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Drivers of LBO operating performance: an empirical investigation in Latin America

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Abstract

Purpose – The purpose of this paper is to extend the research on private equity by studying the drivers of leveraged buyout (LBO) operating performance in Latin America. The authors consider a large set of candidate drivers (financial, governance, macroeconomic and industry variables) and study their effects on performance over short- and long-terms.

Design/methodology/approach – To conduct this study, the authors used Capital IQ as a database as well as a hand-collected data set covering LBO in Latin America from 2000 to 2008.

Findings – The empirical results show that macroeconomic variables have an important impact on LBO value creation. Governance variables show also that LBO transactions reduce information asymmetries between existing and new management teams. Consequently, a concentrated shareholder structure has a better impact on performance than diluted stockholders. Financial variables present significant effects after the delisting.

Research limitations/implications – The characteristics of the debts included in the balance sheets (maturity for example) are not available in the authors' data basis. A test including this information could bring other elements of explanation. The measure of cumulative abnormal returns around going-private announcements and their impacts on shareholder's value could also be of interest. This last study has been published for the UK (Wright *et al.*, 2006). Further research should introduce other continents and particularly Asia in the analysis but also comparisons between the Brazil–Russia–India–China–South Africa (BRICS) countries.

Originality/value – This study makes five main contributions. First, the authors construct an LBO sample with emerging markets and specially Latin America. It is the first time that an academic article has been realized. Data are very difficult to obtain to do empirical tests. Latin America is a part of emerging markets, which is an interesting study subject due to their attractiveness in terms of growth of private equity funds. Second, to understand clearly how LBOs create value, the authors construct a sample control to highlight the key factors. Criteria of size, sector of activity and Standard Industrial Classification (SIC) codes were strictly enforced. Third, the authors do not focus on the moment where the transaction is realized like many studies but before and after the delisting. Indeed, they observed, on the one hand, the operating performance between year -1 and year $+1$ and, on the other hand, the operating performance between year -1 and year $+3$. Generally, only the market reaction around the acquisition announcement is examined. Post-performance is not considered due to lack of data. Fourth, the authors take into account the macroeconomic effects on performance of LBOs. It is the first

examination of the impact of macroeconomic factors on performance of LBOs in Latin America. And fifth, they analyze the impact of going-private decisions on employees.

Keywords Latin America, Delisting, Drivers, Macroeconomic variables, Going private

Paper type Research paper

1. Introduction

Private equity and leveraged buyout (LBO) are playing an important role in financial markets, and they have attracted academic attention since the 1980s (Kaplan and Stromberg, 2009; Cumming and Zambelli, 2012). Most of the works done have focused on few industrial countries, mainly in the USA and Europe. However, private equity and LBO are also present in emerging countries. In particular, during the past few years, a real growth of this phenomenon has been observed in Brazil and other Latin American countries thanks to improvements in the institutional framework. The region drew 8.4 billion dollars in new commitments or 22 per cent of total private equity capital raised for emerging markets in 2011. This contrasts with only 700 million dollars raised in 2004. More than ever before, institutional investors are seeking exposure to Latin America's attractive growth story, including rising domestic consumption and commodity wealth, coupled with macroeconomic stability and fiscal discipline. It is the same observation as in Asia (Sannajust, 2009). According to the Global Limited Partner in Latin America survey, 65 per cent of investors expect to initiate or expand their private equity investment programs in the region.

Private equity investors have come out of the recession with a renewed focus on organic revenue growth, applying a more entrepreneurial mindset to working with their portfolio companies. Although styles and strategies varied, what nearly all the exits had in common was that organic revenue growth was the primary driver of earnings before interest, tax, depreciation and amortization (EBITDA) growth and returns. In every deal analyzed, taking advantage of Latin America's impressive macroeconomic growth was a key feature of the investment thesis. In contrast to the North America and European markets, private equity buyers in Latin America place more emphasis on improving the core business and strengthening management to train companies for exit than on optimizing the capital structure and cash flows. Robust economic growth and the overall good health of their portfolios have enabled private equity firms to be highly effective with lean, generalist teams. There are few examples of firms with dedicated portfolio staff or operating partner networks, practices that are growing among US and European private equity firms, as they find new ways to add value to their portfolio.

Private equity has yet a larger role to play in supporting economic and entrepreneurial growth in Latin America. Despite the market fragmentation in these markets, particularly Brazil, add-on acquisitions are a comparatively minor factor, accounting for only 14 per cent of revenue growth. However, while growing the core business is the focus of most investment strategies, add-on acquisitions are used to complement organic growth initiatives and vice versa. Cost reduction, a significant source of profit growth in the USA and Europe, has contributed far less in Latin American exits (IFC, 2012[1]). This fact may reflect the nascence of companies and industries. This could also reflect the prevalence of "growth" versus "turnaround" investment rationales in the region as well as less stress on portfolios as a result of robust macroeconomic growth over the past few years. The Emerging Markets Private

Equity Association share the belief that private equity can provide superior returns to investors, while creating significant value for companies, economies and communities in emerging markets.

Until recently, scant research had focused on drivers of private equity in Latin America and specially drivers of LBO. As we know, buyout returns and data from LBO have suffered from information availability. Besides, existing studies have paid little attention to the combined effects of deal and industry- and macroeconomic-level drivers on portfolio firm-level returns. Thus, our paper contributes to the literature by proposing a general framework to investigate drivers of performance of LBO in Latin America from 2000 to 2008. Traditionally, authors explain going-private transactions mainly by agency costs and asymmetric information. They also assume that a public firm has a diffuse ownership, a situation more common in the USA than in Europe (La Porta *et al.*, 1999). While several previous studies have examined the effect of macroeconomic factors on fund-level returns (Phalippou and Zollo, 2005; Ljungqvist *et al.*, 2008; Cumming and Walz, 2010; Diller and Kaserer, 2009), the impact of macroeconomic and industry factors on portfolio firm-level returns largely remains unclear. Nikoskelainen and Wright (2007) extend the analysis to include the effects of governance variables but use a less-developed methodology and do not examine macroeconomic factors. Guo *et al.* (2011) study the impact of operational improvements and changes in market valuations on investment-level returns. Nevertheless, they exclude the majority of important macroeconomic variables and use a small-size sample, with limited adjustment for selection bias. Thus, we think that they do not reproduce an accurate picture of the drivers of holding period returns in buyouts at the firm level that considers the impact of firm-, industry- and macroeconomic- factors. In this paper, we consider, in addition to classic variables, the macroeconomic factors' impact, as Latin America is a fast-growing region.

Our results are based on analyses with multiple sources of collected data of LBO in Latin America. We use a Capital IQ-like main database together with a hand-collected data set for variables without details; quality information was available from Capital IQ. Precisely, we consult Web sites of firms. We select all LBOs between 2000 and 2008. We examine both the drivers of operating performance of LBO before the going-private announcement and the post-delisting performance. The post-delisting performance is usually neglected in the literature due to the difficulties to obtain reliable data on private companies.

The results show that gross domestic product (GDP) growth, industry growth and market return are important drivers that significantly contribute to creation value in LBOs. Macroeconomic variables have an important impact on LBO in Latin America. Governance variables present also significant results as well as the level of free cash flow, return on assets (ROA) and taxation. These results can be justified by the presence of information asymmetries that cause insider-driven management buy out (MBOs) to benefit from a general uplift in their sector or the economy because management has identified opportunities to exploit or reinvigorate (Wright *et al.*, 2000). Indeed, leverage has a positive impact on performance of LBO because buyout investors efficiently use debt to improve the equity returns of successful transactions. Moreover, we analyze the differences between LBOs and non-LBOs. We find that LBO targets in the sample present higher operating performance than non-LBOs. Non-LBOs are smaller than LBOs according to total assets. Contrary to our opinion, the level of free cash flow is

important too. Finally, we examine the impact of going-private transactions on employees. Going-private transactions are also a way to restructure the workforce by adjusting the number of employees. This has a positive impact on the firm's performance by increasing the profit per employee.

Our study includes five main contributions to the literature. First, we construct an LBO sample with emerging markets and especially Latin America. To the best of our knowledge, it is the first time that an empirical academic article is done on LBOs in Latin America. Absence of empirical studies is explained by the fact that data are very difficult to obtain, even if Latin America is a very interesting region for researchers working on LBOs due to its attractiveness in terms of growth of private equity funds. Second, to understand clearly how LBOs create value, we construct a sample of control variables to highlight the key factors. Criteria of size, sector of activity and Standard Industrial Classification (SIC) codes were strictly enforced. Third, we do not focus on the moment where the transaction is realized like many studies but before and after the delisting. We consider, on the one hand, the operating performance between year -1 and year $+1$ and, on the other hand, the operating performance between year -1 and year $+3$. Generally, only market reaction around the acquisition announcement is examined by previous contributions. Post-performance is not considered due to the lack of data. Fourth, we take into account the macroeconomic effects on performance of LBOs. It is the first examination of the impact of macroeconomic factors on performance of LBOs in Latin America. Finally, we analyze the impact of going-private decisions on employees.

The remainder of the paper is organized as follows. Section 2 discusses the literature review and formulates the hypotheses we empirically test. Section 3 provides details of the data set and the main descriptive statistics. Section 4 studies the change in operating performances before and after the going-private transactions and the impact of going-private decisions on employees. Section 5 concludes the paper.

2. Literature review and hypotheses
To examine drivers of operating performance in LBOs, we build on the recent literature that suggests that both buyout deal characteristics (financial variables and capital structure variables) and macroeconomic and industry influences are important determinants of value creation.

Agency costs are incurred by shareholders, or principals, as a result of the separation of ownership and control (Jensen and Meckling, 1976). Information asymmetry means that managers are able to pursue objectives such as corporate size rather than maximizing shareholder wealth. A number of corporate governance mechanisms may be used to reduce the extent of the agency costs incurred by the principals. There are two main categories of governance mechanism, internal and external. Internal mechanisms can be split into monitoring and incentive-related. Monitoring mechanisms refer to board structures (Fama, 1980, Fama and Jensen, 1983, Cadbury Committee, 1992 and Greenbury 1995), external shareholdings (Shivdasani, 1993) and debt (Jensen, 1986). The key incentive mechanism is internal shareholdings (Jensen and Meckling, 1976). The main external corporate governance mechanism is the market for corporate control (Manne, 1965 and Jensen, 1986), which acts as the mechanism of last resort if the internal mechanisms fail.

Then the issue becomes one of explaining how public-to-private (PTP) firms reduce agency costs. The literature on PTP transactions can be split into a number of strands. In this paper, we focus on five main strands.

2.1 Free cash flow

The first deals with free cash flow. It argues that pre-PTP, agency costs are incurred because free cash flows are spent on projects that do not generate the required positive net present value (Jensen, 1986). These firms will exhibit low growth opportunities and large free cash flows. The free cash flows are used to achieve managerial objectives such as increased size and greater peer group standing rather than shareholder wealth maximization. The ability to do this implies ineffective internal corporate governance mechanisms, and the management would only consider a move away from this situation if faced with an increased threat of hostile takeover. There is evidence that in the UK, hostile takeovers result in a significant increase in the turnover of senior management post-acquisition (Kennedy and Limmack, 1996; Franks and Mayer, 1996; Dahya and Powell, 1999). It is, therefore, in the interests of the incumbent management to take a company private and experience increased monitoring rather than risk losing their jobs. Job loss after a hostile takeover would damage their reputation and reduce their value on the executive labor market.

US studies of the role of free cash flow in the decision to go private have produced mixed results. Lehn and Poulsen (1989) and Singh (1990) lend support to the free cash flow hypothesis by reporting that firms going private have greater free cash flows than firms remaining public. In addition, they found that PTPs exhibited lower sales growth, indicating poorer growth prospects, further supporting Jensen (1986). However, Kieschnick (1998) reworked Lehn and Poulsen's sample using a weighted logistic regression and found free cash flows and sales growth to be insignificant. In addition, Opler and Titman (1993) also find no evidence that, individually, either free cash flow or Tobin's Q influences the decision to go private. However, they do find that LBOs are more likely to exhibit the combined characteristics of low Q-ratio and high cash flow than firms remaining public. Further, Halpern *et al.* (2000) also find no evidence to support the free cash flow hypothesis. Thus, there is limited evidence that US PTPs exhibit excess free cash flow and poor growth prospects, which suggests that going private is not being driven by the need to return free cash to the shareholders.

2.2 Wealth gains for shareholders

In relation to the second strand, there is evidence that shareholders of PTP firms make significant wealth gains. DeAngelo *et al.* (1984) find significant positive returns on the announcement of a PTP and significant negative returns when it was announced that the PTP proposal had been withdrawn. Frankfurter and Gunay (1992) find that insider and outsider shareholders gain as a result of PTPs. In addition, Smith (1990) reported that there were significant improvements in post-buyout operating performance, whereas failed MBO attempts did not produce any subsequent performance improvement.

2.3 Takeover speculation

The third strand of previous studies deals with the market for corporate control, which is based on the premise that takeover bids are disciplinary and, therefore, hostile (Morck *et al.*, 1988). So, if companies that went private had been the subject of takeover

speculation while still publicly quoted, this implies ineffective internal governance mechanisms. The market for corporate control may, therefore, be regarded as a substitute for weak internal governance (Kini *et al.*, 1995). A number of studies, Lehn and Poulsen (1989), Singh (1990) and Halpern *et al.* (2000), found that companies that went private were more likely to experience takeover speculation than firms that did not. However, Lehn and Poulsen (1989) combine competing bids with press takeover speculation, and Halpern *et al.* (2000) include any bids and rumors of interest. It, therefore, appears that these takeover speculation measures refer to general speculation about the possibility of the companies being taken over.

2.4 Ownership structure

One aspect of the agency problem that has received little attention is the link between board composition, ownership structures and the PTP decision. In terms of ownership, a US study by Maupin *et al.* (1984) found that the concentration of ownership among managers and directors was significantly higher in PTPs relative to firms that remain listed. Moreover, monitoring is more difficult with large boards, and buyouts with large syndicates exit sooner as a result (Wright *et al.*, 1995). Indeed, private equity firms with significant concentrated ownership have the incentive and mechanisms to monitor managers through board membership and detailed reporting requirements that go beyond those available to institutional investors in publicly listed corporations (Cumming *et al.*, 2007). In relation to the internal corporate governance mechanisms of quoted companies, there has been an increasing international awareness of their role and importance. In the USA, the most recent is the Sarbanes–Oxley Act 2002. In the UK, a number of reports have specifically addressed the issue (Cadbury Committee, 1992; Greenbury, 1995; Hampel, 1998) and have proposed that publicly quoted companies should adopt a Code of Best Practice, a proposal supported by the London Stock Exchange. Since June 1993, there has been a requirement that quoted companies include in their annual reports, a statement explaining the extent to which they have adopted the internal governance mechanisms recommended in the Code. The aforementioned discussion allows us to propose a number of hypotheses, based on the agency model, to explain the likelihood of a firm going private.

2.5 Macroeconomic factors

In addition to classical drivers (firm's characteristics, financial ratios, ownership structure […]), macroeconomic and industry factors may also have an important impact of firm-level returns. However, there are few theoretical references. Indeed, a company is exposed to a certain amount of unavoidable economic risk because its financial performance is dependent on economic conditions. The common measure of general economic activity is GDP growth, which should be positively correlated with buyout returns. As explained by Koller *et al.* (2005), a company's valuation is directly affected by expectations of its future economic performance.

Some recent studies suggest that industry measures of growth and returns more accurately reflect the fundamentals driving buyout returns (Guo *et al.*, 2011). In addition, the growth rates of individual industries are monitored much less than GDP, and, as a result, industry growth forecasts are likely to be less efficiently priced in transactions than GDP growth forecasts. So, industry growth rates should have a positive impact on buyout returns in addition to the impact of GDP growth rates.

2.6 Hypotheses

The first hypothesis concerns the perceived threat from the market for corporate control. Consistent with this, we would expect firms going private to have low managerial shareholdings, low external shareholdings, duality and low non-executive director representation. These characteristics would enable firms to generate large amounts of free cash flow and, as Jensen and Meckling (1986) argue, firms with substantial free cash flow and poor growth prospects are more likely to go private. The key motivation behind returning the free cash to the shareholders is to preempt a control threat such as a hostile takeover. In such a situation, the existence of excess free cash and poor growth prospects implies ineffective monitoring and incentive mechanisms and is consistent with the conditions present for the operation of the market for corporate control. In addition to the above, we would also expect that these companies would be subject to greater takeover threat than firms that remain public, as other management teams move to bid for them.

Second, the financial incentive hypothesis argues that there are financial gains to be made by going private. In particular, taking a company private would yield substantial financial gains to the executive directors, particularly as they have been found to increase their shareholding post-PTP. For example, Frankfurter and Gunay (1992) report that insider shareholdings increase by an average of 58 per cent post management buyout. Therefore, the higher the shareholding, the greater the financial gain. We would, therefore, expect that the probability of going private would be positively linked to executive director shareholdings. We would also expect the incentive effect to be present if the directors believed that the market was undervaluing the company. Thus, the incentive hypothesis would also be consistent with a negative relationship between the Q-ratio and the probability of going private.

Third, the effective monitoring hypothesis argues that the better the monitoring, the more likely a PTP offer will be accepted (Bae *et al.*, 2000). An independent board that pursues shareholders' interests is indicative of effective internal monitoring. Thus, boards with a greater proportion of non-executive directors will be more effective monitors. Similarly, boards with segmented chief executive and chairman responsibilities are more able to influence decisions. Therefore, duality is less likely to be present in firms going private. More effective external monitoring will occur as institutional shareholdings increase and free-rider threat is overcome.

3. Data sources and descriptive statistics

We use several databases (Capital IQ, Worldbank) to analyze the drivers of LBO operating performance in Latin America and also activity reports from each firm to complete the missing data. We retrieved all the deals from Capital IQ, and we selected all the LBO operations with a closed transaction status in South America and Central America including Mexico from January 2000 to December 2008. The sample period ends in December 2008 to assess the performance of delisted firms as private companies in the first three years after the going-private transactions.

3.1 Sample description

We start from the sample of all Latin America companies listed on Capital IQ. In all, 229 companies are listed on Capital IQ for Central America (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama) and South America (Argentina,

Bolivia, Brazil, Chile, Colombia, Ecuador, Falkland Islands, French Guiana, Guyana, Paraguay, Peru, Suriname, Uruguay and Venezuela). We added a few criteria to improve our LBO sample analysis.

First, as we are interested in the examination of the post-acquisition performance, it is required that the delisted companies continue operating after the stand-alone deal. Consequently, we removed from our sample, all takeover targets immediately integrated in the acquirer's structure. As we are interested in the observation of companies before and after the delisting decision, takeover targets merged with the bidder do not allow this kind of analysis. After the screening process, 95 companies remained in the sample. Second, we collected information about the going-private deals related for all these companies from Capital IQ. Unfortunately, we were not able to find all the needed data for the 95 companies but only for 36 of them. Therefore, the final sample was made of 36 transactions which occurred between 2000 and 2008. Among these transactions, Brazil is the most represented country.

3.2 Benchmark comparison

Moreover, we would like to analyze the impact of LBO transactions, so we decided to compare the targets of such transactions to similar companies that did not go through an LBO. We based our peer selection on Capital IQ of listed companies and applied the following matching algorithm for each private observation (similar to Weir *et al.*, 2005; North, 2001; Klein and Zur, 2009). A matching company, i.e. a control firm, meets the two following criteria. First, we select all public companies which are headquartered in the same country as the going-private firms. Second, we refine our selection by industry.

In a first step, we pick all companies which operate in the same two-digit SIC industry. In case there are fewer than five potential matching firms, we enlarge the industry criterion to the one-digit SIC code. And in a second step, to identify the final matching firm, we use a size criterion. In particular, we collect the amount of sales of all remaining firms in the fiscal year preceding the going-private announcement and by the number of employees in full-time equivalent in the year prior to the LBO transaction. Both criteria (total assets and employees) have to be within the 70-130 per cent range of total assets and number of employees of the corresponding buyout (Barber and Lyon, 1996). The firm with the smallest absolute sales deviation from the going-private firm is chosen as the matching firm. As a final sanity check, we verify by an examination of the stock prices that our matching firm has stayed public for at least 2 years after the going-private announcement. We obtain as the LBO sample, 36 firms for the control sample.

3.3 Descriptive statistics

In Table I, we present descriptive statistics about the ownership structure, the stock price and the ownership data of our sample of firms delisted following LBO transactions. We can precise that ownership data are collected at the end of the year preceding the delisting announcement. We observe that the level of debt for going private is more important than non-LBO transactions. It can be explained by the fact that LBO transactions use a significant amount of capital. Therefore, the level of leverage is also more important for LBO than for non-LBOs. The different cash flows which generate from LBO operation create a higher level of free cash flow for LBO than

	Year −1		Year 1		Year 3	
	Mean	Median	Mean	Median	Mean	Median
Panel A: Full sample (36 observations)						
Financial variables						
Total assets	71,251.6	2,624.5	70,238.4	2,099.0**	69,123.2	1,325.8**
Fixed assets	3,152.6	40.4	2,837.2	36.2	2,127.3	27.5
Tangibles	96,583.7	4,255.6	90,926.4	3,917.8	84,523.1	3,550.5
Leverage	2.8	0.9	3.3	1.2***	4.1	1.9***
Taxation	1.15	1.04	1.12	1.08***	1.09	1.03***
Free cash flows	2,689.4	80.7	2,782.7	78.1***	2,543.6	76.2***
ROA (EBIT)	0.5	0.038	0.2	0.002***	0.1	0.001***
Cash reserves	13,451.4	9,691.8	9,153.2	7,234.7**	84,371.6	10,365.1**
Capital structure variables						
Divisional	53%***	62%***	58%***			
Senior debt	40,150.4	1,963.4	53,471.5	2,512.1***	46,203.6	3,149.7***
Shareholders	10.2%	8.5%	8.4%	6.9%***	6.2%	5.4%***
Macroeconomic variables						
GDP growth	7.5%	7.4%	7.5%	7.6%**	7.4%	7.3%**
Industry growth	2.9%	2.7%	3.4%	2.9%**	3.9%	3.1%**
Interest rate	2.5%*	1.9%*	2.1%*			
FDI	32,568.1	1,456.2*	33,456.9	1,541.8**	30,214.4	12,38.7**
Market return	5.9%	7.9%	6.5%	9.1%**	6.8%	9.5%**
Panel B: LBO vs non-LBO (36 observations)						
LBO						
Total assets	36,235.6	2,235.4	35,148.2	2,045.3**	34,782.3	1,985.2**
Fixed assets	3,059.5	38.4	2,562.7	34.1**	1,987.5	25.6**
Tangibles	90,523.2	4,312.5	85,697.5	3,870.6*	81,545.1	3,485.6*
Leverage	2.1	0.6	3.8	1.6***	4.5	2.3***
Taxation	1.25	1.15	1.19	1.16***	1.13	1.11***
Free cash flows	2,756.3	82.4	3,015.4	79.5***	2,497.3	75.4**
ROA (EBIT)	0.8	0.065	0.6	0.043**	0.2	0.008**
Cash reserves	11,426.2	10,441.7	8,951.3	7,328.6**	7,176.1	6,047.3**
Divisional	55%**		65%**		61%**	
Senior debt	42,560.5	1,965.4	50,250.7	2,742.5***	60,590.8	3,305.5***
Shareholders	8.5%	7.8%	7.8%	6.5%**	5.8%	5.2%**
GDP growth	7.5%	7.4%	7.5%	7.6%***	7.4%	7.3%***
Industry growth	2.9%	2.7%	3.4%	2.9%**	3.9%	3.1%**
Interest rate	2.3%*		2.1%*		1.9%	
FDI	31,452.3	1,352.6*	32,103	1,412.5*	29,130.2	1,136.8*
Market return	5.9%	7.9%	6.5%	9.1%***	6.8%	9.5%**
Non-LBO						
Total assets	75,596.5	2,250.6	79,526.1	2,102.4**	71,527.8	1,331.9**
Fixed assets	3,256.1	41.5	3,150.2	37.4*	2,345.6	29.7
Tangibles	95,876.3	4,158.4	91,856.7	3,925.4	83,650.2	3,524.3
Leverage	1.9	0.7	2.8	0.9***	3.5	1.2**
Taxation	1.14	1,09***	1,18	1,12***	1,19	1,13***

Table I.
Descriptive statistics

(continued)

	Year −1		Year 1		Year 3	
	Mean	Median	Mean	Median	Mean	Median
Free cash flows	25489.4	79.1	26463.2	77.2***	24742.8	75.7**
ROA (EBIT)	0.3	0.031	0.09	0.001***	0.08	0.001**
Cash reserves	8,750.6	7,352.4	10,069.7	8,365.9**	14,256.2	10,148.7*
Divisional	48%*		59%*		56%*	
Senior debt	38,562.4	1,850.2	42,598.7	2,589.6**	53,450.6	3,150.0**
Shareholders	8.5%	7.8%	7.8%	6.5%***	5.8%	5.2%**
GDP growth	7.5%	7.4%	7.5%	7.6%**	7.4%	7.3%**
Industry growth	2.9%	2.7%	3.4%	2.9%**	3.9%	3.1%**
Interest rate	2.2%*		2.3%*		2.0%*	
FDI	30,546.8	1,245.9**	29,321.4	1,158.9*	31,275.3	1,056.5*
Market return	5.9%	7.9%	6.5%	9.1%**	6.8%	9.5%**

Notes: The table reports mean and median of financial, capital structure and macroeconomic variables for the sample of LBO and for the control sample (non-LBO). Total assets are the natural logarithm of firm's total assets. Fixed assets sum up tangible assets such as buildings, machinery […] and intangibles assets such as goodwill […] scaled by total assets. Tangibles are defined as the value of all the firm's tangible assets such as buildings, machinery […] scaled by total assets. Senior debt is the ratio of the amount of senior debt divided by the amount of total debt. Divisional is a dummy variable with a value of one if the buyout was a division of a larger company and a value of zero if the buyout comprised a whole company. Leverage is the ratio between total debt (short- and long-term debt) and total assets. Free cash flows are the sum of the firm's net income plus depreciation scaled by the previous year's total assets. ROA is the firm's ROA computed as EBIT (EBITDA) over the firm's total assets at the end of the previous year. Cash reserves are defined as the amount of cash at bank and in hand of the company scaled by total assets. GDP growth is calculated from the entry quarter to the exit quarter using a seasonally adjusted index. Industry growth is calculated from the entry year to the exit year because quarterly figures are not available for most industries. Interest rate and foreign direct investment (FDI) were collected from data published by World Bank. Market return is the annual return from the beginning of the entry month on the end of the exit month of share index. Shareholder is a dummy variable which takes a value of one if the shareholder in the firm is concentrated and a value of zero if the shareholder is dispersed. The symbols ***, **, *denote statistical significance at the 1, 5 and 10% levels, respectively

Table I.

for non-LBOs, even if we can see a significant level for non-LBOs. We identify that a concentrated shareholder is very significant in an LBO sample.

In Table I, we also focus on the characteristics of going-private firms before and after the LBO transactions. We present and compare means and medians of financial variables for the year before the delisting (year −1), the year after (year 1) and three years after (year 3) for the full sample and for the control sample (LBO vs non-LBOs). We selected financial, capital structure and macroeconomic variables. While Panel A presents statistics for the full sample, Panel B compares firms delisted following an LBO to firms delisted without LBOs. The acquisition technique is an LBO if Capital IQ considers the deal an LBO.

3.4 Definition of variables
First of all, we examine financial variables. *Total assets* are the firm's total assets in millions of dollars. Total assets is the proxy for the size of the company is the firm's total

assets. *Fixed Assets* sum up tangible assets, such as buildings and machinery, and intangibles assets, such as goodwill scaled by total assets. A *tangible* asset is defined as the value of all the firm's tangible assets, such as buildings and machinery, scaled by total assets. *Leverage* is the ratio between total debt (short- and long-term debt) and total assets. The short-term debt is the firm's short-term financial debts to credit institutions (loans and credit) plus part of long-term financial debts payable within the year scaled by total assets. Long-term debt is the firm's long-term financial debts to credit institutions (loans and credits) scaled by total assets. *Taxation* is defined as all taxes paid by the company during the accounting period scaled by the previous year's total assets. *Free cash flow* is defined as the sum of the firm's net income plus depreciation scaled by the previous year's total assets. *ROA* (EBIT/EBITDA) is the firm's return on assets computed as EBIT (EBITDA) over the firm's total assets at the end of the previous year. *Cash reserves* are defined as the amount of cash at bank and in hand of the company scaled by total assets.

Second, we introduce capital structure variables. *Divisional* variable versus whole company buyout is a dummy variable with a value of one if the buyout was a division of a larger company and a value of zero if the buyout comprised a whole company. We used additional measures of deal structures with the *senior debt* ratio, which is calculated as the ratio of the amount of senior debt divided by the amount of total debt, and *shareholder* with a dummy variable which takes a value of one if the shareholder in the firm is large and a value of zero if the shareholder is dispersed. We consider a large shareholder when it owns more than 10 per cent of the firm's voting rights. Ten per cent is a standard cutoff point in the ownership literature (Faccio and Lang, 2002).

Finally, we argue that the performance of LBO should strongly impact LBO returns. The LBO data are complemented by macroeconomic and industry-level data. GDP growth, industry growth, *interest rate and foreign direct investment (FDI)* were collected from data published by Worldbank and Capital IQ. Both GDP growth and industry growth measures are based on gross domestic product indices provided by Capital IQ. For each buyout, *GDP growth* is calculated from the entry quarter to the exit quarter using a seasonally adjusted index. Nevertheless, *industry growth* is calculated from the entry year to the exit year because quarterly figures are not available for most industries. The two indicators are calculated logarithmically and annualized. We use *market return*, which is the annual return from the beginning of the entry month on the end of the exit month of share index. To finish, we introduce the level of employment in LBO with the number of employees (number of full-time employees of the company) and the profit per employee, which is the ratio between the firm's profits before taxes divided by the number of employees.

We also add an LBO dummy that takes a value of one if the acquisition technique is an LBO.

3.5 Analysis and discussion

Panel A of the table presents means and medians for the full sample. We observe that financial variables significantly change between year −1 and year +1 and between year −1 and year +3, suggesting the break between the past and the future. The median results show that the delisted firm becomes smaller, probably due to the asset stripping. The assets decrease significantly. Three years after the delisting,

the median firm has a size which is less than two-third of the size in year −1 (€1,325.8 mil. vs €2,624.5). Tangible assets decrease significantly, as expected. In fact, delisting often implies downsizing processes to improve efficiency (Shleifer and Summers, 1988; Weston *et al.*, 1998). We observe a significant decrease in fixed assets only after three years.

It is not surprising to see an important increase in the average firm's leverage ratio from 2.8 to 3.3 because LBOs are essentially financed with debt. Indeed, the debt level of the delisted firms grows to 4.1 three years after the delisting. This result is also confirmed by the study by Brav (2009), who finds that private companies rely more on debt financing than public companies. We also remark that the composition of debt maturity before and after the delisting changes. Indeed, the long-term debt dominated before the delisting (Panel A between year −1 and year 1), whereas we can suppose an increase of short-term debt when the firm is taking private transactions (between year 1 and year 3). This can be explained by the fact that short-term debt can be used to signal improved efficiency when a new ownership takes the firm private. It is because of the threat of immediate bankruptcy. It is a good way to force management to reduce wastes of free cash flows (Jensen, 1986; Cotter and Peck, 2001) and reduce the debt overhang problem (Myers, 1977). Consequently, the level of cash reserves decreases after the delisting and remains stable afterward. Like the level of cash reserves, tax falls too because of the effect of leverage and the decrease of profitability.

Contrary to the last two indicators, the average free cash flow increases just after the delisting because more cash is now needed to service the higher debt (Kaplan, 1989b). We present also the evolution of mean profitability before and after the transaction, compared to control firms. In the spirit of Kaplan (1989), we first compute, for each target and each year before or after the LBO, the difference between ROA and the median ROA of its control firms taken the same year. We observed by *t*-test as well as a Wilcoxon test of median equality that this sharp increase in ROA of target firms relative to their control firms is highly significant at the 1 per cent confidence level from year 1.

Panel B presents the descriptive statistics for the subsample of delisting via LBO. LBO targets are smaller than non-LBO delisted firms. We also see that the level of leverage is more important for LBO targets after the delisting than non-LBO (3.8 vs 2.8). We remark that LBO targets are smaller than non-LBO delisted firms, and they experience a substantial reduction in their assets, consistent with the view that LBO firms sell off noncore assets. Not surprisingly, leverage increases substantially in LBO targets after the delisting, but a strong observation is also observed with a reduction in the free cash flows generated by the firm.

To measure the performance after the delisting, we have to rely exclusively on financial statement data, because stock prices are no longer available once the firm is delisted. Due to the difficulties to obtain reliable financial date, the sample size decreases substantially. As our proxy for the change in the firm operating performance, we compute the difference between the ROA in the first (third) year after the delisting and the firm's ROA for the last full year in which the company was publicly listed (year −1). In Table II, the dependent variable is the ΔROA. ROA is computed as EBIT over total assets at the beginning of the year. To put it another way, ΔROA is computed as: ROAt+1(3) – ROAt−1.

In addition to our key variables, we check the relationship with the following financial variables measured at the end of the year before the delisting: tangible assets,

	I	II	III
Ln (total assets)	0.062 (1,694)*	0.027 (1,689)*	0.046 (1,689)*
Fixed assets	0.115 (1.682)*		0.092 (1.689)*
Tangibles	0.058 (1.729)*	0.116 (1.753)*	0.089 (1.763)*
LBO	0,010 (2.378)**	0,008 (2,394)**	0.006 (2.432)**
Leverage	0.018 (3,052)***	0.021 (3,113)***	0.021 (3,094)***
Taxation	−0.452 (3,004)***	−0.516 (2,938)***	−0.492 (3,118)***
Free cash flows	0.045 (2,665)**	0.064 (2,809)***	0.058 (2,828)***
ROA (EBIT)	0.257 (2,563)**	0.383 (2,612)**	
Divisional	0.048 (2,687)**	0.061 (2,853)***	0.049 (2,705)**
Senior debt	0.153 (2,783)***	0.251 (2,752)***	0.115 (2,758)***
Shareholders	0.107 (2,764)***	0.216 (2,839)***	0.127 (2,794)***
GDP growth	0.345 (2,832)**	0.451 (2,842)**	0.265 (2,853)**
Industry growth	0.153 (2,434)**	0.232 (2,524)**	0.316 (2,483)**
Interest rate	0.475 (2,525)**	0.457 (2,731)***	0.353 (2,729)***
FDI	0.172 (2,607)**	0.204 (2,588)**	0.163 (2,554)**
Market return	0.462 (2,903)**	0.362 (3,061)***	0.378 (2,971)***
Adjusted R^2	0.428	0.455	0.448
Observations	36	36	36

Notes: The table reports estimates of OLS regressions where the dependent variable is $\Delta ROA_{(-1, 1)}$. $\Delta ROA_{(-1, 1)}$ is computed as: $ROA_{t+1}-ROA_{t-1}$. ROA is computed as EBIT over total assets at the beginning of the year. Ln (total assets) is the natural logarithm of firm's total assets. Fixed assets sum up tangible assets such as buildings, machinery […] and intangibles assets such as goodwill […] scaled by total assets. Tangibles are defined as the value of all the firm's tangible assets such as buildings, machinery […] scaled by total assets. LBO is a dummy that takes value one if the acquisition technique is a leveraged buyout. Senior debt is the ratio of the amount of senior debt divided by the amount of total debt. Divisional is a dummy variable with a value of one if the buyout was a division of a larger company and a value of zero if the buyout comprised a whole company. Leverage is the ratio between total debt (short- and long-term debt) and total assets. Free cash flows are the sum of the firm's net income plus depreciation scaled by the previous year's total assets. ROA is the firm's ROA computed as EBIT (EBITDA) over the firm's total assets at the end of the previous year. Cash reserves are defined as the amount of cash at bank and in hand of the company scaled by total assets. GDP growth is calculated from the entry quarter to the exit quarter using a seasonally adjusted index. Industry growth is calculated from the entry year to the exit year because quarterly figures are not available for most industries. Interest rate and foreign direct investment (FDI) were collected from data published by World Bank. Market return is the annual return from the beginning of the entry month on the end of the exit month of share index. Shareholder is a dummy variable which takes a value of one if the shareholder in the firm is concentrated and a value of zero if the shareholder is dispersed. The symbols ***, **, * denote statistical significance at the 1, 5 and 10% levels, respectively

Table II.
Change in operating performance between year −1 and year +1

ln(total assets) and ROA. We include the pre-delisting operating performance to measure the persistence of operating performance. We also control for the size effect with the variable Ln (total assets), i.e. the natural logarithm of total assets at the end of the year before the delisting.

To study the performance after the delisting, we use ordinary least squares (OLS) regressions as an econometrical method, where Y = the dependent variable, namely, ΔROA, and X = independent variables, namely, Ln (total assets), fixed assets, tangibles,

LBO, leverage, taxation, free cash flow, ROA, divisional, senior debt, shareholders, GDP growth, industry growth, interest rate, FDI and market return.

Tables II and III present three models:

(1) Model I with all variables.

(2) Model II is to know if when separate ln(total assets) and fixed assets, will we see an impact of the power model.

(3) Model III shows whether ROA has an impact to the model.

	I	II	III
Ln (total assets)	0.063 (1.695)*	0.043 (1.678)*	0.054 (1.686)*
Fixed assets	0.104 (1.653)		0.093 (1.675)
Tangibles	0.058 (1.715)*	0.116 (1.728)*	0.086 (1.722)*
LBO	0,112 (2,342)**	0,113 (2,401)**	0.108 (2.352)**
Leverage	0.025 (3.272)***	0.034 (3.292)***	0.037 (3.283)***
Taxation	−0.523 (2,924)***	−0.505 (3,008)***	−0.496 (2,983)***
Free cash flows	0.109 (3.043)***	0.128 (3.034)***	0.098 (3.057)***
ROA (EBIT)	0.343 (2.736)***	0.402 (2.723)***	
Divisional	0.073 (2.645)**	0.107 (2.614)**	0.054 (2.638)**
Senior debt	0.146 (2.685)**	0.237 (2.552)**	0.128 (2.584)**
Shareholders	0.089 (3.055)***	0.107 (3.083)***	0.136 (3.125)***
GDP growth	0.324 (3.042)***	0.417 (3.019)***	0.189 (3.026)***
Industry growth	0.209 (2.354)**	0.248 (2.283)**	0.148 (2.309)**
Interest rate	0.363 (2.215)**	0.398 (2.186)**	0.328 (2.197)**
FDI	0.209 (2.516)**	0.248 (2.485)**	0.199 (2.459)**
Market return	0.412 (3.125)***	0.329 (3.116)***	0.325 (3.118)***
Adjusted R^2	0.395	0.416	0.405
Observations	36	36	36

Notes: The table reports estimates of OLS regressions where the dependent variable is $\Delta ROA_{(-1, 3)}$. $\Delta ROA_{(-1, 3)}$ is computed as: $ROA_{t+3}-ROA_{t-1}$. ROA is computed as EBIT over total assets at the beginning of the year. Ln(total assets) is the natural logarithm of firm's total assets. Fixed assets sum up tangible assets such as buildings, machinery […] and intangibles assets such as goodwill […] scaled by total assets. Tangibles are defined as the value of all the firm's tangible assets such as buildings, machinery […] scaled by total assets. LBO is a dummy that takes value one if the acquisition technique is a leveraged buyout. Senior debt is the ratio of the amount of senior debt divided by the amount of total debt. Divisional is a dummy variable with a value of one if the buyout was a division of a larger company and a value of zero if the buyout comprised a whole company. Leverage is the ratio between total debt (short- and long-term debt) and total assets. Free cash flows are the sum of the firm's net income plus depreciation scaled by the previous year's total assets. ROA is the firm's return on assets computed as EBIT (EBITDA) over the firm's total assets at the end of the previous year. Cash reserves are defined as the amount of cash at bank and in hand of the company scaled by total assets. GDP growth is calculated from the entry quarter to the exit quarter using a seasonally adjusted index. Industry growth is calculated from the entry year to the exit year because quarterly figures are not available for most industries. Interest rate and foreign direct investment (FDI) were collected from data published by World Bank. Market return is the annual return from the beginning of the entry month on the end of the exit month of share index. Shareholder is a dummy variable which takes a value of one if the shareholder in the firm is concentrated and a value of zero if the shareholder is dispersed. The symbols ***, **, * denote statistical significance at the 1, 5 and 10% levels, respectively

Table III.
Change in operating
performance between
year −1 and year +3

4. Results

We based our measure of performance after the delisting on the difference between the ROA in the first and third year after the delisting and the firm's ROA for the last full year in which the company was publicly listed (year -1). Therefore, the dependent variable is the variation of ROA (ΔROA): $ROA_{t+1} - ROA_{t-1}$, when we investigate short-term effects, and $ROA_{t+3} - ROA_{t-1}$, when we look at long-term effects

ROA is defined as EBITDA over total assets. We study the relation between ΔROA and independent variables before the delisting the first time and three years after the delisting the second time. Candidate independent variables are: financial variables [ln (total assets), which is the natural logarithm of total assets at the end of the year before the delisting, a proxy for the size of the target; fixed assets; tangibles; leverage; taxation; free cash flows; ROA; and cash reserves], capital structure (divisional, senior debt, shareholders), macroeconomic variables (GDP growth, industry growth, interest rate, foreign direct investment, market return) and the level of employment (employees, profit per employee).

The two regressions are as follows:

$$\begin{aligned} \Delta ROA(-1, 1) = {} & \beta i \ln(total\ assets) + \beta i\ Tangibles + \beta i\ LBO + \beta i\ Leverage \\ & + \beta i\ Taxation + \beta i\ FreeCashFlow + \beta i\ ROA + \beta i\ Divisional \\ & + \beta i\ SeniorDebt + \beta i\ Shareholdes + \beta i\ GDP\ growth \\ & + \beta i\ Industry\ growth + \beta i\ Interest\ rate + \beta i\ FDI \\ & + \beta i\ Market\ return \end{aligned}$$

$$\begin{aligned} \Delta ROA(-1, 3) = {} & \beta i \ln(total\ assets) + \beta i\ Tangibles + \beta i\ LBO + \beta i\ Leverage \\ & + \beta i\ Taxation + \beta i\ FreeCashFlow + \beta i\ ROA + \beta i\ Divisional \\ & + \beta i\ SeniorDebt + \beta i\ Shareholdes + \beta i\ GDP\ growth \\ & + \beta i\ Industry\ growth + \beta i\ Interest\ rate + \beta i\ FDI \\ & + \beta i\ Market\ return \end{aligned}$$

4.1 OLS model

Table II shows the results over the short-term form OLS model estimations. We observe that the shareholder variable has a positive and significant effect on performance of going-private transactions. Indeed, when a large shareholder initiates the going-private transactions, this affects the firm's operating performance positively. This result could be interpreted as a signal of asymmetric information. A large shareholder takes a firm private because it has superior information about the firm's profitability. We can explain this finding by the agency theory: the reduction of agency conflicts between small and large shareholders generates an improvement in the firm's performance. After the delisting, family shareholders have additional incentives to run the firm efficiently because they often invest their own resources to buyout minorities, as these acquisitions are rarely financed by a debt increase. Therefore, we can deduce that the level of performance depends on the owner's situation post-delisting.

4.2 Introduction of LBO dummy variable

We can see in column III that the LBO dummy shows a positive and statistically significant coefficient. Indeed, LBO as a technique acquisition influences positively the results of

performance. Leverage presents also significant results. Greater availability of debt and lower interest rates on borrowing are associated with greater leverage in buyout financing structure (Axelson *et al.*, 2012). Leverage should lead to increased firms-level holding period equity returns particularly in successful buyouts, because of pressure to perform to service debt. Free cash flow has a positive and significant effect on performance for year 1 and especially for year 3. Indeed, LBOs have higher levels of free cash flow much more important than non-LBOs. The excess cash owned by LBOs can repay the debt. The positive relation is confirmed with other studies (Wright *et al.*, 2006), but they do not present significant results contrary to our results. Becker and Pollet (2008) for US sample find positive and significant link between private and the level of free cash flow. For taxation, we report a higher level of tax for LBO than for non-LBO. In general, the result for taxation is not significant (Wright *et al.*, 2006) for Europe and US samples, except for Asia (Sannajust, 2009). This result of Latin America is the same as Asia – it is positive and significant. We can explain it by the fact that it is a new trend in this area, and we are seeing strong growth of LBO and large flows of private equity. We can suppose that the post-LBO growth can be explained by an expansion on international markets.

Concerning macroeconomic and industry variables, our findings indicate that industry growth has a significantly positive impact on performance, similar to that reported by Guo *et al.* (2011). As expected, GDP growth is significant. Market return, which is measured by the market-adjusted stock price performance in the calendar year before the announcement, presents a positive and significant result before the going-private transaction and indicates that the stock market was able to forecast the firm's performance in the future.

In Table III, we focus on the relationship between going private and long-run performance. We use $\Delta ROA_{(-1,3)}$ as the dependent variable. We confirm the results obtained in Table II, the increase in operating performance when a large shareholder takes over the firm is permanent.

Some details can be added. We see that adjusted R^2, which represents the power of the model, is a little bit lower than that for the performance between year -1 and year $+1$: for Model I: 42.8 per cent against 39.5 per cent, Model II: 45.5 per cent against 41.6 per cent and Model III: 44.8 per cent against 40.5 per cent. This difference does not interfere with the results of our regressions but shows that the impact of operating performance is more important for one year before and one year after the transaction. It can be explained by the fact that one year after the delisting, firm will be free: all constraints and costs incurred by the exchange do not apply. So, financial results of firms increase. However, as we know, LBO transactions imply the extensive use of debt. Therefore, managers have to manage the firm carefully because they have to repay the loan. It is one reason to explain the lower results for adjusted R^2 for the performance year -1 and year $+3$ Table IV.

4.3 Efficiency and profitability impacts

Going-private transactions also imply some restructuration by improving the firm's efficiency. Thus, we took another variable: the employment. We study the LBO's effect on employees. As we know, an LBO transaction implies major restructuration and a lot of money to be successful post the delisting. Therefore, the main goal to LBO transaction is efficiency. Indeed, going-private transactions imply the improvement of firm's efficiency by restructuring the firm after the LBO (Shleifer and Summers, 1988; Weston *et al.*, 1998). Consequently, the efficiency improvements are made by cost cutting of

	Year −1		Year 1		Year 3	
	Mean	Median	Mean	Median	Mean	Median
Panel A: full sample						
Employees	2,150	453**	1,960	246**	1,305	115***
Profit per employee	110.45	12**	175.32	8***	283.27	14***
Panel B: LBO vs non-LBO						
Employees	7,855	925**	5,670	132**	4,392	114***
Profit per employee	156.72	15**	378.31	15***	567.85	27***

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Table IV.
The level of
employment

Notes: The table reports mean and median of employees, profit per employee before the delisting (year −1), the year after (year 1) and three years later (year +3) for the sample. Employees represent the number of full-time employees of the company. Profit per employee is the ratio between the firm's profits before taxes divided by the number of employees. The symbols ***, **and *denote statistical significance at the 1, 5 and 10% levels, respectively

assets and employment (Kaplan, 1989a; Smith 1990; Harris *et al.*, 2005). To test this idea, we use two variables:

(1) employee, which is the number of total employees of the company; and

(2) the profit-per-employee ratio, which is calculated with the firm's profit before taxes divided by the number of employees.

With these two variables, we can analyze the effect of this restructuring process on the firm's workforce and its efficiency.

Panel A shows that there is a decrease in the number of employees after the delisting, whereas the profit per employee increases. We can suggest in the first instance that a reduction of employment leads to an improvement in productivity, and in the second instance, the firm after delisting wants to reduce the incidence of the cost of employee by reducing the workforce or perhaps the hourly wage (Kaplan, 1989; Smith, 1990; Harris *et al.*, 2005). We conclude that firms use the going-private transactions to restructure their workforce through the number of employees and their cost.

Panel B reports the results for LBO. We report two opposite results: we have a significant increase in profitability per employee just after going private, whereas we find an important decrease in the employment level. This result is similar to other studies about LBOs and efficiency in Europe (Boucly *et al.*, 2011; Harris *et al.* 2005; Cumming *et al.*, 2007). We deduce that going-private transactions as an acquisition technique allow firms to restructure their workforce. This has a positive impact on the firm's productivity, with an increase of the profit per employee. As Shleifer and Summers (1988) explained, it is easier to break implicit contracts with employees for a new owner.

5. Conclusion
In this paper, we contribute to private equity research and more precisely to the improvement of knowledge on LBO transactions. The drivers of performance were identified through the analysis of 36 Latin American operations. The increase in foreign investments and in the number of equity capital operations and, more

generally, the high-level growth rate of the economies explain the choice of Latin American countries for our research.

While most of the papers available on LBOs explain the operation effect around the delisting date, we studied the impacts before and after the delisting (one year before and three years after). We included macroeconomic variables to take into account GDP growth rates and evolutions and also a control sample for non-LBO transactions.

We found that buyouts create value, reducing agency costs and generating a shift from a managerial to an entrepreneurship mindset (this is especially the case for leveraged management buy out (LMBOs)) and leading to an increase in growth. In the LMBO case, managers resume the company in their own direction; consequently, they are involved in the decision process and are motivated. The introduction of a "divisional variable" in the model demonstrates that divisional buyouts create more value through acquisitions than integrated company buyouts. Information asymmetries between existing and new management teams explain this difference in performance. Other analysis, including leverage, ROA, market return and shareholders characteristics variables, confirm the preceding result. We do not validate the non-significant result obtained for the taxation variable by several authors (Wright *et al.*, 2006); in our analysis, taxation has a positive impact on LBO transactions. Indeed, LBO processes imply large financial flows, and tax consolidation plays an important role.

In our model, macroeconomic variables show a positive and significant influence on value creation (e.g. industry growth and GDP growth). We conclude that a positive macroeconomic environment is necessary for the development of LBOs and also of value creation on LBO transactions. Economic and financial academics explain that LBOs are one of the processes used to implement drastic "cost cutting" measures that the target management is reluctant to enforce and act as growth engines. We validate this hypothesis because we observe that the number of employees decreases over the years, while the net earning per employee increases; this result means that LBO transactions imply a workforce restructuration. We also find that LBOs have higher financial performance (ROA, level of assets […]) than the control sample.

To sum up, this paper brings additional evidence in favor of "the LBO better performance argument" in another region of the world and considers new independent variables as drivers of operating performance. Macroeconomic variables show an impact as important, as governance factors on LBO value creation, GDP and industry growths as well.

The characteristics of the debts included in the balance sheets (e.g. maturity) are not available in our data basis. A test including this information could bring other elements of explanation. The measure of cumulative abnormal returns around going-private announcements and their impacts on shareholder's value could also be of interest. This last study has been published for the UK (Wright *et al.*, 2006). Further research should introduce other continents, and particularly Asia, in the analysis but also comparisons between the Brazil–Russia–India–China–South Africa (BRICS) countries.

Note

1. International Finance Corporation.

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