Restructuring and revitalising MBO firms using a risk return perspective: a study of Dutch divisional management buy-outs
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ABSTRACT OF THE PAPER

In Holland, Management Buy-Out's (MBO's) have become a popular instrument for restructuring and revitalising organisations. In this paper, by analysing the risk-return perspective, we aim to explain the upward trend in Dutch MBO's. In doing this we try to show that MBO's are not mere vehicles for downsizing the company but also apply measures which fuel longer-term transformation programs. The main focus of this paper is on risk-return factors. Therefore we gather information about management interventions which influence the company risk and restructure as well as revitalise the MBO firm with the accompanying data about the economic performance.

Because information about changes in market values of MBO firms is not available, it is difficult to employ the traditional model to calculate the ex-post risks and returns and to use this model as a basis for formulating expectations about the ex-ante risks and returns. Therefore, we develop another approach for assessing the risk-return trade-off in the case of Dutch MBO’s. The basis for this assessment is provided by linking the results of a financial ratio comparison between industry averages and MBO firms with the results of an analysis of risk reducing measures buy-out managers take after the MBO. This research shows that the improved economic performance of MBO’s is significantly better for 6-8 years than the industry averages and is caused by at least two major sources of value creation. Studying these sources by case studies in more detail enables us to conclude that restructuring on the one hand increases levels of operational flexibility (efficiency) and structural flexibility (communication and decisionmaking), and revitalising on the other hand increases the strategic flexibility (market focus) of the MBO firm. So MBO’s are attractive from a risk-return perspective, but not forever because the trend of long term economic performance is significantly downwards. More research has to be done to explain why.
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RESTRUCTURING AND REVITALISING MBO FIRMS USING A RISK RETURN PERSPECTIVE

-a study of Dutch Divisional Management Buy-outs-

by

Johan Bruining (Erasmus University Rotterdam)
Arthur Herst (Open University Heerlen & University of Limburg)

1 INTRODUCTION

In Holland, Management Buy-Out's (MBO's) have become a popular instrument for restructuring and revitalising organisations. In this paper, by analysing the risk-return perspective, we aim to explain the upward trend in Dutch MBO's. In doing this we try to show that MBO's are not mere vehicles for downsizing the company but also apply measures which fuel longer-term transformation programs. The main focus of this paper is on risk-return factors. Therefore we gather information about management interventions which influence the company risk and restructure as well as revitalise the MBO firm with the accompanying data about the economic performance. The paper addresses this issue as follows. Section 2 provides a definition of an MBO, concentrates on the trends in the Dutch MBO market and discusses the motives for this type of transaction. Section 3 explains the sources of data used and the research methodology adopted. In Section 4 we argue that, since market values of Dutch MBO firms usually are unavailable, it is impossible to measure risk and return in the traditional way. Therefore, we use another method to explain the MBO trends in Holland; this method starts from a comparison between firm and industry ratios in 4.1, surveys the risk reducing measures after the MBO in 4.2 and uses case-studies to explore the restructuring and revitalisation character of those risk reducing business measures in section 4.3. Section 5 summarises our main conclusions.

2 DEFINITIONS AND MOTIVES

Buy-outs may take various forms. An MBO involves members of the incumbent management team obtain a controlling interest in the firm or division for which they are employed. Typically, besides making a contribution from their own funds, most of the purchase price will be met by a combination of equity plus quasi-equity provided by venture capitalists, and debt. There are various motives for managers of parent companies and subsidiaries to participate in an MBO. The early MBO's in Holland were mainly defensive, stemming from parent companies having to cope with serious (financial) troubles which caused bankruptcy or a turnaround. The managers of several subsidiaries, not wanting to be dragged into liquidation, bought their firms from the parent companies. Another source of MBO's in this "defensive category" are subsidiaries which are hived off after a turnaround by their incumbent manage-
ment teams and of which the parent companies are still trading. A common characteristic for this category of defensive MBO's is that top management lost control over the varied and heterogeneous portfolio of companies, which were the result of diversification. Diversification turned out to be no panacea for the world wide recession during the late 1970's and often after unsuccessful attempts to sell the subsidiary to other companies, management, employees, trade unions and govermental agencies considered MBO's to be a device of the last resort to save a company.

After some years of experience with MBO's which became succesful by altering their way of management as well as their financial and organisational structures, the phenomenon developed further. In Holland another motive for MBO's became very popular. In contrast to the early MBO's the parent companies were not troubled with serious (financial) problems but, since their profits were declining and the diversification philosophy did not work any longer, adopted product-market strategies which concentrated all the resources on the core business activities and thus released unessential units for possible buy-outs. This so-called "back-to-the-basics-movement" resulted in offensive MBO's. In contrast to the defensive MBO's described above, the offensive ones are part of the strategic policy of the conglomerate and are, in general, better planned and prepared. Up to now this policy is still a major source of MBO's. Without severe turnarounds, several Dutch conglomerates succeeded in a timely divestment of their subsidiararies which no longer fitted their strategic direction.

The Dutch MBO market in this paper may be characterised as displaying several of the necessary conditions for buy-out development, especially a need to effect ownership transfer though not necessarily for the same reason, a relative or absolutely important venture capital industry and a legal framework which facilitated such transactions (see Thompson, Wright and Robbie 1992 for a detailed outline of the framework). Fortunately, Holland has the third largest venture capital industry in Europe, which as a result of a favourable taxation and legal framework was able to undertake such transactions. Besides, works councils and supervisory boards made it difficult for unwelcome bidders to realize their takeover plans (Bruining and Herst 1991).

The numbers of MBO's in Holland in 1980-1994 are:

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
<td>13</td>
<td>19</td>
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<td>43</td>
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<td>39</td>
<td>37</td>
<td>57</td>
<td>49</td>
<td>52</td>
<td>44</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3 DATA AND METHODOLOGY

We choose for analysing the risk-return trade-off issue in MBO's. Our way of approaching this issue consists of three parts. Firstly, carrying out a sample survey based on the numbers of Dutch MBO's drawn from our database in order to compare financial ratios of MBO companies with the industry averages. Access to these data is facilitated by Graydon Holland BV, an Anglo-Dutch credit rating agency. Over a range of 11 years, starting from the year in which the MBO took place, we are able to compare the economic performances of differently composed groups of MBO companies with the industry averages. Secondly, carrying out interviews, our research focusses on the measures managers take in order to create better economic performances after an MBO. We also used the findings from a survey of the Dutch 'Nationale Investerings Bank' into the motives and experiences of managers, who have bought their companies from the parent companies and established a model of associated relationships between types of risk reducing business measures and improved economic performance. Thirdly this relationship is worked out in more detail through three case-studies of successful MBO's. With respect to the operational, the structural and the strategic responsiveness of the MBO-company, we looked for specific data about measures which were taken as a result of the buy-out. We interviewed the management who realized the MBO, the financial backers, some key personnel such as the controller, the treasurer, some assistant managers and works council representatives. We asked them about changes in the reward systems, organisational structure, strategy, way of decision-making in the management team and the operational information systems. As well as the interviews we used information from written documents such as business plans, annual reports, venture capital reports, works council reports and special reports about the industries involved. We compared these changes with the situation before the MBO in order to verify any relationship between these changes and the occurrence of the MBO. So we were able to relate quantitative performance data (output) to more longitudinal data about operational, structural and strategic responsiveness.

In linking the results of the three parts of the research together, we offer a possibility to interpret the restructuring and revitalising efforts in terms of the risk-return trade-off issue.

The data presented in this paper are collected from the authors' database. The database contains information of over 400 MBO's in Holland and is continuously being updated. Because of the cautious attitude of buyers, sellers and investors towards publicity on financial matters in Holland, especially when small firms are concerned, it is very difficult to gather reliable information concerning Dutch MBO's. The government agency responsible for gathering relevant statistical information in Holland ('Centraal Bureau voor de Statistiek') does not dispose of information on MBO's. Therefore, the MBO Research Unit of the Rotterdam Institute of Business Economic Studies (RIBES) at Erasmus University, together with the Limburg Institute of Financial Economics, had to collect their own data on numbers, sources, buyers, sellers, prices and branches of industry where MBO's take place. They use publicly available information reported in financial papers and magazines, and compare this information with data on MBO numbers published by the Dutch Foundation for Venture Capitalists ('Nederlandse Vereniging voor Participatiemaatschappijen').
4 RESEARCH RESULTS

Due to the consolidation of the information on subsidiaries in the annual report of the parent company it is impossible to compare a subsidiary's financial ratios after the MBO with ratios before this transaction. We can however, compare financial ratios of an MBO firm with industry ratios in order to find out how MBO firms are performing.

4.1 Comparing Firm and Industry Ratios

Bruining (1992) compared sixteen firm ratios with their industry averages. In this paper three ratios were selected that are strongly related to earnings: the cash flow ratio (CFR), the return on investment (ROI) and the return on equity (ROE). We calculated these three ratios as follows:

\[
\text{Cash Flow Ratio} = \frac{\text{net profit after taxes plus depreciation}}{\text{total debt}}
\]

\[
\text{Return On Investment} = \frac{\text{earnings before interest and taxes}}{\text{total assets}}
\]

\[
\text{Return On Equity} = \frac{\text{net profit after taxes}}{\text{equity}}
\]

The three ratios, calculated for 73 medium-sized (n=36) and small Dutch firms (n=37), bought by their management teams during 1980-1989 were compared with their industry medians during the period 1980-1993. For 10 firms the comparison is made during an uninterrupted period of three years, for 15 firms during a period of four years, for 16 firms five years, for 14 firms six years, for 12 firms seven years and for 6 firms eight or more successive years are used. These differences in periods of time are due to the non-availability of annual reports for some companies during the period examined. Relying on these three financial ratios, a sign-test test shows us that in general MBO firms outperform their respective industries.

Table 1: Sign-Test Financial Ratios CFR, ROI and ROE

<table>
<thead>
<tr>
<th>years after MBO</th>
<th>year 0</th>
<th>year 1</th>
<th>year 2</th>
<th>year 3</th>
<th>year 4</th>
<th>year 5</th>
<th>year 6</th>
<th>year 7</th>
<th>year 8</th>
<th>year 9</th>
<th>year 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFR mbo - CFR ind.</td>
<td>9</td>
<td>0</td>
<td>19</td>
<td>2</td>
<td>21</td>
<td>1</td>
<td>20</td>
<td>3</td>
<td>17</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>p-value</td>
<td>0.004</td>
<td>0.0002</td>
<td>0</td>
<td>0.0005</td>
<td>0.0001</td>
<td>0.007</td>
<td>0.03</td>
<td>0.003</td>
<td>0.5</td>
<td>0.1</td>
<td>0.8</td>
</tr>
<tr>
<td>ROI mbo - ROI ind.</td>
<td>11</td>
<td>3</td>
<td>23</td>
<td>4</td>
<td>28</td>
<td>6</td>
<td>25</td>
<td>8</td>
<td>19</td>
<td>12</td>
<td>28</td>
</tr>
<tr>
<td>p-value</td>
<td>0.06</td>
<td>0.0005</td>
<td>0.0003</td>
<td>0.005</td>
<td>0.3</td>
<td>0.006</td>
<td>0.7</td>
<td>1</td>
<td>0.8</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>ROE mbo - ROE ind.</td>
<td>13</td>
<td>0</td>
<td>24</td>
<td>4</td>
<td>29</td>
<td>6</td>
<td>26</td>
<td>4</td>
<td>24</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>p-value</td>
<td>0.0002</td>
<td>0.0003</td>
<td>0.0002</td>
<td>0.0001</td>
<td>0.002</td>
<td>0.009</td>
<td>0.2</td>
<td>1</td>
<td>1</td>
<td>0.8</td>
<td>0.8</td>
</tr>
</tbody>
</table>
In Table 1 we counted how many times MBO firms outperform or underperform their industries, by subtracting the median values of the industry ratios from the values of the MBO firms ratios. It was found that MBO firms performed significantly better than their industry medians, especially with regard to the ratios referred to above. E.g. the p-values of the CFR are very strong during a 8 year period starting from the year in which the transaction took place. The ROI and the ROE however seemed to show these significant differences for a somewhat shorter period of time, that is five years after the MBO transaction.

For the sign-test in Table 1 we formulated the nil-hypothesis that we expect no differences between MBO's and the medians of their industries.

Information from the annual accounts about the CFR is only available for the medium and larger sized companies in our sample. From the very high p-values of the CFR (see Table 1) we conclude that medium and larger sized firms perform significantly better during 8 years than their industries\(^1\). We observe during 8 years after the MBO p-values ranging from >.0001 to <.03, while the ROI and ROE ratios behave superior than the industrial median during a somewhat shorter period of time. The ROE of MBO's is obviously better than the median ROE of the industry without interruptions during a 6 year period, while the ROI is only better during an uninterrupted period of 4 years, and shows in an earlier stage signs of deterioration, namely in the 5th year. So we had to reject the nil-hypothesis and accept the alternative hypothesis that MBO's outperform the medians of the industries with respect to these ratios.

-Trends in development

In addition to the sign-test we employed a regression analysis on the basis of so-called Hampel\(^2\) means of these three ratios in order to see whether there is a trend in the development of the financial ratio or not. Therefore we calculated \(\Delta\text{CFR}, \Delta\text{ROI}\) and \(\Delta\text{ROE}\) and carried out a linear regression analysis on these differences. With a 95 percent confidence interval we can report significant downward trends in each of the ratios, e.g. CFR (p-value = .03), ROI (p-value = .008) and ROE (p-value=. .000), and an upward trend in the solvability ratio (p-value = .008). For the graphics we refer to the appendices. So MBO's outperform the median of the three ratios but not for ever! We took a long time perspective of 10-11 years to analyse the development of the economic performance of MBO's compared with the median performance level of the industry. Taking a longer time perspective into account, it seems that higher levels of CFR are maintained for an eight year period, after that the differences are disappearing quickly. If we look at the ROI the trend is positive for the first two years, on average MBO's outperform the median ROI's of their industry by 5 percent. After these two years the downward trend sets in, but even at the end of the period examined MBO's keep earning at least 1 percent more than the median of the industry. Our data suggest a nearly one hundred percent linear downward trend for the ROE (r square=0.948).

One of reasons why the better performance with regard to the industry dissappears might be

\(^1\)However, from a 1994 survey of the MBO Research Unit at Erasmus University among 53 small MBOs, it appears that sales and the profit from operations as a percentage of sales for 90 percent of these small MBOs show a significant upward trend. Therefore we conclude that the results from Table 1 are also applicable for the smaller MBOs.

\(^2\)A technique to calculate a trimmed mean. Outliers get smaller weight than cases which are closer to the center. See Ch.3 Looking First: Procedure Examine, B-27 SPSS-Handbook, 1994.
found in the fact that a high level of debt (See Trend Equity/Total Asset ratio) implies that management has little discretion in the allocation of the free cash flow of the MBO company. So the discipline to invest wisely and more efficient than the industry dissapears. From the Equity/Total Asset graph we can see that during 4 years MBO's lag behind the median equity/total asset ratio of the industry, thereafter the differences between them seem to level out.

-Scale of outperformance

In addition to the sign-test we applied a T-test to these ratios in order to measure the scale by which the MBO firms outperform their industries. In the next three Tables we present the results from this test which shows, during an eleven year period at a 95 percent confidence level, the intervals for the mean performance improvement of MBO firms as compared to their industry medians. Therefore we calculated $\Delta$ CFR, $\Delta$ ROE and $\Delta$ ROI and carried out a variance analysis on these differences. Year 0 represents the year in which the MBO took place; year 1 the first year after the MBO, etc.

Table 2 demonstrates an overall positive picture, consistent with the eight year period from the sign test, for the development of the cash flow ratio, with a decline in the fourth year after the MBO. Based on 146 annual reports the interval for the improved CFR falls between 2 and 28 percent. The last three years show MBO firms which far outperform the industry, but also some which do not.

<table>
<thead>
<tr>
<th>years number</th>
<th>mean</th>
<th>std.dev</th>
<th>std.error</th>
<th>95 pct Conf Int for Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grp 0</td>
<td>.1500</td>
<td>.1296</td>
<td>.0490</td>
<td>.0301 To .2699</td>
</tr>
<tr>
<td>Grp 1</td>
<td>.1693</td>
<td>.1241</td>
<td>.0285</td>
<td>.1095 To .2291</td>
</tr>
<tr>
<td>Grp 2</td>
<td>.1885</td>
<td>.1474</td>
<td>.0330</td>
<td>.1195 To .2575</td>
</tr>
<tr>
<td>Grp 3</td>
<td>.2160</td>
<td>.1446</td>
<td>.0323</td>
<td>.1483 To .2837</td>
</tr>
<tr>
<td>Grp 4</td>
<td>.1706</td>
<td>.1496</td>
<td>.0374</td>
<td>.0909 To .2503</td>
</tr>
<tr>
<td>Grp 5</td>
<td>.1713</td>
<td>.1800</td>
<td>.0465</td>
<td>.0717 To .2710</td>
</tr>
<tr>
<td>Grp 6</td>
<td>.1894</td>
<td>.1932</td>
<td>.0469</td>
<td>.0901 To .2887</td>
</tr>
<tr>
<td>Grp 7</td>
<td>.1200</td>
<td>.1649</td>
<td>.0441</td>
<td>.0248 To .2152</td>
</tr>
<tr>
<td>Grp 8</td>
<td>.2757</td>
<td>.3765</td>
<td>.1423</td>
<td>-.0725 To .6239</td>
</tr>
<tr>
<td>Grp 9</td>
<td>.1486</td>
<td>.1696</td>
<td>.0641</td>
<td>-.0082 To .3054</td>
</tr>
<tr>
<td>Grp 10</td>
<td>.0225</td>
<td>.1081</td>
<td>.0541</td>
<td>-.1496 To .1946</td>
</tr>
<tr>
<td>Total</td>
<td>.1755</td>
<td>.1711</td>
<td>.0142</td>
<td>.1475 To .2034</td>
</tr>
</tbody>
</table>

From the development of the return on equity in Table 3 we can conclude that shareholders face the highest returns during the first two years after the MBO, on average the first year 26 percent and the second year 20 percent. In general, and in sharp contrast to $\Delta$CFR, the $\Delta$ROE for MBO's is declining during the whole period of observation. Consistent with the results
from the sign test Table 3 shows that approximately after a period of eight years not every MBO is yielding more return on equity than the industrial mean.

Table 3: ROE Intervals By Which MBO's Outperform Their Industry Medians

<table>
<thead>
<tr>
<th>year</th>
<th>number</th>
<th>mean</th>
<th>std.dev</th>
<th>std.error</th>
<th>95 pct Conf Int for Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grp 0</td>
<td>12</td>
<td>26.1525</td>
<td>24.5373</td>
<td>7.0833</td>
<td>10.562 To 41.7428</td>
</tr>
<tr>
<td>Grp 1</td>
<td>24</td>
<td>20.8042</td>
<td>18.3393</td>
<td>3.7435</td>
<td>13.0602 To 28.5482</td>
</tr>
<tr>
<td>Grp 2</td>
<td>31</td>
<td>15.2384</td>
<td>24.5181</td>
<td>4.4036</td>
<td>6.2451 To 24.2317</td>
</tr>
<tr>
<td>Grp 3</td>
<td>29</td>
<td>14.7179</td>
<td>14.5918</td>
<td>2.7096</td>
<td>9.1675 To 20.2683</td>
</tr>
<tr>
<td>Grp 4</td>
<td>29</td>
<td>12.7607</td>
<td>29.8265</td>
<td>5.5386</td>
<td>1.4153 To 24.1061</td>
</tr>
<tr>
<td>Grp 5</td>
<td>34</td>
<td>11.8926</td>
<td>21.5000</td>
<td>3.6872</td>
<td>4.3909 To 19.3944</td>
</tr>
<tr>
<td>Grp 6</td>
<td>33</td>
<td>10.9948</td>
<td>23.6964</td>
<td>4.1250</td>
<td>2.5925 To 19.3972</td>
</tr>
<tr>
<td>Grp 7</td>
<td>24</td>
<td>5.3833</td>
<td>20.1175</td>
<td>4.1065</td>
<td>-3.1115 To 13.8782</td>
</tr>
<tr>
<td>Grp 8</td>
<td>15</td>
<td>5.9473</td>
<td>35.4094</td>
<td>9.1427</td>
<td>-13.6617 To 25.5564</td>
</tr>
<tr>
<td>Grp 9</td>
<td>16</td>
<td>-0.4788</td>
<td>28.7006</td>
<td>7.1751</td>
<td>-15.7722 To 14.8147</td>
</tr>
<tr>
<td>Grp10</td>
<td>11</td>
<td>-3.7673</td>
<td>22.5926</td>
<td>6.8119</td>
<td>-18.9452 To 11.4106</td>
</tr>
<tr>
<td>Total</td>
<td>258</td>
<td>11.7011</td>
<td>24.3568</td>
<td>1.5164</td>
<td>8.7150 To 14.6872</td>
</tr>
</tbody>
</table>

With regard to the development of ROI, Table 4 shows a profitable four year period. On average MBO's generally outperform the industry by approximately 3 to 6 percent. Then the ΔROI apparently seems to decrease sharply for the next years, falling from 5 percent to 0.6 percent. The negative intervals by which MBO's outperform their industry medians are signalling that more MBO's do not maintain their position as outperformers in the longer run.

Table 4: ROI Intervals By Which MBO's Outperform Their Industry Medians

<table>
<thead>
<tr>
<th>year</th>
<th>number</th>
<th>mean</th>
<th>std.dev</th>
<th>std.error</th>
<th>95 pct Conf Int for Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grp 0</td>
<td>12</td>
<td>3.5850</td>
<td>6.2124</td>
<td>1.7934</td>
<td>-0.3622 To 7.5322</td>
</tr>
<tr>
<td>Grp 1</td>
<td>24</td>
<td>4.4275</td>
<td>7.5307</td>
<td>1.5372</td>
<td>1.2476 To 7.6074</td>
</tr>
<tr>
<td>Grp 2</td>
<td>31</td>
<td>5.8471</td>
<td>7.9833</td>
<td>1.4338</td>
<td>2.9188 To 8.7754</td>
</tr>
<tr>
<td>Grp 3</td>
<td>29</td>
<td>5.1021</td>
<td>7.7909</td>
<td>1.4467</td>
<td>2.1386 To 8.0656</td>
</tr>
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<td>Grp 4</td>
<td>29</td>
<td>3.5017</td>
<td>9.0917</td>
<td>1.6883</td>
<td>0.0434 To 6.9600</td>
</tr>
<tr>
<td>Grp 5</td>
<td>34</td>
<td>2.4694</td>
<td>7.7480</td>
<td>1.3288</td>
<td>-0.2340 To 5.1728</td>
</tr>
<tr>
<td>Grp 6</td>
<td>33</td>
<td>2.9224</td>
<td>6.4119</td>
<td>1.1162</td>
<td>0.6489 To 5.1960</td>
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<tr>
<td>Grp 7</td>
<td>24</td>
<td>0.8983</td>
<td>6.7214</td>
<td>1.3720</td>
<td>-1.9399 To 3.7365</td>
</tr>
<tr>
<td>Grp 8</td>
<td>15</td>
<td>0.6253</td>
<td>10.2145</td>
<td>2.6374</td>
<td>-5.0313 To 6.2819</td>
</tr>
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<td>Grp 9</td>
<td>16</td>
<td>3.5825</td>
<td>22.3926</td>
<td>5.5982</td>
<td>-8.3497 To 15.515</td>
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<tr>
<td>Grp10</td>
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<td>-1.7282</td>
<td>10.2284</td>
<td>3.0840</td>
<td>-8.5997 To 5.1433</td>
</tr>
<tr>
<td>Total</td>
<td>258</td>
<td>3.2159</td>
<td>9.4392</td>
<td>.5877</td>
<td>2.0587 To 4.3731</td>
</tr>
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</table>
4.2 Risk Reducing Measures

One might object that the higher values of the three ratios of the MBO firms are necessary to compensate the higher than average risks involved in buy-out transactions. In order to discuss this argument we shall return to the definition of an MBO given in Section 2: by obtaining a controlling interest in the firm, i.e. by becoming a (major) stockholder, management has an additional incentive to do their utmost in minimizing the firm's risk. In other words, an increase in the personal risk of management may very well result in a decrease in the firm's risk. Analysing the findings of a survey among 49 buy-out firms carried out in 1985 we found several measures managers took in order to minimize the risk of their firm. The 49 buy-outs consist of 29 MBO's and 20 IBO's serving as a control group. In an IBO external investors, for example venture capital companies, realize and finance the buy-out deal. Within both groups of buy-outs we compare the successful with the unsuccessful deals. We use the Fisher exact probability test as an association test, because it is a useful nonparametric technique for analysing discrete data (either nominal or ordinal) when the two independent samples are small in size. In contrast to successful IBO's, the test shows clear associations between management measures which increase internal as well as external flexibility and improvement of economic performances for the successful MBO's.

The measures which appear to be most important to internal and external flexibility have p-values smaller than or equal to .05 (see figure 1). Examples of measures that increase internal flexibility are:

- appointing functional specialists,
- lesser primacy of the production function,
- decreasing contracting out,
- shorter lines of communication between management and operations,
- more operating autonomy of middle management and other employees,
- more direct feedback mechanisms,
- lesser bureaucracy.

Examples of measures that increase external flexibility, as a result of which the firm is in a better position to respond successfully to changes in its markets, are:

- direct lines of communication with customers and quicker decision making
- better information for customer orientation, as well as for supplier and market orientation,
- changes in selling methods, product specifications, pricing and service.

For successful IBO's no significant associations were found between management's measures and improvement of economic performances. In our opinion the reason for this difference is management's equity stake, a vital element in MBO's, that is absent in IBO's. Thompson, Wright and Robbie (1992, p. 414) also found that the management equity stake is a dominant determinant of performance. Without a substantial financial participation of the incumbent management team an MBO is impossible. Because of this participation managers run a high risk and are strongly motivated to find ways to control that risk.
4.3 Restructuring and Revitalisation

The associated relationship between flexibility and the improved economic performance has been elaborated by means of three detailed case studies of successful Dutch MBO's. By applying the concept of flexibility of Ansoff and Brandenburg (1969) we extend the classification in internal and external flexibility used in the study. As far as internal flexibility is concerned, these authors distinguish between operational and structural flexibility. This refinement enables measurement of the abilities of the organisation to make quick and efficient changes in the levels of production (operational flexibility) and to change itself by improving its communication and decision making skills (structural flexibility). The definition Ansoff and Brandenburg use for strategic flexibility is the same as the definition of external flexibility introduced above: the ability of an organisation to change the nature of the relationship with customers, suppliers, banks, and governmental agencies as a result of which the organisation is in a better position to respond successfully to changes in its markets.

In our case studies we collected information on the operational, the structural and the strategic flexibility before and after the MBO, together with data about the economic performance of the firm three years before and four years after the MBO. We measured performance by means of the cash flow ratio, the return on investment and the return on equity.

The three case studies confirm the suggested relationship in Figure 1 between the increased operational, structural and strategic flexibility on the one hand and the improved performances after the MBO on the other hand; during the four years after the MBO the three firms showed a much better economic performance than before becoming independent. Of course, starting from the data of only three case studies we cannot generalize about the causes of the improved economic performance after an MBO. We utilized the case studies to develop a more precise understanding of the kind of management measures that improve the firm's economic performance after the MBO by increasing operational, structural and strategic flexibility.

Of course we must keep in mind that the three aspects of flexibility may influence each other in...
practice. Therefore, we have to use these aspects in a coherent way in explaining the improved economic performance after an MBO. The findings are summarized as follows:

I. Dependent on their degree of efficiency, the three MBO firms increased their operational flexibility by means of:
- cost cutting programs,
- improving the degrees of utilization of capital assets,
- improving planning and logistics,
- minimizing working capital,
- reorganisation of the production processes,
- aligning wage payments with the collective wage agreements in the industry.

II. The three firms increased their levels of structural flexibility by taking the following measures:
- reducing the original firm's staff, and selectively creating new staff positions,
- substituting indirect labour by direct labour,
- centralizing financial control and financial decision making,
- decentralizing marketing and profit responsibility,
- creating direct communication channels and direct feedback mechanisms between top management and the operational levels,
- improving the quality of the shared information,
- stressing employee responsibility for product quality,
- emphasizing the importance of all employees being prepared to implement measures for increasing efficiency.

III. As far as the strategic flexibility is concerned the three MBO firms improved their economic performance by making explicit strategic choices which products and services to sell, and how to approach the (potential) customers. This implies reallocating funds and reorganizing operations. Internal growth is pursued by measures that create competitive cost levels and increase profit margins (see I above). Thus, the firms are in a better position for external growth by acquiring organisations with a higher added value than their own existing range of products and services.
Furthermore, after the MBO the three firms tended to introduce reward systems that relate remuneration to economic performance. Examples of these reward systems are bonuses, profit sharing plans, stock options, employee stock ownership plans, and flexibilisation of a part of the fixed salary. We may conclude that compensation system in MBO's rewards risk-takers, especially those who buy out their company, because they link their own future to the whether or not succesful transformation of the company.
Our research shows that by making the firm as flexible as possible management is able to reduce risk (Bruining 1992, pp. 125-196). For successful MBO's this research shows that management teams succeed in taking several effective measures that increase operational, structural and strategic flexibility on the one hand and improve economic performance on the other hand. Following Gouillart and Kelly (1995, pp. 9-14), we think that the business measures mentioned in I, II and III are explicit signs from the buy-out management that they know where value in the firm is created, aligning the physical infrastructure and redesigning the work architecture if necessary, thus restructuring the organisation. The last group of
measures imply that MBO firms achieve market focus what leading to growth. Focusing on customers, MBO firms identify needs and quickly respond to these needs by starting new business or building alliances and partnerships or even acquire other companies, thus revitalising their firms.

6 CONCLUSIONS

In the U.K., there is consensus that MBO firms outperform industry averages in the first three years after the buy-out in terms of return on assets. However, there is a lack of consensus (Houlden 1989, Bannock 1990) beyond this point, although small samples and question marks about methodology cast doubt on the possibility of these results. Interesting enough our research shows that Dutch MBO's outperform the industry median for approximately 6-8 years. However the performance decreases significantly over time. Of course more research has to be done in order to explain why. Some of the reasons could be that the original buy-out management has left the company or that because of the high level of debt management has little discretion in the allocation of the free cash flow.

In this paper we sought to answer the question whether it would be possible to explain the increase in the number of Dutch MBO's by considering the risk-return trade-off. After having defined the meaning of the word management buy-out in Section 2 we analysed various motives for realizing such a transaction. We discovered that during 1980-1994 the number of MBO's in Holland showed a tendency to rise. Section 3 discussed our data and methodology. Section 4 focussed on the risk-return trade-off as an explanation for this increase. Unfortunately, we did not have at our disposal the market values required to implement the traditional way of using the risk-return trade-off. Therefore, we had to find a proxy for the risk and the return components in these buy-out deals: comparing firm and industry ratios as well as risk reducing measures and analysing the restructuring and revitalising character of those measures. Applying these proxies enables us to conclude that MBO's are attractive from a risk-return perspective, because the buy-out management succeeds in restucturing and revitalising, thus transforming the MBO company into an economic viable entity.

REFERENCES

APPENDICES FINRATTRENDS

-The Cash Flow Ratio Trend

\[ y = 0.126 + 0.046x - 0.010x^2 + 0.000x^3 \quad r^2 = 0.702 \]

-YEARS POST MBO-

-The Return On Investment Trend

\[ y = 4.763 + 0.136x - 0.157x^2 + 0.011x^3 \quad r^2 = 0.850 \]
-The Return On Equity Trend

\[ y = -2.042x + 20.263 \quad r^2 = 0.948 \]

- The Solvability Trend

\[ y = -13.518 + 5.696x - 0.604x^2 + 0.018x^3 \quad r^2 = 0.859 \]