CORPORATE GOVERNANCE, THE LONG-TERM ORIENTATION AND THE RISK OF FINANCIAL DISTRESS

Evidence from European private equity backed leveraged buyout transactions

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Abstract

We study whether Private Equity sponsors are long-term oriented with their Leveraged Buyout (LBO) European portfolio companies after the euro-crisis. Their reputational constraints could incentivize them to value capture rather than value creation. Since LBOs are highly leveraged and LBO sponsors intervene in the corporate governance (CG), their orientation is measured by looking at how CG mechanisms affect portfolio companies' Risk of financial distress (RFD). We find that LBO sponsors make a better use of CG mechanisms to mitigate RFD than other forms of ownership; however, results do not allow to exclude value capture.

Keywords: *leveraged buyout, corporate governance, risk of financial distress*
JEL Classification: *G23, G34*

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1. Introduction

The aim of this study is to investigate whether assigning equity stakes to directors & managers (D&M) and including company representatives[1] among D&M explain different levels of risk of financial distress (RFD) among portfolio companies (PCs) of *private equity backed leveraged buyout* (LBO) sponsors and non-LBO firms. Since LBOs are highly leveraged, we take RFD as an indicator of LBO sponsors' orientation. We find that LBO sponsors make a better use of corporate governance (CG) mechanisms to reduce RFD, but it is not completely clear whether this improved decision making is employed for long-term value creation, especially in the use of assets.

LBO sponsors are specialized and active investors who takeover companies and sell them back in 3-10 years. The purchase is funded with new debt headed to the PC; also, they intervene in the CG of their PCs and apply monitoring, advising, and restrictions on management (Cotter and Peck, 2001; Wilson and Wright, 2013; Meuleman et al, 2014). Thus, they inject capital and especially skills. These resources should restore PCs' long-term (Nordström, 2015; Lerner et al, 2010; Harford and Kolasinski, 2013; Ernst & Young, 2018; Barton and Wiseman, 2015): inappropriate resources would manifest in an increased RFD, thereby signaling a weak long-term orientation of the LBO sponsor.

Indeed, LBOs are CG tools based on the activism of LBO sponsors: concentrated ownership mitigates agency costs; high leverage improves cash management; equity stakes incentivize managers; industry expertise improves resource systems (Jensen and Meckling, 1976; Siegel et al, 2011; Klein et al, 2013; Cornelli and Karakaş, 2008; Millson and Ward, 2005; Allen and Phillips, 2000); Moreover, LBO sponsors have strong reputational incentives (Kaplan and Schoar, 2005; Braun et al, 2015; Buchner et al, 2016).

The effect of CG mechanisms on the RFD in LBOs deserves scrutiny: first, LBO sponsors heavily and typically rely on CG intervention; second, since LBO sponsors are highly specialized, they are expected to inject appropriate resources into PCs (Cumming et al, 2007; Acharya et al, 2013; Cornelli and Karakaş, 2008); third, skills are crucial in the long-term regardless of the owner (Barton, 2011; Nyberg et al, 2014; Fulmer and Ployhart, 2014).

The rest of the paper is organized as follows: Section 2 reviews the LBO literature about RFD, corporate governance and long-term orientation; Section 3 is devoted to the sample; Section 4 describes the methodology; Section 5 present the results; Section 6 illustrates the implications; Section 7 concludes, and Section 8 and 9 summarize this study in English and Italian.

[1] These company-type members are assumed to have a strong industry expertise compared to private individuals

2. Literature

Two streams of literature belong to the aim of this study: the one about the RFD and/or CG implications of LBOs, and the one about the orientation of LBO sponsors.

2.1. Risk of financial distress and corporate governance in LBOs

The LBO growth has been raising academic scrutiny and policy discussion. In the first wave of PE and LBO (80s) leverage and financial engineering drove RFD (Andrade and Kaplan, 1998; Wright et al, 1996); in the second wave (until 2008) they were not the main factor anymore, in both UK (Hotchkiss et al, 2014; Wilson and Wright, 2013) and the rest of Europe (Tykvovà and Borell, 2012), whereas emerged operational and CG intervention resulting from LBO sponsors' repositioning following the subprime crisis (Siegel et al, 2011; Hoskisson et al, 2013).

Meuleman et al, 2014 studied the effect of PE investor's (i) reputation (ii) experience (iii) type (iv) fundraising (v) board experience and (vi) proximity on the likelihood of bankruptcy. They studied 440 UK deals in 1995-2010, without any control group, and defined bankruptcy according to the UK's formal bankruptcy regime. With a Cox Regression, they found that the probability of bankruptcy drops when (i)(ii)(iv) sponsors are reputable, experienced, and raising funds, (iii) when bank-affiliated and when (v)(vi) directors are experienced, especially if insiders.

Wilson and Wright, 2013 investigated (i) whether PE firms fail differently than non-PE firms and (ii) how this varies over the cycle. They studied 153,000 UK insolvencies in 1995-2010, and their control group is the UK corporate population. They defined failure the same as Meuleman et al, 2014. With a time-hazard failure prediction model, they found that (i) PE buyouts are no more prone to insolvency than non-PE buyouts or other types of MBI, and that (ii) the economic cycle is relevant for PE deals.

Tykvovà and Borell, 2012 studied the effect of PE ownership on RFD and in-court bankruptcy. They studied 1,842 European deals in 2000-2008, with a control sample based on size, age, industry, and geography. With Zmijewski-Score, O-Score, and Z-Score, they tested the effect of (i) PE, (ii) PE syndacation, PE investor's experience, and market conditions on RFD and bankruptcy. They found that (i) RFD increase, but PCs do not fail more than peers, and (ii) experienced LBO sponsors are superior in managing PCs; syndacation and market conditions are not relevant.

Hotchkiss et al, 2014 studied (i) the frequency of PCs' financial distress, (ii) how distressed PCs manage resolution both in-court and out-of-court, and (iii) whether PE investors' reputation, skills, and capital injection are relevant to the PCs' default. They studied 2,151 worldwide deals in 1997-

2010, with a control sample based on leverage, size, profitability, and public/private ownership. They defined default based on Moody's Corporate Default Risk Service framework: default occurs in the case of (a) a missed interest or principal payment, (b) a filing of a court-led bankruptcy, or (c) the execution of an out-of-court "distressed exchange". With a Cox proportional hazard model, they found that (i) sponsors do not increase RFD, (ii) PCs resolve distress more efficiently, and (iii) some PE investors have unique skills in managing distressed firms. Acharya et al, 2013 investigated (i) whether returns by mature PE investors come from value creation or from leverage, luck, market timing or investing in well-performing sectors, and (ii) the contribution of mature PE investors to operating performance and financial value, and (iii) whether experience, and operating vs financial specialization profile of PE investors are relevant to value creation. They studied 395 European deals from 48 PE investors in 1995-2005, with a control sample based on public/private ownership, not-under-PE, industry, Total returns to shareholders enterprise value, net debt, equity, sales, EBITDA. By regressing deal characteristics and general partners' (GP) features on unlevered abnormal return of the deal, they found that (i)(ii) top and mature PE investors create value through operational gains, (iii) GPs with financial (operational) background generate higher performance in M&A (not M&A) deals. Wright et al, 2009a reviewed papers on the (i) effect of PE on the CG (ii) problems that PE solves out and (iii) heterogeneity of PE. They surveyed papers published in academic journals, working papers, and publications by trade unions and PE main players. They found that (i) CG reduces agency costs in PCs (ii) in the long-term effects are less clear; PE enhances the market for corporate control and creates value, and (iii) PE sponsors are heterogeneous. Cumming et al, 2007 reviewed academic papers focusing on (i) CG mechanisms and (ii) financial and real returns in PE and LBO. They surveyed papers published post-1995 and related to those of the special issue on which their paper belongs. Those papers study: the impact of CG on LBO returns; CG in private placements and public-to-private transactions; the determinants of CG structures in PE and turnaround. They concluded that (i) CG substitutes for debt; (i)(ii) private returns are associated with law quality, PE investors' features and CG mechanisms; CG mechanisms that are context-dependent enhance private returns. In sum, these papers study the risk pattern of PCs, concluding that LBO sponsors are no detrimental to RFD; also, these papers emphasize LBO sponsors' superior skills and the cruciality of CG mechanisms (about CG in LBOs, other valuable papers are Nikoskelainen and Wright, 2007; Cornelli and Karakaş, 2008; Allen and Phillips, 2000). Since we assume that LBO sponsors are highly-specialized, these studies support our aim to explain different levels of RFD by looking at CG.

2.2. LBO sponsor's orientation to the long- or the short-term

LBO should restore the long-term of PCs by leverage and investor activism: Multiple Agency Theory, MAT (Meuleman et al, 2014) combined with the Resource Based View of the Firm, RBV (Barney, 1991; Thornhill and Amit, 2003) are suited to LBOs. According to MAT, LBO sponsors are principals of their PCs but also agents of their funders, and CG resolves conflicts by creating value. According to RBV, firm value comes from a unique interplay of internal resources (mainly skills), rather than material incentives coming from ownership and leverage. Shleifer and Summers, 1988 studied the long-term effects of takeovers, including LBOs, by questioning "*the view that share price increases […] measure efficiency gains from acquisitions. Even if such gains exist, […] it is likely to come from stakeholder wealth losses, such as […] employees' human capital*".

Later, Tykvovà and Borell, 2012 interpreted RFD as a measure of transfer of wealth from the financial system; other scholars cited or tested the wealth transfer hypothesis to other stakeholders (Wright et al, 2009b; Meuleman et al, 2014; Achleitner et al, 2010; Berg and Gottschalg, 2005). When there is value transfer rather than value creation, the gain may not be long lasting because it does not come from an efficient use of resources. Thus, LBO sponsor's orientation is viewed by testing gains that should be long lasting.

During fundraising, new investors can view only past performance to decide whether to buy a stake in the fund because the LBO market is opaque; moreover, they take the renewal of current investors' stake as a positive signal (Kaplan and Sensoy, 2014; Korteweg et al, 2015). Debt burden may force inefficient LBO sponsors to boost exit value and overlook the long-term just to protect their reputation (Nordström, 2015; Harford and Kolasinski, 2013; Lerner et al, 2010; Kaplan and Schoar, 2005; Braun et al, 2015; Buchner et al, 2016); moreover, the trend of unused funds available to LBO sponsors and the competition among bidders increases PCs' valuations (Ernst & Young, 2018; Preqin, 2018; Bain & Company, 2018), thus challenging LBO sponsors' goals.

Operationally, LBO sponsors could implement short-termism by: overpaying PCs to show-up (Tykvovà and Borell, 2012); taking excess leverage to prevent distress after bad projects (Meuleman et al, 2014), to meet compensation *boni*, to exploit tax benefits (Wilson and Wright, 2013; Hotchkiss et al, 2014); the limited life of LBO funds spurs asset sales, investment cuts, and dividend recaps (Ughetto, 2010; Harford and Kolasinski, 2013; Hotchkiss et al, 2014; Nikoskelainen and Wright, 2007).

Lerner et al, 2010 investigated whether LBO funds sacrifice long-term growth by comparing patenting activities of LBOs and other leveraged transactions. They analyze 472 LBOs worldwide in 1980-2005. With a Neg-

ative Binomial Regression Model, they found that PCs' patents are more cited and more focused.

Harford and Kolasinski, 2013 tested wealth transfers in LBOs by studying the (i) effect of dividend distribution policies on RFD and the (ii) sensitivity of investment policies to cash flows. They studied 877 LBO US deals in 1993-2001, with a control sample based on sales, EBITDA / Assets and sales growth. With a logistic regression and a panel regression, they found that PCs (i) RFD does not increase after dividend distribution (not opportunistic dividend recaps) and (ii) do invest similarly to peers.

Nordström, 2015 investigated the post-exit performance of the PCs. She studied 680 LBO Swedish deals in 1997-2010, with a control sample of non-LBO firms based on age, leverage, solvency, asset growth, earnings and cash liquidity. Employing a difference-in-difference, she found that PCs perform better than peers. These studies infer the long-term orientation of LBO sponsors by testing value creation mechanisms that are supposed to be long-lasting, concluding that LBO sponsors are not short-term players; however, LBO market still poses risks of short-termism.

Based on the studies reviewed in section 2, the following hypothesis is tested: *LBO sponsors are more effective than other owners in using CG mechanisms, namely equity stakes to D&M and company representatives among D&M, to mitigate RFD of their PCs, thus restoring the long-term prospects of the latter thereby*. Therefore, this study is expected to be valuable for academia but also for PCs, investors in LBOs and regulators.

3. Sample

European PCs in 2013-2016 are analyzed, with a control sample of non-LBOs based on size, country, industry, and long-term solvency. Data are from Amadeus: it contains accounting and governance information of public and private firms and identifies those involved in deals. Since LBO is not explicitly included among deal types, highly leveraged MBOs (management buyout), MBIs (management buyin), and IBOs (institutional buyout) are selected (133 deals). RFD is proxied with the Altman Z''-Score (Altman, 1983).

European private firms have relatively strict disclosure requisites than other regions; moreover, PCs are mostly private firms (Acharya et al, 2013; Cumming et al, 2007; Wilson and Wright, 2013)[2]. Moreover, studying PCs enriches the literature (Achleitner et al, 2010; Nikoskelainen and Wright, 2007).

[2] Moreover, besides the enormous growth of the Asia-Pacific PE market (+74% in 2016-2017), the European PE market pattern over the same period (+14%) still encourages the prosecution of the analysis (Bain & Co, 2018).

3.1. Propensity Score Matching

LBOs are unlikely to occur randomly: an LBO sponsor acquires (even distressed) firms to unlock their potential, and firms rely on LBO to implement deep reorganization through ownership change.

To better investigate causality, a Propensity Score Matching (PSM) based on size (total assets), long-term solvency (non-current assets divided by non-current liabilities), country and industry sector (Manufacturing vs Non- Manufacturing) is used. The response of the logit is a dummy that takes one when the firm is under LBO in the given year (entry and exit dates come from Zephyr and hand collection[3]). While size and industry are well established parameters, country and profitability are less adopted (Wilson and Wright, 2013; Harford and Kolasinski, 2013; Cressy et al, 2007; Scellato and Ughetto, 2013). Individual propensity scores are obtained by using the results of the logit in a nearest neighbor one-to-one matching with replacement (Rosenbaum and Rubin, 1983; Rosenbaum, 1993).

PSM assumes that treatment can be explained with observables. Despite LBO sponsors also rely on soft information to decide whether to purchase the firm, their first approach is quantitative: PCs are a subset of firms formerly identified with publicly available data. Moreover, each financial issue involves some heuristics. While noise coming from unobservables could be still left, caution in interpreting results should make inferences sufficiently reliable.

The logit shows that LBO sponsors prefer smaller firms, and this tendency grows with size. An un-tabulated summary of size evidences how PCs are smaller. Moreover, LBO sponsors consider long-term solvency as important. Despite industry is not significant, one could cautiously say that manufacturing firms are preferred; however, this deserves more scrutiny as for country: the logit shows that country matters, but probably sponsors decide by fiscal rules, creditor protection, and other specific items, rather than the mere flag.

Tab. 1 – Propensity Scores' test of balance

Variable	Mean			T-test	
	PCs	Controls	% bias	T-test	p > | t |
Total Assets (quintile 2)	.21028	.26168	-11.9	-1.77	0.077
Total Assets (quintile 3)	.07243	.09579	-9.0	-1.23	0.219
Total Assets (quintile 4)	.10981	.08879	6.5	1.03	0.304
Total Assets (quintile 5)	.12383	.15888	-10.6	-1.47	0.141

[3] If a holding period covers 10+ months of a given year, that is taken as PE year.

Non-Current Assets / Non-Current Liabilities	9.7086	10.064	-12.7	-1.90	0.057
Finland	.04907	.03972	4.2	0.66	0.507
France	.32477	.38785	-14.4	-1.93	0.054
Germany	.19159	.15421	10.2	1.45	0.148
Norway	.00234	.00234	0.0	-0.00	1,000
Spain	.18692	.19393	-1.8	-0.26	0.794
Sweden	.06542	.03271	12.3	2.22	0.027
UK	.14019	.14953	-2.7	-0.39	0.698
NACE (manuf. vs non manuf.)	.71495	.70794	1.6	0.23	0.821

The test of balance is satisfying (Table 1), except for the long-term solvency: this could be interpreted against LBO sponsors as long-term players. Also, size receives a good degree of balance, despite the above recognized discrepancies that emerges in quintile 3. Finally, industry and country (except for Sweden) are well balanced. In summary, 35 observations are off support, ending up with 124 LBOs and 174 controls. The latter are likely to receive LBO: when samples are balanced except for the treatment, the estimated effect should be more reliable (Tykvovà and Borell, 2012; Hotchkiss et al, 2014; Harford and Kolasinski, 2013).

3.2. Sample Description

Samples are similar by firm age (28.3 years for PCs and 31.3 for controls) and include mature firms: thus, we do not rerun PSM including firm age because venture capital is already excluded.

Tab. 2 – Distribution of the sample by Year, Country and Industry

	PCs	Controls		PCs	Controls
2013	87	44	Belgium	21	9
2014	88	35	Finland	19	3
2015	91	32	France	108	27
2016	97	27	Germany	2	9
Total	363	138	Norway	61	17
			Portugal	1	7
	PCs	Controls	Slovenia	4	0
Non-Manufacturing	255	101	Sweden	23	12
Manufacturing	108	37	UK	58	26
Total	363	138	Total	363	138

Since PSM involves replacement, the number (N) of control firms is lower than that of PCs (Table 2). Despite of that, the distribution of control

firms is coherent with that of PCs by all the chosen variables (country, year and industry). Below, the sample is descripted by the incidence of employees' expenses on operating revenue[4] and by the technology[5]. These are useful for overviewing the sample before using the Atman Z''-Score, that is applied to both manufacturing (M) and non-manufacturing (N-M) firms[6]. While M firms resource systems are more employees-oriented (17.1% of internal resources consists in workers and their pay absorbs 17.9% of operating revenue, compared to 21.3% and 25% for N-M firms, respectively; however, M firms vary more), PCs tend to over-employment or to unprofitable exploitation of employees (23.8% of PCs' resources consists in workers and their pay absorbs 27.1% of operating revenue, compared to 16.9% and 19.2% for controls, respectively; the groups vary the same). Since LBO sponsors also enhance efficiency, an excess of employment or its inefficient use could be a lever for creating value, as also evidenced by the literature about the employment effect of PE. Confidence intervals (95% level) of differences among PCs and control firms evidence that firm age, incidence of employees expenses on operating revenue, and technology intervals are similar among the two groups, while total assets exhibit a larger interval. T-tests confirm these conclusions.

Finally, a description of PCs in terms of the duration of LBOs is provided. LBOs have an average duration of 5.99 years, with a standard deviation of 3.57 years: despite 25% of deals have a duration of 3.33 years, there is a growing trend (up to 16 years) due to a lower orientation toward mere financial engineering (Klein et al, 2013; Hoskisson et al, 2013). Moreover, the distribution of the LBOs across brackets of duration reveal a strong uniformity: each one has 29-32 LBOs.

4. Methodology

The aim of this paper is to test whether CG mechanisms in PCs work better compared to non-LBO firms in mitigating RFD. CG mechanisms are equity stakes owned by D&M and the inclusion of company representatives among D&M[7] (also leverage is interpreted as an incentive mechanism). An OLS with robust (vce) standard errors is used, where Z'' is the response and CG is the focus. Like Tykvovà and Borell, 2012, but not to Harford and

[4] (Cost of Employees) / (Operating Revenue): how much of operating revenue is devoted to employees' pay.
[5] (Cost of Employees) / (Total Assets + Cost of Employees): importance of workers as internal resource, against physical assets.
[6] Wage is not a measure of human capital: there is not perfect competition in labor markets and some firms over hire; but the same could hold for physical assets.
[7] These mechanisms are weakly correlated with each other: -0.0168

Kolasinski, 2013 and Meuleman et al, 2014, we proxy RFD with Altman Z''-Score (Altman, 1983), namely not with a binomial approach.

Other distinctive features are the following. This study aims to complement the work of Meuleman et al, 2014 and Nikoskelainen and Wright, 2007 by investigating the RFD implications of PE-LBO in Europe including UK, rather than in UK only; also, this is one of the studies about PE in UK in the years preceding the Brexit *referendum*. Compared to the work of Acharya et al, 2013, herein the focus is on the skills of D&M at PCs rather than of deal partners at the LBO fund, and the dependent variable is the RFD instead of abnormal return. This paper extends the work of Tykvovà and Borell, 2012 by focusing on the post crisis period in Europe (while they focus on 2000-2008; similarly, Nikoskelainen and Wright, 2007 and Tykvovà and Borell, 2012 use pre-subprime data); also, while Tykvovà and Borell, 2012 mainly use deal charateristichs to explain RFD, herein the primary focus is on CG mechanisms. While Achleitner et al, 2013 and Achleitner et al, 2010 view CG mechanisms as motives to engage in LBO, here those mechanisms are the focus variables.

5. Results

Table 3 defines variables[8], Table 4 and Table 5 describe focus variables in detail, while Table 6 is devoted to results.

Tab. 3 – Variables' description

Variable	Description
Altman Z''-Score (1983)**	Z'' = 3.25 + 6.56X1 + 3.26X2 + 6.72X3 + 1.05X4 where: X1 = (Current Assets - Current Liabilities) / Total Assets X2 = Cash and Cash Equivalent / Total Assets X3 = EBITDA / Total Assets X4 = Shareholders' Funds / (Current Liabilities + Non-Current Liabilities)
LBO_ AvgCOMP_IND*	Percentage of directors & managers that are company representatives rather than private individuals. It is interacted with the LBO year dummy.
AvgCOMP_IND*	Percentage of directors & managers that are company representatives rather than private individuals.
LBO_AvgALSO*	Percentage of directors & managers that hold an equity stake. It is interacted with the LBO year dummy.

[8] Correlations are shown in Appendix to disclose the absence of multicollinearity

AvgALSO*	Percentage of directors & managers that hold an equity stake.
LBO_D_Eq (#)	Leverage (Current Liabilities + Non-Current Liabilities) / ShareholderFunds. It is interacted with the LBO year dummy.
D_Eq (#)	Leverage.
LBO_CashOR (#)	Liquidity of operating revenue (Cash / Operating Revenue). It is interacted with the LBO year dummy.
CashOR (#)	Liquidity of operating revenue.
LBO_ROA (#)	Profitability (Operating Revenue / Total Assets). It is interacted with the LBO year dummy.
ROA (#)	Profitability.
MBO (#)	Dummy which takes value 1 if the deal is a Management Buyout

*** dependent variable; * focus variable; (#) control variable*

Tab. 4 – Summary of the percentage of D&M that hold an equity stake in the company

Panel A – AvgCOMP_IND					Panel B – LBO_AvgCOMP_IND				
	Percentiles	Largest	Obs	501		Percentiles	Largest	Obs	501
[…]	.00	.00	Mean	.0519	[…]	.00	.00	Mean	.03716
75%	.00	.6	St. Dev.	.12757	75%	.00	.6	St. Dev.	.11259
90%	.2	.62	Var	.01627	90%	.12	.62	Var	.01268
95%	.36	.64	Skew	2.8678	95%	.32	.64	Skew	3.56802
99%	.57	.67	Kurt	10.8468	99%	.57	.67	Kurt	15.69622

75% of PCs have 0% company representatives in CG, and the mean is 3.72%; the same holds for controls, but the mean is higher (5.19%). Since controls are larger, it can be concluded that in LBOs there could be a higher use of this CG mechanism.

Company representatives should provide benefits in terms of product market relationships, alleviation of financing constraints, board monitoring (Allen and Phillips, 2000) and industry expertise (Cressy et al, 2007; Aldatmaz and Brown, 2016), thus increasing the Z''-Score; however, we hypothesize that they could also be associated with unexpected lack of their skills, conflicts of interests in revealing industry information, bargaining and personal conflicts, and other frictions that would reduce value and increase RFD.

Tab. 5 – Summary of the percentage of D&M that hold an equity stake in the company

Panel A – AvgALSO					Panel B – LBO_AvgALSO				
	Percentiles	Largest	Obs	501		Percentiles	Largest	Obs	501
[…]	.00	.00	Mean	.14503	[…]	.00	.00	Mean	.09177
75%	.2	1	St. Dev.	.25852	75%	.00	1	St. Dev.	.21294
90%	.6	1	Var	.06683	90%	.43	1	Var	.04535
95%	.75	1	Skew	1.78201	95%	.65	1	Skew	2.4826
99%	1	1	Kurt	5.1643	99%	1	1	Kurt	8.48278

75% of PCs have 0% of members that hold an equity stake, and the whole mean is 9.18%. The same holds for control firms, but the mean is higher (14.5%). This is in line with Kaplan and Strömberg, 2009, but other scholars find similarity (Achleitner et al, 2013; Nikoskelainen and Wright, 2007). Here, LBO sponsors make a lower use of equity stakes; however, this is relaxed by the fact that controls are larger.

Equity stakes should reduce agency costs (LBO sponsor), together with close monitoring and the sole owner (Nikoskelainen and Wright, 2007; Achleitner et al, 2010; Meuleman, Amess, Wright and Scholes, 2008; Millson and Ward, 2005; Wright et al, 2009a). Moreover, since equity stakes in private companies are relatively illiquid, they may be more effective (Kaplan and Strömberg, 2009); however, an excess of equity stake could be detrimental, in that it could ultimately render the person more risk averse than committed to the long-term (Achleitner et al, 2010; Achleitner et al, 2013; Nikoskelainen and Wright, 2007). Investigating equity stakes in LBOs is reasonable because even LBO fund managers perceive a performance driven compensation: in turn, this makes reasonable to hypothesize that LBO sponsors are inclined to use this lever and are skilled enough to exploit it (Jensen and Meckling, 1976; Tykvovà and Borell, 2012; Wilson and Wright, 2013; Acharya et al, 2013).

We hypothesize that a negative impact of this mechanism would signal the effect of the excess equity stake, and *vice versa*; however, it would be difficult to draw conclusions about the critical threshold of the stake because this sample provides no detail about its percentage. However, there is some consistency in literature about this amount, namely 25-35% on average, while the sole CEO holds 3-8% (Achleitner et al, 2013; Millson and Ward, 2005); moreover, first, the less equity invested by the LBO sponsor the greater the stake (Nikoskelainen and Wright, 2007); second, the less the purchase price of the PC, the greater the stake (Wright et al, 2009a). This information should not challenge results since the two groups are also quite balanced by size.

Tab. 6 . Results of the OLS regression with robust standard errors

	Z''-Score (general firms)	lower bound	upper bound
AvgCOMP_IND	-0.186*	-0.3490174	-0.0226644
	(0.083)		
LBO_AvgCOMP_IND	0.196*	0.0139168	0.3774578
	(0.093)		
AvgALSO	-0.119*	-0.2131148	-0.0248919
	(0.048)		
LBO_AvgALSO	0.216**	0.0709465	0.3618069
	(0.074)		
D_Eq	-3.861***	-5.427641	-2.295007
	(0.797)		
LBO_D_Eq	2.870***	1.263245	4.47754
	(0.818)		
CashOR	0.521***	0.2221748	0.81993
	(0.152)		
LBO_CashOR	-0.256	-0.5957644	0.0832412
	(0.173)		
ROA	0.999***	0.8151769	1.183418
	(0.094)		
LBO_ROA	-0.351**	-0.5990691	-0.1037818
	(0.126)		
MBO	0.700***	0.3948869	1.005957
	(0.155)		
Constant	1.158***	0.7075851	1.608527
	(0.229)		
Statistics			
N	501		
F	17.99		
R-squared	0.4199		
Country Dummy	Yes		
Year Dummy	Yes		
	*p<0.05; **p<0.01; ***p<0.001		

CG mechanisms are significant for both PCs and controls and LBO sponsors use them better compared to other owners. This emerges both in terms of signs and magnitude (interacted variables have larger and positive coefficients, especially LBO_AverageALSO, whereas their variability is similar).

Company representatives (rather than private individuals) are positively exploited only by LBO sponsors, whose skills and expertise (in attracting resources and creating value through their interplay) render positive aspects more influent than negative aspects. In other terms, product market relationships, alleviation of financing constraints, board monitoring, and industry expertise prevail over unexpected lack of skills, conflicts of interests in revealing industry information, bargaining and personal conflicts. Indeed, the sign is positive only for the interacted variable and both are significant with similar magnitude. However, both ranges include values close to zero: both effects could be null, despite this eventuality should not prevail.

Similarly, the provision of equity stakes to D&M is positively exploited by LBO sponsors. As noted, the latter usually reward managers of their own funds based on achieved performance: thus, they should be specialized in incentivize agents while minimizing frictions. This hypothesis is confirmed. The sign is positive only for the interacted variable, and its magnitude almost doubles that of controls. Finally, both are significant (more than the previous mechanism). Since the amount of the stake is unknown, it is only possible to infer bad practices by interpreting the sign. Scholars interested in this mechanism could control for the equity invested and the purchase price to consider size- and deal constraint effects.

Taken together, these results are in line with the RBV, according to which an appropriate interplay of internal resources, especially those belonging to CG, improves the long-term. Therefore, value creation is not (only) a matter of material incentives; another implication is that LBO sponsors can make these mechanisms effective with their superior skills in analyzing, selecting and managing firms. This is reinforced by LBO sponsors being the sole or the most influent owners: this is an additional incentive to monitoring compared to a large shareholder base.

Leverage is strongly significant. However, control firms are negatively affected. This is not surprising because leverage is a typical determinant of risk: excess debt may constrain financial and strategic planning by rising fixed costs and creditors' scrutiny, rather than disciplining managers as predicted by MAT. In the case of control firms, a dispersed shareholder base could free ride on monitoring. In contrast, LBO sponsors have appropriate incentives to effectively monitor and advise: once the firm is acquired, the shareholder base is replaced by a sole or controlling owner (shareholders often receive convenient purchase price at bid, thus easing the ownership change but challenging profit goals and, in turn, rising short-termism); LBO sponsors have additional motivations to create value (or show up): past performance is the main determinant of reputation (LBO sponsors are not required to disclose much of their statements: thus, investors only observe past performance and the rate of renewal of the stakes in the LBO fund),

that in turn affects LBO fundraising. Beyond incentives, LBO sponsors have superior skills and expertise to analyze, select, monitor, and advise their PCs about strategic and financial decision and planning, internal organization, networking, stakeholder care, legal compliance, management style, and other heuristics that the firm should exploit beyond the exit date. Intuitively, an institution with a minority stake, even if skilled, would not be equally motivated not only to monitoring but also to advising simply because the upside does not compensate the effort. In sum, leverage could be effective in disciplining managers, as theorized by MAT (debt incentivizes managers to make the firm serving the debt): this would be the effect of internal alignment. However, only LBO sponsors make a significant and productive use of leverage.

Therefore, the ability of management to extract liquidity is crucial for highly-leveraged firms to survive. Here, the ratio among current liquid funds and operating revenue is included because the sample is balanced in terms of the ratio among long-term assets and long-term liabilities (cfr. Table 1). However, the interacted coefficient is negative and not significant, whereas the one of control firms is positive and significant and has considerable magnitude. Thus, control firms, despite less able to exploit company representatives and leverage as CG mechanisms, make a better use of liquid funds by repaying debt and making good investments; also, they receive the scrutiny of lenders, mostly credit institutions (companies are mostly private) that are interested in the survival of the firm and thus constrain their discretion; moreover, management is interested in not losing job and reputation following poor performance. In contrast, LBO sponsors could be less interested in the long-term because deals and funds are limited in life, some managers are temporary in nature, or because PCs become distressed and LBO sponsors just seek a profitable exit to protect their reputation: thus, some LBO sponsors may use their discretion (often reinforced by law) to perform opportunistic asset sales, massive divestments or inject excess capital: thus, liquidity increases are not necessarily associated with lower RFD or with the long-term. The coefficient of the interacted variable could be not significant because some LBO sponsors are more virtuous than others; however, in this sample there is no detailed information about the use of assets.

Consistently, whereas ROA for control firms is strongly significant and positive, the interacted ROA is close to zero, negative and less significant. When LBO sponsors increase ROA, the greater income could be coupled with new assets of a lower quality (as described above) and could not come from a long-term approach. In contrast, increases in ROA are significantly associated with a lower RFD for controls, thus suggesting more commitment to the long-term. Potential explanations are the same as those for the liquidity ratio; however, the same reasons that suggest caution in interpret-

ing the previous couple of variables also hold for ROA.

When the LBO sponsor is the incumbent management, the risk profile improves: the coefficient of the dummy MBO exhibits notable magnitude and significance. Indeed, the screening process that precedes the acquisition from shareholders consists in a multi-level information gathering: if the LBO sponsor considers the firm as a valuable investment by publicly available data, then increasingly private information is gathered by direct meetings and used to refine the deal strategy or eventually give up on the purchase. The rationale is to minimize the information asymmetry with the firm to know its value. Since incumbent management is a very insider, its information asymmetry with the firm is already minimized; however, not all LBOs are MBOs because some managers are not interested in a deal and not all MBOs are successful because some managers may implement overconfidence. Investigating bounded rationality is far beyond the scope of this study; however, since MBOs seem to exhibit a competitive advantage to other LBOs, we can conclude that the positive aspects associated with the management-led LBOs prevail to the potential frictions.

6. Discussion

This study aims to investigate about CG mechanisms in the LBO landscape by looking at their differential effect on the RFD of PCs and non-LBO firms. RFD is assumed to signal the long- or short-term orientation of LBO sponsors and MAT and RBV theories are well suited for this aim. The results of this study may benefit both academia and practitioneers.

This study belongs to the literature about the skills that are needed within LBOs (Acharya et al, 2013). This study could also contribute to the academic and policy debate about the role of LBOs following crises, especially in terms of how LBO sponsors affect the RFD of European firms (Wilson and Wright, 2013; Tykvovà and Borell, 2012). Also, this study confirms that MBOs are different to other LBOs (Meuleman et al, 2014; Hotchkiss et al, 2014; Wilson and Wright, 2013; Tykvovà and Borell, 2012). Scholars agree on the cruciality of CG mechanisms in LBO and the superior skills of LBO sponsors (cfr. Section 2.1) and the results of this study confirm these statements. However, while literature agrees about the not short-term orientation of LBO sponsors (cfr. Section 2.2), herein the potential long-term orientation is balanced with the potential of the improved decision-making being not associated with virtuous uses of assets. In these regards, this work is in line with Tykvovà and Borell, 2012. First, they found that PCs are riskier than controls when acquired: this could complement LBO sponsors' reputational constraints in explaining why more efficient CG is not necessarily associated with full value creation. Second, they found that LBO tar-

gets are no more distressed and fail no more than controls: non-tabulated results confirm this finding. They also found that this relation intensifies when LBO sponsors are experienced: better CG mechanisms largely depend on LBO sponsors' superior skills, and it seems reasonable to hypothesize skills benefiting from experience on average. Third, they focus on the 2000-2008 period: since here the focus is on the 2013-2016 period but RFD results are similar and since there is a persistence in performance due to that of skills (Kaplan and Schoar, 2005), this work seem to appropriately extend their findings.

This study could inform investors of LBO funds and potential PCs about CG mechanisms that impact RFD. Thus, investors can better evaluate LBO sponsors' horizon and match the latter with the one of their portfolios; evidence about industry expertise provided by company representatives could unlock crucial resources for PCs; equity stakes and leverage improve incentive realignment, but LBO sponsors should use them carefully (Nikoskelainen and Wright, 2007; Cornelli and Karakaş, 2008).

Since evidence confirms that LBO sponsors make a better use of CG than other forms of ownerships, regulators (and supervisors) could view LBO as a tool to exploit financial and non-financial resources (also, successful LBOs may have positive spillovers); however, regulators should also consider claimants that view this power as a threat to stakeholders (e.g. employees, bondholders, etc.) and to provide recommendations about the optimal amount of leverage, equity stakes and industry expertise. In any case, regulators could consider to improve disclosure in LBOs as a structural solution to the short-termism due to the performance-based reputation of LBO sponsors: this could improve the use of LBO to overcome or prevent crises relying on human capital, which is *the* long-lasting asset; however, disclosure could reduce the competitive advantage of MBOs, that rely on a lower information asymmetry *ex ante*. Accordingly, this study informs potential PCs about differences among MBOs and other LBOs.

7. Concluding remarks and Research perspectives

Superior skills of LBO sponsors are well recognized in literature. Industry expertise from company representatives and incentives from equity stakes are relevant to firm management in general. Results confirm that LBO sponsors are superior in using these CG mechanisms (and, seemingly, leverage) for internal alignment and ultimately for improving the risk profile of their European PCs. However, it is not completely clear whether they exploit improved decision making to implement a long-term approach in the use of assets; accordingly, there is academic evidence of both value creation and value capture by LBO sponsors.

Future research could consider investigating this relation by studying more fine-grained data and larger samples. More specifically, more detailed information about assets' quality and about LBO sponsors could help in identifying virtuous ones; legal information could allow to better consider country heterogeneity; data about national bankruptcy regimes could help to discriminate the ones that are more oriented to the continuation of activity rather than firm rebirth; larger samples could allow for more detailed industry matching; additional information about D&M could allow to study board members and management teams separately, to consider their experience, gender, nationality, experience, skills, the amount of their stake, and details about managers of MBOs; data about LBO sponsors could allow to consider their specialization profile, geographical and industry interest, social, organizational and human capital; in any case, data beyond the exit could refine the long-term effectiveness analysis of LBOs.

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Riassunto

Il mercato delle operazioni di Private Equity ad elevato indebitamento è competitivo, fondato sulla reputazione degli sponsor, ed opaco: gli sponsor vengono dunque valutati sui rendimenti storici. L'indebitamento, oltre ad accrescere il rischio di dissesto, incentiva il management a generare extra-rendimenti presso l'impresa gestita, ma potrebbe anche indurlo a sacrificarne le prospettive future. Dal momento che l'intervento nella governance è tipico degli sponsor, l'evoluzione del rischio di dissesto presso tali imprese gestite può indicare il grado di orientamento al lungo termine degli sponsors stessi. I risultati confermano che gli sponsor utilizzano meccanismi di governance fondati su incentivi e competenze di settore meglio dei comparabili; tuttavia, non è chiaro se una più efficace governance si associ anche ad una visione di lungo termine. Questo articolo è rivolto alle imprese gestite, agli investitori e ai regolatori, nonché alla ricerca futura.

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Appendix

Tab. A1 - Correlation Matrix of the Explanatory Variables

Variables	AvgC_IND	LBO AvgC_IND	AvgALSO	LBO AvgALSO	D_Eq	LBO D_Eq	CashOR	LBO CashOR	ROA	LBO ROA	MBO
AvgC_IND	1,0000										
LBO_AvgC_IND	0.8443	1,0000									
AvgALSO	-0.0575	-0.0289	1,0000								
LBO_AvgALSO	-0.0079	0.0476	0.7347	1,0000							
D_Eq	-0.0031	0.0303	-0.0651	-0.0523	1,0000						
LBO_D_Eq	0.0050	-0.0551	-0.0403	-0.1650	0.8688	1,0000					
CashOR	0.0378	0.0449	0.0156	0.0363	0.0009	-0.0150	1,0000				
LBO_CashOR	0.0331	0.0358	0.0203	0.0214	0.0200	0.0042	0.8815	1,0000			
ROA	0.0689	0.0535	0.0411	-0.0429	-0.1296	-0.0723	0.1024	0.0951	1,0000		
LBO_ROA	0.0729	0.0802	-0.0164	-0.0244	-0.1127	-0.1095	0.0948	0.1083	0.8735	1,0000	
MBO	-0.1552	-0.1308	0.1298	-0.0047	-0.0225	-0.0294	0.0296	0.0683	0.0446	0.0273	1,0000