

Selection of LBO Targets by Private Equity firms: the French case

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Abstract We investigate whether the characteristics of Leveraged Buy-Out (LBO) targets before the deal differ from those of targets that have undergone another type of transfer of shares. Specifically, we examine the size, value, industry, quotation and profitability of French targets involved in transfers of shares between 1996 and 2004. Using two different methods (a classical logit regression and a mixed discriminant analysis), results show that LBO targets are more profitable, that they are more frequently unquoted, and that they more often belong to manufacturing industries in comparison with the targets involved in other types of transfers of shares.

1 Introduction

Leveraged Buy-Outs (LBO) are acquisitions of a significant equity stake of a company by private investors using additional debt financing. For a decade, this activity in France has experienced an extraordinary increase. Despite LBOs have now become an international phenomenon, yet much of the evidence is US and UK based (see [4] for a recent overview on LBOs). Research undertaken in France ([10], [11], [5], [6]) provides initial evidence showing that the implications of LBOs do vary with targets' size and quotation on a stock exchange, and across countries. In this study, we analyze the pre-LBO profile of French targets using both quantitative and qualitative data. We test a number of hypotheses derived from LBO firms' acquisition rationale that may explain the French LBO targets' underperformance after the transaction. This analysis allows us to check if LBO firms meet various financial criteria when evaluating an LBO target.

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2 Theoretical predictions

To predict the types of targets that are likely to engage in LBOs, we present the specific criteria that are used by LBO firms in their acquisition rationale.

First, one widely accepted conclusion is that the level of financial leverage a firm can bear is a function of its business risk ([9]). For this reason, LBO firms avoid investments in highly cyclical businesses since stability of earnings and cash flow is critical to the success of an LBO. Further, an LBO target's activity must not require heavy investments. Moreover, its expected growth has to be positive but not too high because a high growth rate would create high working capital requirements. Consequently:

H₁: The likelihood that a target is acquired through an LBO depends on its industry.

We expect that LBOs are positively linked with mature and non-cyclical industries and negatively related to the targets' industry capital intensity. In particular, we expect that transportation, warehousing and storage (called Transport) is negatively related to LBOs as this industry is cyclical (H_{1a}). On the contrary, Wholesale and retail trade industry or Hotels and restaurants are rather cyclical industries but they are characterized by a low capital intensity. We expect that they are positively linked with LBOs (H_{1b}). We expect that firms in high technologies are negatively related to LBOs as capital requirements and business risk are high in high-growth firms (H_{1c}). The situation of manufacturing industries is more ambiguous. They are typically very cyclical. But there are important differences among them in how they are affected by a downturn. For instance the food manufacturing industry is non-cyclical. Otherwise, they are rather mature so that growth rates and new investments are limited.

Second, the target profitability ought to be historically high and well controlled. Desbrires and Schatt ([5]) show that return on equity is higher for LBO targets two years before the deal, and that return on investment is greater two years before and the year preceding the deal.

H₂: The likelihood that a target is acquired through an LBO should be positively related to its profitability.

Third, only a handful of Public-to-Private transactions (PTP) are completed in France each year because of a number of issues, arising from French corporate ownership structure and legislation ([3]). Consequently, the very great majority of French LBOs involve privately held, rather small companies.

H₃: The likelihood that a target is acquired through an LBO should be negatively related to its quotation on the stock exchange.

H₄: The likelihood that a target is acquired through an LBO should be negatively related to its size and value.

3 Sample selection and empirical results

The sample we use is extracted from the Zephyr database (Bureau Van Dijk). We select all deals (3,495) corresponding to transfers of ownership rights which involve targets (companies being sold, or companies in which a stake is being sold) from France and which were completed during the period January 1, 1996 - May 5, 2004. The availability of variables limits our sample size to 664 deals which are classified into two groups: LBOs (126 deals) versus non-LBOs (538 deals).

The LBO likelihood is the variable we want to explain. The other variables characterize target companies. Some variables are continuous: deal value, target size (total assets and turnover) and profitability (Return On Equity -ROE- and Return On Assets -ROA-). The qualitative variables used are: target sector and quotation.

To predict the occurrence of an LBO versus a non-LBO deal, we use two data analysis methods. The aim is to differentiate the two groups of deals according to the mixed characteristics of targets.

The first method is a logistic model, run through SAS system, in which the endogenous variable is the LBO likelihood and the exogenous variables are the targets' characteristics. With this model, any significant link cannot be found between LBO likelihood and deal value or targets' size (contrary to H_4). The significant explanatory variables of LBOs are: the target sector, quotation and ROA (Table 1). More precisely, the LBO likelihood is positively linked with ROA (consistent with H_2) and with manufacturing industries and negatively linked with quotation (consistent with H_3) and high technology (consistent with H_{1c}).

Analysis of Maximum Likelihood Estimates						
Parameter		DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept		1	-1.7206	0.3403	25.5619	<.0001
TZCL	Construction	1	0.2514	0.6927	0.1317	0.7167
TZCL	High-Tech	1	-1.5692	0.3429	20.9396	<.0001**
TZCL	Hotel-Restaurant	1	0.6074	0.9715	0.3909	0.5318
TZCL	Manufactured	1	0.5762	0.2711	4.5174	0.0336*
TZCL	Retail-Wholesaling	1	0.4191	0.3738	1.2573	0.2622
TZCL	Services	1	-0.5872	0.3679	2.5482	0.1104
TZCL	Transport	1	-0.6023	0.5460	1.2170	0.2699
TQUO	Quoted	1	-1.1234	0.1677	44.8537	<.0001**
CDAT	Code date	1	-0.0216	0.0670	0.1039	0.7471
DVAL	Deal value (Millions)	1	0.000237	0.000236	1.0099	0.3149
TTAS	Target Total Assets	1	0.000072	0.000162	0.1970	0.6571
ROE	Return On Equity	1	0.0609	0.0589	1.0688	0.3012
ROA	Return On Assets	1	2.6568	0.5975	19.7753	<.0001**
TTUR	Target Turnover	1	-0.00023	0.000227	1.0405	0.3077

** significance less or equal than 1% ; * significance [1% - 5%]

Table 1 Binary Logistic Model - SAS results.

The second method is a mixed discriminant analysis [1] run through SPAD system (Table 2). With this method results are very significant ($\text{PROBA} = 0.0001 < 5\%$). Some results are the same as with the logistic regression. LBO targets exhibit higher ROA than other targets (consistent with H_3). They are more frequently unquoted (consistent with H_3) and belong to manufacturing industries. They belong more than the average to transport industries (consistent with H_{1a}). According to the mixed discriminant analysis, LBO targets exhibit also higher ROE (consistent

with H_2) and belong more often to the sector of Retail and wholesaling (partially consistent with H_{1b}) whereas the high technology does not differentiate between the two groups of transfers of shares.

FONCTION LINEAIRE DE FISHER RECONSTITUEE A PARTIR DES VARIABLES D'ORIGINE						
VARIABLES	CORRELATIONS	COEFFICIENTS		ECARTS	T	PROBA
.....	VARIABLES	FONCTION	REGRESSION	TYPES	STUDENT	
NUM LABELLES	AVEC F.L.D.	DISC.		(RES. TYPE REG.)		
	(SEUIL= 0.08)					
5 Code date	0.016	-0.0073	-0.0022	0.0211	0.11	0.916
6 Deal value (Millions)	-0.019	0.0001	0.0000	0.0001	0.54	0.588
10 Target Total Assets	-0.071	0.0001	0.0000	0.0000	0.72	0.473
11 ROE - Return On Equity	0.066	0.0462	0.0141	0.0056	2.52	0.012*
12 ROA - Return On Assets	0.197	1.3883	0.4243	0.0853	4.97	0.000**
13 Target Turnover (Millions)	-0.076	-0.0001	0.0000	0.0000	1.24	0.214
16 Quoted	-0.240	-2.1927	-0.6701	0.0783	8.55	0.000**
17 Unquoted	0.240	0.0000	0.0000	0.0000	0.00	0.000**
18 High Tech	-0.272	-0.6560	-0.2005	0.1893	1.06	0.290
19 Manufactured ind.	0.244	1.0090	0.4917	0.1895	2.59	0.010**
20 Construction	0.058	1.6514	0.5047	0.3246	1.55	0.120
21 Hotel and Restaurant	0.025	1.6442	0.5025	0.3840	1.31	0.191
22 Retail-Wholesaling	0.092	1.5460	0.4725	0.2145	2.20	0.028*
23 Services	-0.042	0.1503	0.0459	0.2028	0.23	0.821
24 Utilities	0.010	1.5741	0.4811	0.3584	1.34	0.180
25 Transport	-0.015	0.0001	0.0000	0.0001	0.00	0.000**
CONSTANTE		-0.082825	0.151059	0.1985	0.7611	0.4469

.. Significance less or equal than 1% ; * Significance 1% - 5%

Table 2 Mixed Discriminant Analysis - SPAD results.

4 Discussion and conclusion

Results show, as expected, that LBO targets are more profitable ([11], [5] and [6]), that they are more frequently unquoted, and that they more often belong to mature industries. Finally, we do not identify any sign of abnormality in French LBOs' practices. On the contrary, LBOs firms behave in accordance with financial standards when they screen targets for LBO.

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