

Notes:

X_i = firm value of firm i

$Q_{2\text{-industry y}}$ = median of industry of firm i

$Q_{3\text{-industry y}} - Q_{1\text{-industry y}}$ = interquartile range or 3rd quartile - 2nd quartile of industry y of firm i

[1] Number of observations

[2] Number of target firm values that are bigger than their acquiring firm's values: **target > acquirer**

[3] Number of acquiring firm values that are bigger than their target firm's values: **target < acquirer**

The highest number in the comparison between targets and acquirers is printed in bold.

* Indicates that the target firm value is significantly different from the acquiring firm value at the 1% level

** Indicates that the target firm value is significantly different from the acquiring firm value at the 5% level

*** Indicates that the target firm value is significantly different from the acquiring firm value at the 10% level

TABLE 9

Size and growth characteristics of single and multiple acquirers and their targets

Panel a.

	Targets of the multiple acquirers			Targets of the single acquirers		
Acquired firm	year(-3)	year(-2)	year(-1)	year(-3)	year(-2)	year(-1)
Total assets						
# observations	31	33	32	97	107	109
# missing values	3	1	2	12	2	0
# zero's	0	0	0	0	0	0
Median level (000 BEF)	115.049	126.045	140.367	116.800	142.671	147.754
Average level (000 BEF)	320.062	377.784	367.264	315.386	327.979	365.513
Median growth (%)		-10,70%			7,83%	
Average growth (%)		30,32%			52,06%	
Positive growth (%)		42%			60%	
Negative growth (%)		58%			40%	
Sales						
# observations	33	33	33	107	107	109
# missing values	1	1	1	2	2	0
# zero's	0	0	0	14	4	4
Median level (000 BEF)	223.035	248.519	262.878	83.594	110.554	115.358
Average level (000 BEF)	662.845	704.543	702.111	396.633	405.646	415.329
Median growth (%)		10,14%			8,88%	
Average growth (%)		67,51%			109,93%	
Positive growth (%)		77%			58%	
Negative growth (%)		23%			42%	
Sales / Total assets						
Median (x)	1,67	1,65	1,40	1,25	1,07	1,02
Average (x)	4,96	4,59	3,22	1,45	1,37	1,35
Number of employees						
# observations	33	33	33	107	107	109
# missing values	1	1	1	2	2	0
# zero's	4	4	4	21	14	18
Median level (000 BEF)	25	24	25	9	13	12
Average level (000 BEF)	31	34	36	40	41	39

Panel b.

	Multiple acquirers			Single acquirers		
Acquiring firm	year(-3)	year(-2)	year(-1)	year(-3)	year(-2)	year(-1)
Total assets						
# observations	14	14	14	98	104	107
# missing values	0	0	0	11	5	2
# zero's	0	0	0	0	0	0
Median level (000 BEF)	578.374	613.707	770.320	302.539	390.682	370.897
Average level (000 BEF)	3.500.965	4.228.349	4.703.201	1.558.652	2.090.930	2.118.444
Median growth (%)		27,86%			10,39%	
Average growth (%)		167,28%			48,72%	
Positive growth (%)		73%			68%	
Negative growth (%)		27%			32%	
Sales						
# observations	14	14	14	98	104	107
# missing values	0	0	0	11	5	2
# zero's	1	0	0	9	9	5
Median level (000 BEF)	1.198.554	1.111.053	453.680	244.689	343.117	319.335
Average level (000 BEF)	3.772.887	3.497.101	3.428.022	1.056.291	1.653.090	1.672.271
Median growth (%)		-3,66%			14,72%	
Average growth (%)		-14,07%			89,22%	
Positive growth (%)		50%			69%	
Negative growth (%)		50%			31%	
Sales / Total assets						
Median (x)	2,02	1,85	1,26	1,02	1,07	1,02
Average (x)	2,90	2,44	1,73	1,38	1,63	1,32
Number of employees						
# observations	14	14	14	98	104	107
# missing values	0	0	0	11	5	2
# zero's	1	1	1	14	16	14
Median level (000 BEF)	65	45	49	25	28	31
Average level (000 BEF)	397	342	335	104	228	215

TABLE 10
Tests of single and multiple acquirers and their targets versus industry

		Multiple and single acquirers and their targets[1]					
		Acquired companies			Acquiring companies		
	Relative year	Targets of the multiple acquirers	Targets of the single acquirers	sig[2]	Multiple acquirers	Single acquirers	sig[2]
Number of companies		34	109		14	109	
Profitability							
Net Return on Sales (%)	(-3)	-0,78%	-1,01%		-1,46%	-0,41%	
	(-2)	0,29%	-0,89%		0,69%	-0,57%	
	(-1)	-0,54%	-0,58%		0,84%	0,30%	
Net Return on Total	(-3)	4,63%	-0,05%	**	9,45%	-0,13%	*
Assets (%)	(-2)	5,40%	0,59%	***	-0,52%	0,14%	
	(-1)	2,36%	1,55%		1,72%	1,65%	
Net Return on Share-	(-3)	6,24%	0,59%		4,92%	3,13%	
holders' Equity (%)	(-2)	5,17%	2,63%		-0,73%	1,63%	
	(-1)	1,33%	4,74%		1,24%	3,71%	
Cash Flow Return on	(-3)	-5,77%	-6,88%		-2,57%	-2,38%	
Shareholders' Equity (%)	(-2)	-9,11%	-3,40%		4,29%	2,94%	
	(-1)	9,57%	-0,45%		1,36%	3,65%	
Liquidity							
Current Ratio (x)	(-3)	0,05	-0,27	**	-0,21	-0,05	
	(-2)	0,00	0,10		-0,11	-0,16	
	(-1)	-0,08	0,08		-0,11	-0,08	
Net Cash Ratio (%)	(-3)	-1,82%	-8,15%	**	-20,54%	-5,97%	
	(-2)	-2,51%	-6,56%	***	5,14%	-11,73%	**
	(-1)	-1,40%	-4,83%		-13,81%	-10,16%	
Solvency							
Financial Independence	(-3)	-11,99%	5,87%		-5,02%	-4,22%	
Ratio (%)	(-2)	-12,62%	2,53%		3,93%	-5,94%	
	(-1)	-17,16%	5,90%		-1,91%	-1,91%	
Cash Flow Coverage of	(-3)	-1,78%	-1,39%		4,89%	-2,11%	
Debt (%)	(-2)	3,62%	2,00%		1,87%	-0,93%	
	(-1)	0,87%	6,30%		2,47%	-0,18%	
Added value							
Gross Added Value	(-3)	196,38	158,85		330,51	383,51	
per Employee (000 BEF)	(-2)	196,71	248,08		1.181,94	311,96	
	(-1)	60,69	304,58		331,59	520,18	
Personnel Expenses	(-3)	188,27	284,60		136,42	241,15	
per Employee (000 BEF)	(-2)	236,49	413,12		562,15	307,58	
	(-1)	91,79	392,33	***	35,16	333,92	
Failure risk							
Short Term Logit Score	(-3)	-0,1079	-0,0839		-0,0324	-0,0161	
	(-2)	-0,0988	-0,0408	**	0,1051	0,0345	
	(-1)	-0,1090	0,0025	*	0,0974	0,0214	
Long Term Logit Score	(-3)	-0,2034	-0,1972		-0,2113	-0,1536	
	(-2)	-0,1807	-0,1472	***	-0,1308	-0,0885	
	(-1)	-0,1929	-0,1454		-0,1397	-0,1027	

Notes:

[1] All values in the table are medians of industry-adjusted values, i.e. differences between company values and industry values. The industry-adjusted values were calculated by subtracting from the values of the sample company the median of the industry in which that sample company falls. Both the company and industry values were measured over the same years.

A positive value indicates that more than half of the sample companies have values higher than their industry medians.

A negative value indicates that more than half of the sample companies have values lower than their industry medians.

[2] Significance of the difference between single and multiple targets and single and multiple acquirers is tested using the Mann-Whitney test for two independent samples.

* Indicates that the multiple firm (acquirer or target) value is significantly different from the single firm value (acquirer or target) at the 1% level

** 5% level significance

*** 10% level-significance

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