

Pre-Acquisition Profile of Privately Held Companies Involved in Take-Overs: An Empirical Study

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ABSTRACT. This study addresses the pre-acquisition financial characteristics of privately held, rather small acquiring and acquired companies involved in 143 Belgian take-overs 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 within, but 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 take-overs has drawn on two principal sources of statistical evidence: stock market data and accounting-based data. However, the vast majority of the take-over literature deals with the impact of merger and acquisition announcements

on the share price of the bidding and the target company.

Relatively few studies have addressed the operating performance of companies involved in take-overs, due in part to both lack of data availability and methodological problems. A further drawback of almost all studies of operating performance in mergers and acquisitions (both pre- and post acquisition), is that these 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).

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 the pre-acquisition profitability (like in most studies), but our analysis also includes liquidity, leverage, added value and failure risk. Secondly, our sample only contains privately held, rather small companies, that were involved in a take-over. The nature of the acquisition process is substantially different between large companies with quotations on a stock exchange and small privately held companies.

Moreover, 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. Few studies addressed the performance of the smaller unquoted companies involved in take-overs. Nevertheless, Da Silva Rosa et al. (2001) note that the majority of take-over bids are for private targets. Furthermore, most accounting

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studies were carried out in the U.S. and the U.K. and are usually restricted to samples of very big companies with publicly traded securities. Little is known about the performance of target and acquiring companies in the take-over market in Continental European countries such as Belgium – a market that is dominated by take-overs of small, privately held companies. Theories developed to explain public bids, do not necessarily apply to private bids (Chang, 1998; Da Silva Rosa et al., 2001).

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

2. Evidence from previous research and research hypotheses in this study

Before analyzing the pre-acquisition profile of acquiring and acquired companies, we briefly review what we know from prior studies. In the past, pre-take-over 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 the discriminating characteristics of potential targets to predict which companies are probable take-over targets. (Stevens, 1973; Dietrich and Sorensen, 1984; Palepu, 1986; Barnes, 1990; and Higson and Elliot, 1993). Generally these studies do not address the pre-take-over performance of the acquirers.
2. A second type of studies that address pre-take-over performance issues, are the post-take-over performance studies. Most accounting studies address both the pre-take-over performance of

the target and the acquiring company, and the post-take-over performance of the acquiring company. This type of research seeks to determine whether on average take-overs are followed by changes in profitability. To begin with, these studies investigate the profit potential of the acquired companies, as manifested in their pre-take-over earnings. By means of a so-called before-after-comparison, they 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, 1989; Healy et al., 1992; Higson and Elliot, 1994, Cosh and Hughes, 1994).¹

3. Third, a number of studies have tried to link the post-take-over performance of the acquirers to the pre-take-over 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 of unused debt capacity. 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).

With regard to the pre-take-over 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 take-over targets are mainly companies that have performed badly or had a weak financial position in the years prior to take-over. This hypothesis constitutes one of the main reasons why take-over 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 take-over 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 take-over target.

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.

Another feature of take-over targets is presented by Palepu (1986). The latter finds that take-over 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 take-over 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 take-over 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 take-over targets. These findings are confirmed by empirical research of Clark and Ofek (1994). 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).

As we stated before, pre-take-over performance is also studied in post-take-over 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-take-over. These differences in performance levels seem to be correlated with the size of the companies under investigation (e.g. Ravenscraft and Scherer, 1987a, b, 1989; Healy et al., 1992; Higson and Elliot, 1994; Cosh and Hughes, 1994).

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) 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. Smith and Kim (1994) however argue that the Myers-Majluf model applies to slack-poor acquirers as well.

In this study, we attempt to answer the two fundamental questions, raised in the literature.

Are mergers and acquisitions alternatives to bankruptcy? The hypothesis related to this question, is that acquired firms show poor performance in the pre-take-over period, so we want to investigate whether acquired firms are underperformers and acquirers have superior pre-acquisition performance?

The second question concerns the growth-resources mismatch. The hypothesis related with this question is as follows: do slack rich – low growth firms take over high growth – poor slack firms with valuable investment opportunities or vice versa?

3. Data and methodology

3.1. Data

Our main data come from the CD-ROMs of the National Bank of Belgium and from the Belfirst CD-ROM for the years 1989–1994. It concerns

published annual accounts of non-financial Belgian companies.

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 small companies that prepare their annual accounts in an abbreviated form. The first group of companies has more than 100 employees or satisfies at least two of the following criteria: number of employees (yearly average) of at least 50; turnover (VAT excluded) of at least 200 million Belgian francs and total assets of at least 100 million Belgian francs.² Companies that do not meet these criteria, are allowed to prepare their annual accounts in an abbreviated form. These companies do not have to apply the full disclosure requirements and e.g. do not have to report sales-figures. It should be clear that definitions of "large" and "small" are very relative (e.g. Cosh and Hughes, 1994). In other surveys small and medium sized companies are often defined as firms employing less than 500 workers. In Belgium the number of companies employing more than 500 workers is only about 300 in the 1990's, relative to a total number of more than 200,000 companies that deposit their annual accounts with the National Bank of Belgium. However, there are much more (between 13,000 and 14,000 in the 1990's) companies with complete form annual accounts.³ This means that the population of companies with complete form annual accounts, the so-called large

companies in Belgian accounting terms, includes both "large" and "small" companies.

All companies with complete form annual accounts acquired in 1992, 1993 or 1994, were selected. (Companies that are taken over, adopt the legal status of "Absorption by another company".)

The acquiring companies were traced with the help of the National Bank of Belgium. The population consists of 143 acquisitions. Because we include multiple take-overs in our study (i.e. take-overs in which the acquirers acquire more than one company), the number of acquired companies (143) is larger than the number of acquirers (123).

3.2. Accounting measures of performance

To evaluate the operating performance of the target and the 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 four different profitability measures to evaluate the performance of acquiring and acquired companies, two liquidity measures, two solvency measures and two measures of added value. These 10 financial ratios which are presented in Table I, provide a comprehensive view of a company's financial situation.

Some studies show a preference for cash flow measures and for "fundamental" measures because the researchers are concerned about the reliability of accounting data (Higson and Elliott, 1993). We added the cash flow return of shareholders' equity

TABLE I
Overview of the performance measures used (Ooghe and Balcaen, 2002)

Variable	Description	Definition
NSM	Net sales margin before taxes	Net operating income/Sales
NRTA	Net return on total assets before taxes	Earnings before interest and taxes/Total assets
NRSE	Net return on shareholders' equity after taxes	Profit after taxes/Shareholders' equity
CFRSE	Cash flow return on shareholders' equity after taxes	Cash flow after taxes/Shareholders' equity
FIR	Financial independence ratio	Shareholders' equity/Total liabilities and equity
CFCD	Cash flow coverage of debt	Cash flow after taxes/ Total liabilities
CR	Current ratio	Current assets/Short term liabilities
NCR	Net cash ratio	Cash and short term investments/Current assets
GAVE	Gross added value per employee	Gross added value/Number of employees
PEE	Personnel expenses per employee	Personnel expenses/Number of employees

as our fourth profitability measure and the cash flow coverage of debt as a second solvency ratio. We also included two more 'fundamental' measures to our analysis: gross added value per employee and personnel expenses per employee (both in thousands of Belgian Francs). Value added (= output – input) per employee is a good proxy for a company's labour productivity and therefore in Western European countries a good measure for its overall economic performance, especially in comparison with the personnel expenses per employee (Ooghe and Van Wymeersch, 2003).

Take-overs are often seen as a means of restructuring distressed firms. Therefore, we include the scores of a short-term and long-term multivariate logit model. These two models, that were estimated on a large sample of Belgian annual accounts by Ooghe, Joos and De Vos, have proven to be reliable predictors of company failure (see: Ooghe et al., 1995).

3.3. Methodology

We use data of 17 industry classes to calculate industry-adjusted performance of the acquirers and the acquired companies (Ooghe and Balcaen, 2002) in order to 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). 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

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. Joos, Ooghe and Sierens (1998) present the following method in 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:

$$X_i - \frac{Q_{2\text{-industry } y}}{Q_{3\text{-industry } y} - Q_{1\text{-industry } y}}$$

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 .

This information was collected for the acquisition years 1992–1994 for the three-year period, prior to acquisition. This implies that industry information had to be collected from 1989 until 1993.

4. Results concerning the 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 take-over, it is possible to investigate whether these differences in performance change over time.

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

TABLE II
Size and growth characteristics of the acquired and the acquiring firms

	All firms			Large firms			Small firms		
	Year(-3)	Year(-2)	Year(-1)	Year(-3)	Year(-2)	Year(-1)	Year(-3)	Year(-2)	Year(-1)
Acquired firms									
<i>Total assets</i>									
# observations	128	140	141	79	86	86	49	54	55
# missing values	16	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	3,191
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%	
<i>Sales</i>									
# 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%	
<i>Number of employees</i>									
# 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 firms

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%			5%			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

have total assets of less than 100 million BEF in year(-1) and 121 acquirers are large.

Table II 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 three 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 subgroups: 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 median 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 higher with respect to the median growth in sales (54% positive growth versus 62%). These results seem to confirm the results of some previous studies that acquired firms are less dynamic than their acquirers.

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. Our group of bigger firms, in fact, contains a lot of relatively small ones.

4.2. *Pre-acquisition performance of the acquired firms*

The pre-take-over characteristics of the acquired sample of 143 companies are shown in Table III. 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-take-over period. First, we calculated the values of these 12 variables for the 143 sample companies. For each company we identified the industry class. 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 figures are reported in Table III.

Table III 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 larger companies (with complete form annual accounts) that fall within the same industry and the same for small companies with abbreviated form annual accounts. In the left part of Table III we use the general industry medians to adjust for industry effects. In the righter part of Table III, 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-Smirnov 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 III) and of acquiring companies with their industries (Table IV), 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

TABLE III
Pre-acquisition characteristics of the acquired companies

	Relative year	Acquired companies					
		Medians of industry-adjusted values			Medians of industry & size-adjusted values		
		All firms	Large firms	Small firms	All firms	Large firms	Small firms
Number of companies		143	86	57	143	86	57
<i>Profitability</i>							
Net sales Margin (%)	(-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 assets (%)	(-3)	0.43%***	0.20%***	0.86%**	1.15%***	1.02%***	2.15%***
	(-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 shareholders' equity (%)	(-3)	3.28%***	5.81%***	1.04%	2.78%***	4.30%***	0.28%
	(-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 shareholders' equity (%)	(-3)	-5.53%	1.96%**	-13.50%***	1.59%**	6.29%***	-6.93%
	(-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%
<i>Liquidity</i>							
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)	-5.96%**	-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%**
<i>Solvency</i>							
Financial Independence Ratio (%)	(-3)	9.89%***	5.31%*	23.02%***	-0.07%**	-1.43%	11.01%
	(-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%***
Case Flow Coverage of Debt (%)	(-3)	-0.06%***	-0.17%**	0.01%*	3.06%***	2.63%***	5.95%***
	(-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%***
<i>Added value</i>							
Gross added value per employee (000 BEF)	(-3)	282.44***	674.91***	82.07	-120.59	178.70***	-323.618*
	(-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 per employee (000 BEF)	(-3)	391.11***	417.03***	362.01***	35.23	74.60	-33.550
	(-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
<i>Failure risk</i>							
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)	-0.0155**	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: 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.

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

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

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

with respect to the NRTA and the NRSE. The acquired companies' CFRSE is only significantly different from its industry when using industry & size-adjusted values. The NSM is the only variable that is systematically below its industry median, though not significantly.

These results confirm the results of other studies focusing on take-overs 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 CFRSE (though not significant) and significant negative industry-adjusted NSM in year(-2). On the other hand, their NRTA and NRSE 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 a significantly higher (than industry) CR in the three pre-acquisition years for the medians of industry & size-adjusted values. The other measure of liquidity is the NCR 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 NCR 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 III. 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 £1 million 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 FIR 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 instead 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 CFCD, 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 GAVE and 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 Balcaen, 2002) have indicated that bigger companies, i.e. with complete form annual accounts, have higher GAVE but also higher PEE than Belgian companies in general.

Finally, we also calculated industry-adjusted failure scores using the logistic regression failure prediction model by Ooghe, Joos and De Bourdeaudhuij (1995). 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-adjusted 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.

4.3. *Pre-acquisition performance of the acquiring firms*

The acquiring firms show a similar profitability profile relative to their industry medians as the companies acquired by them. The NSM is not significantly different from their industry contrary to the NRTA and the NRSE (Table IV). Acquiring firms have significantly positive industry-adjusted NRTA and NRSE. Especially the large firms have above NRTA and NRSE. The smaller number of small acquirers (22) show below average NRTA and NRSE in year(-3) and year(-2). 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 CRs. The liquidity picture of the acquirers seems even more negative when looking at NCR. 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 IV 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). 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), they are not significantly different from zero. This is in contrast with the highly significant industry-differences of the CFCD. Relative to the companies with complete form annual accounts within their industry (industry & size adjustment), the acquirers have a significantly higher CFCD. Again the better position of the small acquirers is marked.

The results in Table IV reveal higher GAVE for the acquiring companies than their industry medians of the companies with complete form annual accounts. As was expected, the 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 significantly. This means that acquirers add more value per employee than their counterparts, but have equal or even lower PEE.

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 take-over. 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

TABLE IV
Pre-acquisition characteristics of the acquiring companies

	Relative year	Acquiring companies					
		Medians of industry-adjusted values			Medians of industry & size-adjusted values		
		All firms	Large firms	Small firms	All firms	Large firms	Small firms
Number of companies		143	86	57	143	86	57
<i>Profitability</i>							
Net sales Margin (%)	(-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 assets (%)	(-3)	0.17%***	0.40%**	-0.28%	1.13%***	1.13%***	0.81%
	(-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 shareholders' equity (%)	(-3)	3.41%***	4.80%***	0.63%	2.95%***	3.24%***	1.11%
	(-2)	1.55%***	1.55%***	-0.12%	2.39%***	0.39%***	1.49%
	(-1)	3.53%***	3.11%***	6.24%**	1.77%***	1.56%***	4.92%***
Cash flow return on shareholders' equity (%)	(-3)	-2.57%	-2.57%	-4.27%	3.05%**	4.73%***	-1.84%
	(-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%
<i>Liquidity</i>							
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%
<i>Solvency</i>							
Financial Independence Ratio (%)	(-3)	-4.33%	-4.93%	11.11%**	-2.67%	-4.76%	16.63%**
	(-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%**
Case Flow Coverage of Debt (%)	(-3)	-0.17%*	-0.17%	10.32%**	3.02%***	2.67%***	15.77%***
	(-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%***
<i>Added value</i>							
Gross added value per employee (000 BEF)	(-3)	506.71***	578.09***	351.81	45.00*	55.36***	-145.29
	(-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 per employee (000 BEF)	(-3)	286.22***	286.22***	304.21**	-42.10	-33.41	-198.48
	(-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**
<i>Failure risk</i>							
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: 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.

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

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

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

the acquirers display below average long term failure risk whereas the short term risk is above the level of their home industry.

4.4. *Pre-acquisition performance of the acquired firms versus the acquiring firms*

In Table V 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). For both industry adjustments, Table V 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 test that was 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 V are the 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 NSM in year(-3) and year(-2) than their acquirers, though not significantly. During the three years pre-acquisition, targets have higher NRTA than their acquirers though only significant in year(-3). The 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 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 NRSE 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 CR is significantly higher for the acquired firms (at the 1% level) in year(-2) and year(-1). Equally the acquired firms display systematically higher NCR 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. 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 CR.

In terms of added value, a higher number of acquiring companies have a bigger GAVE, but also greater PEE 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 GAVE, but also greater PEE.

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 Balcaen (2002) 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.

TABLE V
Pre-acquisition financial characteristics of the acquired versus the acquiring companies

	Industry-adjustment A $X_i - Q_{2, industry\ y}$				Industry-adjustment B $X_i - Q_{2, industry\ y} / (Q_{3, industry\ y} - Q_{1, industry\ y})$				
	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 shareholders' 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**

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
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:

¹ Number of observations.² Number of target firm values that are bigger than their acquiring firm's value: **target > acquirer**.³ Number of acquiring firm values that are bigger than their target firm's value: $\text{target} < \text{acquirer}$.

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.

5. Discussion of the 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 CR and FIR). The two other measures of liquidity (NCR) and solvency (CFCD) 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 and to the companies acquired by them. We find negative, though not significant industry-adjusted CR's. The liquidity picture of the acquirers is more negative when looking at the NCR. This variable gets increasingly and significantly more negative for the acquirers as the year of acquisition approaches. Similar to their bad liquidity position, we find the acquirers to be highly levered, compared to their home industry. Remarkable is also that, relative to the large companies within their industry, the acquirers add more value per employee (GAVE) than their counterparts but have equal or even lower personnel expenses per employee (PEE). 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 higher short term failure risk of the acquirers is undoubtedly a manifestation of the low liquidity and high leverage of these firms. 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.

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.

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, they had lower liquidity and higher leverage than their industry. Within the group of acquiring firms differences were found between the subgroups of large and small acquirers. The large acquirers had higher growth rates than the smaller ones and 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 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.

In our analysis we found slack-poor, high growth firms with valuable investment opportunities acquiring slack-rich, low growth targets. This seems to be in line with Smith and Kim (1994), who stated that "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".

6. Conclusion

In this paper, we analyze the pre-acquisition financial characteristics of privately held companies involved in take-overs. Previous research on pre-acquisition operating performance of acquired and acquiring companies is sparse, especially of small, privately held companies and has produced rather conflicting results. Our pre-take-over research was aimed at testing whether mergers and acquisitions are alternatives to bankruptcy and whether there is a growth-resource mismatch. 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 take-overs and those studying the private take-over 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 its size. The smaller targets in our sample do not exhibit higher profitability than the larger targets, on the contrary. 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.

The results described above provide evidence that target and acquiring companies have a complementary financial profile in the pre-acquisition period. Both the acquirers and the target firms seem to experience a growth-resource 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.

Acknowledgements

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Notes

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

² 200 million Belgian francs = 4,957,870 Euro; 100 million Belgian francs = 2,478,935 Euro.

³ Source: Ooghe and Balcaen (2002) and the CD-ROM's of the National Bank of Belgium.

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