The Impact of the Macroeconomic and Institutional Environment on LBO Fundraising

By Basma Henchiri

University of Tunis El Manar

Abstract- The most past studies, analyzing the venture capital investments concluded a strong correlation between macro-economic, institutional and entrepreneurial conditions as well as divestment strategies. The purpose of this study is to find out the economic impact of macroeconomic environment and institutional quality on LBO fundraising, using a panel dataset of 19 European countries over 2001-2010. The empirical results confirm the importance of some factors and show that the unemployment rate, interest rate, trade sale and IPO divestments are important determinants in the European LBO market.

Keywords: private equity, LBO, macro-economic determinants, institutional determinants, panel data.

GJMBR-C Classification: JEL Code: B22

THEIMPACTOFTHEMACROECONOMICANDINSTITUTIONALENVIRONMENTONLBOFUNDRAISING

Strictly as per the compliance and regulations of:

The Impact of the Macroeconomic and Institutional Environment on LBO Fundraising

Basma Henchiri

Abstract- The most past studies, analyzing the venture capital investments concluded a strong correlation between macro-economic, institutional and entrepreneurial conditions as well as divestment strategies. The purpose of this study is to find out the economic impact of macroeconomic environment and institutional quality on LBO fundraising, using a panel dataset of 19 European countries over 2001-2010. The empirical results confirm the importance of some factors and show that the unemployment rate, interest rate, trade sale and IPO divestments are important determinants in the European LBO market.

Keywords: private equity, LBO, macro-economic determinants, institutional determinants, panel data.

I. Introduction

The development of any country depends on the development of its economy. Sowell developed financial sector can increase investment, which promote economic growth. However, in the current global economy (economic and financial conditions), small and medium enterprises are facing difficulties, especially in terms of financial support. Furthermore, the lack of efficient financial markets can be a problem in allocation credit to profitable investments, which stimulate economic growth (Levine, 1997). Essentially, a country's economic development is related to the existence of banking system-channeling savings into productive employment.

The critics of contemporary finance focus on the behavior of new financial players such as Private Equity (PE). It has different character compared to other traditional sources of financing. It can play a major role in the economy by representing a support of the unlisted company throughout its existence. It directly contributes to the creation of enterprises, to the promotion of innovation and new technologies, to the growth, to the employment and the renewal of economy.

Financial globalization, development of free trade and the revolution in information technology constitute a profound economic transformation that has encouraged the development of PE and its spread (Ouidad Yousfi, 2008). The Private equity has grown significantly in recent years; its penetration is no longer limited to developed economies and spread to emerging economies. Private equity is the ultimate objective of all investors to realize the return on their

investment after a certain period, typically between three to seven years after the original transaction took place.

The academic literature for over twenty years documented the correspondence between the macroeconomic environment and the capital investment. However, the economic literature on the determinants of the supply of private equity has been limited to the study of the market PE in Europe and the United State.

The first wave of the phenomenon of capital investment during the late 1980s was mainly in the United States, Canada and to a smaller extent in the UK. From 1985 to 1989, these three countries accounted for 89 percent of transactions of leveraged buyout effect of global and 93 percent of the global value of these transactions. The phenomenon of PE is also expanding rapidly in continental Europe. In the period 2000-2004, the market PE of Western Europe (including the UK) had 48.9 percent of the total value of transactions of global leveraged buyout, compared with 43.7 percent in USA.

The economic literature on the determinants of the supply of private equity was until then limited to the study of the determinants of capital risk in relation to early stage investments or do not distinguish between types of private equity investors (Schwienbacher, 2004). However, few research have interested by LBOs in developing markets. Our study is one of the few to do so. This article focuses on leveraged buyouts; our objective is to analyze the relationship between inflows into these investments and some macroeconomic and institutional factors.

The central issue of our research can be summarized by the following question: what determine *LBO activity* becomes important. The remainder of this paper organized as follows: in Section 2, we discuss relevant literature; in Section 3, we review the data and methodology used to test our hypotheses. Section 4 presents the results of our investigation. Section 5 concludes.

II. Revues of Literatures

a) LBO market

The private equity market is worldwide, measured by the average of its annual business investment flows; it is about 100 billion euro per year compared to 280 billion euro per year of capital raised on all procurement actions. The first number idivided into 20 billion euro for all the countries of Western

Author: Ph.D, Student, Faculty of Economic Sciences and Management of Tunis, University of Tunis El Manar, Tunisia.
e-mail: henchiribasma@yahoo.fr

Europe, or 0.3% of its Gross Domestic Product (GDP). Market dynamics is also measured by the new funds raised, the rhythm depends on market conditions (financial market, economic growth, institutional and legal environment,...).

Several studies have attempted to explain why financing by capital investment considered necessary if companies can raise capital by other means. This original financial structure; witch is ideal for supporters of the Theory of Agency (Kaplan, 1989), combined with good management of the operating cycle and an effective governance structure can allow for significant returns on investment, increase the value of long term assets, and reduce conflicts between shareholders and creditors. In short, it can create value. The decline in the share of investment in venture capital and development capital in favor the buyout (LBO) is a strong movement in recent years.

Leveraged buyout transactions represent the late stage of the private equity category, mature and stable firms, while venture capital represents the early stage of the private equity category (Kaplan, 2005).

According to the French Association of Capital Investors (AFIC), a leveraged buy-out Leveraged buyouts (henceforth abbreviated as 'LBOs')is defined as the acquisition of another company, partially financed by debt, using a significant amount of borrowed money in the context of a specific legal and tax optimized schema where managers associated in partnership with expert professional investors.

Definition of LBOs presented in the book of Cherif and Dubreuille in 2005, as «A leveraged buyout is an acquisition operation of a target company (OpCo) through a holding company (NewCo) which, in addition to a contribution of equity, subscribed debt (senior debt, subordinated debt and mezzanine debt) to finance the purchase. The holding company will pay interest on its debt and pay back the principal from cash flows generated by the acquired company.

The 1980s was a period of "overheating" of the LBO market before that market conditions have changed and LBO activity has weakened rather suddenly in the early 1990s. The rapid growth in this market has resulted in conditions of favorable credit market, with this, the emergence of more dynamic financial markets helped the issuance of high-yield debt in particular - a key factor in the previous development of the PE in United States (Gompers and Lerner 2002). Growth in repurchase activity was also enhanced by the dramatic drop in overall asset prices as part the downturn in the global economy led to the decline of the stock market after March 2000.

The recent increase in LBO activity has revived many research efforts. Among the most recent, several papers have considerable contribution in the issue of the determinants of PE investments. Published papers that are most related to our analysis are the Gompers and Lerner (1998), Jagwani (2000), Jeng and Wells (2000), Marti and Balboa (2001), Felix et al. (2007), Cumming et al. (2008) and Cherif and Gazdar (2009).

We discuss in the following sections the various factors identified in the literature to explain the LBO fundraising. These factors will presented in two categories: macro-economic and institutional factors.

b) Macroeconomic and institutional determinants:

Given the importance of identifying the determinants of financial development, there has been more research on the fundamental factors for well-functioning financial systems. Most of this research has emphasized the role of the legal and institutional factors in explaining the levels of development in financial systems. Indeed, the main works are Beck et al. (2003), Ben Naceur and Ghazouani (2007), Law and Habibullah (2009) and Girma and Shortland (2008).

The impact of a good business environment on investment may come through adopting appropriate macroeconomic policies, encouraging competition and developing a legal and institutional framework to promote a strong financial transparency. The changes in the macroeconomic, financial and institutional context are the first explanatory factor for the rapid growth of this market. The literature documents well the correspondence between the macro-financial environment and the flow to the PE (Gompers et al. 2005).

The correlation between the macroeconomic data and good or bad conduct of operations is not certain. However, the LBO directly influences the conduct of the investment policy as well as operational management of the acquired companies.

Jeng and Wells (2000) developed a model to assess the macroeconomic determinants of investment in venture capital. They explain this investment by the value of IPOs, the rate of GDP growth, the growth rate of the market capitalization, the rigidity of the labor market, the level of private pension fund and the financial statements published by country.

Schertler (2003) analyzes the forces acting on the activity of venture capital by the following variables: the liquidity of stock markets as measured by market capitalization, the human capital endowment by the number of people working in unit's research and development or the number of patents registered and rigidity in the labor market.

To test the impact of labor market on private equity investments, Felix et al. (2007), Cherif and Gazdar (2009) used the unemployment factor. Almost all subsequent work suggested a positive relationship between economic growth as measured by GDP growth and the supply of capital investment.

Several methods are available to private equity investors to exit their investment. , the most important and widely used exits routes are: Initial Public Offering

(Gompers and Lerner, 1998; Jeng and Wells, 2000 and Felix et al 2007.), Trade Sale and Leveraged Recapitalization (Marti and Balboa, 2001). The literature on the determinants of venture capital insists on the positive relationship between the amount of money invested in this activity and the financial markets situation.

Black and Gilson (1998) stipulate that well-developed stock market, that offers to the venture capitalists the opportunity to exit via an IPO (IPO: Initial Public Offering), is a key factor in the dynamics of venture capital. They concluded that the development of the capital market is inseparable from the existence of developed and profound financial markets that is able to take up the IPOs of companies. Other studiers like Kaplan and Schoar (2005) show that market liquidity, represented generally by market capitalization, have a positive impact on the development of investments in venture capital.

In addition to macro-economic factors, the institutional environment affects investment. This emphasize the influence that institutional factors can have on investment. Following the clarification of the decree on the rule of prudence that changed in the US in 1978 for new commitments, the venture capital riding abruptly. This reform, by facilitating investment of pension funds in private equity, led to a sharp increase in funds from pension funds dedicated to the capital investment.

Beck et al. (2003) studied, in differences political systems, the relationship between the legal, institutional and financial frameworks. The empirical results found that countries inheriting the civil law tradition have not significantly well-developed financial systems and investor protection, comparable to the countries whose follow a common law legal system.

Jeng and Wells (2000) to study the relationship between the supply of venture capital and the regulatory factor, used an index of quality of financial reporting standards in each country, they find a positive effect since the laws facilitate financial and accounting control of venture capital. Thus, they cited the efficiency of bankruptcy proceedings, but it was not included in their empirical analysis because they had difficulty in finding good measures for this.

Cherif and Gazdar (2009) examine the determinants of institutional venture capital investment using the Index of Economic Freedom as an indicator of institutional quality. The composite index is a simple average of 10 individual freedoms, each of which is essential to the development of personal and national prosperity. They find that the institutional environment plays an important role in determining the investment of European Venture Capital. Through our literature review, we found that various factors which both macro-economic, financial and institutional flows can explain to the capital investment. The results from previous studies

on the determinants of the supply of private equity are interested in the venture capital industry only. In this article, we will try to do an empirical study to analyze another aspect of capital investment, operations leverged buyout (LBO). Our empirical methodology is the result of the work of Gompers and Lerner (1998), Jeng and Wells (2000), Marti and Balboa (2001), Romain and al. (2004), Felix et al. (2007) and recently Cherif and Gazdar (2009).

III. Research Methodology

a) Data description

In order to evaluate empirically the determinant of LBO investment, we used cross-country regression on a sample of 19 European countries: Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland and the United Kingdom. The data cover the period of ten years, from 2001 to 2010. Thus, we use panel data of 190 observations.

Figure 1 gives an overview of the amount and numbers of LBO investment per years. There are a strong growth especially in 2006. More than 58% of total investment in LBO was in United Kingdom with 28968318 €. In what follows, we try to explain these regional and cross-country differences by means of an econometric model.
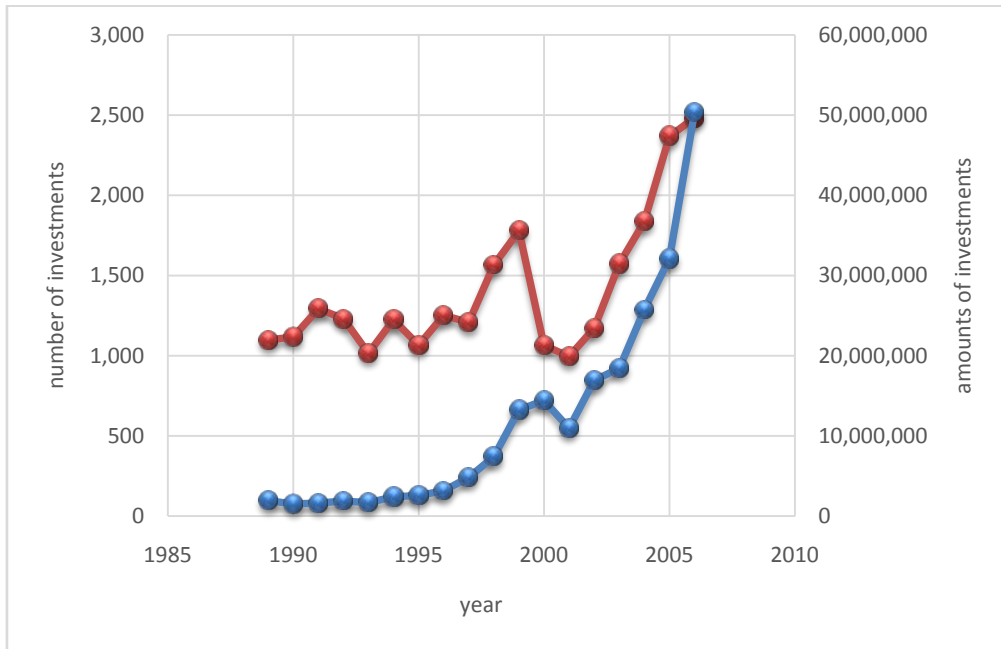
Figure 1: LBO investments in Europe

Figure 2: Size of LBO investment by country

The International Financial Statistics (IMF), World Bank (WDI) and the International Monetary Fund (IMF) database used to assess data concerning macro-economic and institutional factors like interest rates, unemployment rates, GDP growth and market capitalization, etc. The information concerning the private equity transactions (the amounts of LBO investment for each country) obtained from Eurost at and the annual reports of the EVCA (The European Private Equity & Venture Capital Association.

Many researchers have focused on studying the impact of certain macroeconomic and institutional variables on investment in private equity. From these studies, we suggested a set of variables for our model

to estimate. We will attempt to explain the different variables that could affect investment in LBO. These variables will divided into two categories, the first combines the variables that are macroeconomic and institutional, while the second category includes variables related directly to the private equity process.

Concerning macroeconomic variables, we introduced two economic growth indicators such as GDP growth, the Stock market capitalization (Gompers and Lerner, 1998 and Jeng and Wells, 2000), the interest rate (Gompers and Lerner, 1998; and Romain de La Potterie, 2004 and Felix et al., 2007) and the unemployment rate (Felix et al., 2007).

In addition to several determinants traditionally cited in the literature, with the exception of the recent study Cherif and Gasdar (2009) we use in our study two institutional quality variables (regulation and corruption). As indicators of technological opportunities, we use expenses in Research and Development.

We consider, also, the variables related directly to the private equity process, we test as previous studies Gompers and Lerner, 1998; Jeng and Wells, 2000, Marti and Balboa, 2001, Felix et al., 2007 and Cherif and Gasdar, 2009) three forms of divestment: IPO divestments (DIVESIPO), trade sales divestments (DIVESTRADE) and the write-offs divestments (DIVESWROFF).

b) Econometric Methodology

Considering the nature of the data collected (bivariate), we will use the econometrics of panel data.

Consequently, we can estimated the panel model as:

$$Invest\ LBO = a_0 + a_1\ Growth + a_2\ MCAP + a_3\ Interest + a_4\ UNEMPL + a_5\ DIVTrade + a_6\ DIVIPO + a_7\ DIVWOff + a_8\ RD + a_9\ REGLEM + a_{10}\ CORRP \tag{3}$$

In order to judge the quality specification of our model, additional specification tests are necessary to select the appropriate estimator. To verify existence or not of an individual specific effect must be developed before estimating a homogeneity test. We then proceeded to test Hausman (1978) which select the appropriate estimator; it is the panel's techniques (fixed effects and random effects specifications).We can therefore apply the ordinary least squares or generalized to estimate different models and the results will analyzed in the following paragraph.

IV. Empirical Results

Tables 1 and 2 contain descriptive information on the variables. Table 1 gives a summary of the

The panel data regression based on the following model:

$$Y_{it} = a_{it} + \beta_{it}\ X_{it} + \varepsilon_{it} \tag{1}$$

Where we defined Yi, the dependent variable (investment in LBO), Xi was a matrix of macroeconomic and institutional variables composed of GDP growth (GROWTH), interest rates (INTERST), unemployment (UNEMPL), stock market capitalization (MCAP), opportunities technological (RD), variables directly related to the process of equity and corruption (CORRP) and regulation (REGLEM) variable. α_{it} was the unobserved country specific fixed effect, and εit was the error term for each observation. We estimated regressions by using Ordinary Least Squares (OLS).

At equilibrium, we have: *Offer LBO$_{it}$ = Demand LBO$_{it}$ = Investments LBO$_{it}$* (2)

descriptive statistics of the variables. Table2 presents the correlation matrix of the variables, showing the existence of strong correlations. By observing the correlation matrix, we notice that the endogenous variable LBO investment is highly correlated with the explanatory variables divestments. We note the existence of strong correlations (more than 50% coefficient) between LBO investment and divestment IPO and divestment write-off.

Table 1: Summary Statistics

Variables	Description	OBS	MEAN	STD.DV	MIN	MAX
Invest LB	amounts of investment in the LBO operation (relative to the total purchase price)	184	.00086	.002066	0	.01552
Growth	the annual GDP growth rate in local currency	190	.02982	.019075	-.01119	.11681
MCAP	The value of listed domestic company shares on each country's major stock exchanges as a percent of GDP	174	.041863	.03194	-.05977	.14374
Interest	the annual real interest rate	151	.077006	.03851	.025	.206
UNEMPL	total unemployment in percentage of total labor force	152	.077443	.06095	.0772	3.220

DIV Trade	Divestment by trade sale, variables directly related to LBO investment, exit modes	184	.000054	.00012	0	.00111
DIVIPO	Divestment by flotation, variables directly related to LBO investment, exit modes	181	.00028	.00035	0	.0022189
DIVW Off	Divestment by Write-Off, variables directly related to LBO investment exit modes	184	.00010	.00016	0	.0013243
RD	the Research and Development expenditures	179	.01509	.0099	0	.0425
REGLEM	variables measuring respect for property rights, Rescaled from 0 to 1	133	.87709	.11149	.59	1
CORRP	The perception of corruption in the business environment, including levels of governmental legal, judicial, and administrative corruption, Rescaled from 0 to 1	190	.07412	.18212	.3	1

Table 2: Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
INVLBO (1)	1										
Growth (2)	-0.1395	1									
interest (3)	-0.2460	-0.0199	1								
UNEMPL (4)	-0.2592	-0.2340	-0.2358	1							
CORRUP (5)	0.2931	-0.2532	-0.0714	0.3894	1						
REGLEM (6)	0.2498	0.5121	-0.2695	-0.0527	-0.2878	1					
MCAP (7)	0.4041	0.3676	-0.1571	-0.1559	-0.1787	0.2836	1				
DIVIPO (8)	0.6645	0.4008	-0.0905	-0.1181	-0.1212	0.1307	0.4718	1			
DIVwoff (9)	0.7030	0.1009	-0.3092	-0.0887	-0.3210	0.1568	0.2792	0.2312	1		
DIVtrade (10)	0.3335	0.4330	-0.0942	-0.2219	-0.6012	0.5643	0.1929	0.1618	0.3154	1	
RD (11)	0.2500	0.5152	-0.1247	-0.2621	-0.4182	0.6535	0.3567	0.1630	0.2320	0.7220	1

a) Macroeconomic determinants of LBO fundraising

We will estimate the variable LBO investments in two steps, so we propose 12 models. First, the six models used to determine the effect of macroeconomic variables, divestment variables and the "RD" variable on LBO investment (*Table 3*). Concerning the measure of institutional quality, we introduce the two variables regulation and corruption in models (6) (12) (*Table 4*).

Table 3: Macroeconomic determinant of LBO fundraising

Variables	Model1 FE	Model1 RE	Model 2 FE	Model 2 RE	Model3 FE	Model3 RE	Model 4 FE	Model 4 RE	Model 5 FE	Model 5 RE	Model 6 FE	Model 6 RE
						Y = investLBO						
Cst	.00164 (4.06)***	.00147 (3.23)***	.00135 (3.16)***	.00107 (2.6)***	.00072 (0.67)	.00083 (1.83)**	.00083 (0.67)	.000655 (1.27)	.00083 (0.67)	.00067 (1.08)	.00061 (0.56)	.00051 (1.1)
GROWTH	.00394 (0.68)	.00261 (0.47)	-.00037 (-0.07)	-.00252 (-0.48)	-.00318 (-0.62)	-.00503 (-1.06)	.000306 (0.05)	-.00212 (-0.4)	.00134 (0.23)	.0021 (0.04)	-.00254 (-0.48)	-.00337 (-0.71)
INTEREST	-.00344 (-1.06)	-.00389 (-1.23)	-.00227 (-0.74)	-.003 (-1)	-.00499 (-1.45)*	-.00613 (-1.85)**	-.00711 (-1.82)**	-.00805 (-2.18)**	-.0066 (-1.69)**	-.0071 (-1.92)**	-.00534 (-1.55)*	-.00627 (-1.95)**
UNEMPL	-.01125 (2.15)***	-.00955 (-2.17)**	-.00843 (-1.7)**	-.0063 (-1.64)**	-.00423 (-0.9)	-.00382 (-1.12)	-.00665 (-1.29)*	-.00466 (-1.28)*	-.00645 (-1.21)	-.00491 (-1.17)	-.00379 (-0.81)	-.00299 (-0.9)
MCAB			-.00002 (-0.11)	.0001 (0.51)	-.00011 (-0.5)	.00039 (0.21)	.0001 (0.43)	.00024 (1.2)	.00014 (0.58)	.00028 (1.33)	-.00007 (-0.35)	.00002 (0.16)
DIVIPO			4.5316 (4.44)***	5.3051 (5.22)***	5.0795 (5.52)***	5.9467 (6.41)***					5.09681 (5.56)***	5.758 (6.42)***
DIVTRADE							.48016 (1.28)*	1.0123 (2.82)***				
DIVWOFF									.2731 (0.6)	.4559 (1.02)	.31435 (0.78)	.48769 (1.23)
RD					.0347 (0.67)	.01848 (1.09)	.03134 (0.46)	.02003 (1.03)	.03077 (0.44)	.02386 (0.98)	.25551 (0.42)	.01402 (0.85)
R²	.0615	.0563	.218	.4807	.3064	.6136	.0914	.4605	.0794	.2247	.3277	.7344
Hausman Test		0.7631					0.0148	0.0148	0.4625		0.2154	0.2154

T-statistics for the coefficient are in parenthesis.
* Significant at 1%, ** significant at 5% and*** significant at 10%.

Table 4: Institutional determinant of LBO fundraising

Variables	Model 7 FE	Model 7 RE	Model 8 FE	Model 8 RE	Model 9 FE	Model 9 RE	Model 10 FE	Model 10 RE	Model 11 FE	Model 11 RE	Model 12 FE	Model 12 RE
Cst	.00224 (0.77)	.00303 (0.56)	.00282 (-1.02)	.00301 (0.55)	-.00313 (-0.61)	.0017 (0.72)	-.00266 (-0.55)	.00132 (0.55)	-.00337 (-0.64)	.0066 (0.24)	-.0028 (-0.6)	.0012 (0.53)
GROWTH	.00172 (0.21)	.00495 (0.57)	-.00557 (-0.65)	.00081 (0.08)	.00245 (0.26)	-.00769 (-1)	-.00313 (-0.36)	-.0058 (-0.84)	.00073 (0.08)	-.00086 (-0.11)	-.0048 (-0.56)	-.0053 (-0.75)
INTEREST	-.00333 (-0.82)	-.00236 (-0.55)	-.0026 (-0.63)	-.00186 (-0.43)	-.00951 (-1.59)*	-.00768 (-1.4)*	-.01150 (-2.07)**	-.0097 (-1.99)**	-.0096 (-1.58)*	-.0075 (-1.39)*	-.0097 (-1.76)**	-.0080 (-1.66)**
UNEMPL	-.01166 (-1.67)**	-.01670 (-1.71)**	-.00918 (-1.4)*	-.01453 (-1.46)*	-.01423 (-1.57)*	-.00569 (-1)	-.1562 (-1.86)**	-.00586 (-1.07)	-.01511 (-1.64)*	-.0056 (-0.9)	-.0134 (-1.61)*	-.0037 (-0.71)
CORRP	.00058 (0.48)	-.00111 (-0.18)	.00106 (0.84)	.00014 (0.11)	.00066 (0.57)	.00091 (0.81)	.00035 (0.33)	-.0007 (-0.08)	.00065 (0.55)	.0037 (0.35)	.00065 (0.61)	.00013 (0.14)
REGL	.00115 (0.34)	-.00001 (-0.18)	-.00263 (-0.79)	-.00142 (-0.24)	.00747 (1.3)*	-.00149 (-0.49)	.00718 (1.34)*	-.00049 (-0.17)	.0079 (1.36)*	-.00003 (-0.01)	.0070 (1.35)*	-.0010 (-0.36)
MCAB			.00031 (0.88)	.00008 (0.2)	-.00015 (-0.41)	.00012 (0.39)	-.00001 (-0.04)	.00023 (0.84)	.00001 (0.04)	.00029 (0.89)	.00014 (0.39)	.00027 (0.92)
DIVIPO			3.699 (2.46)*	2.0018 (1.27)	2.1269 (1.62)*	4.4320 (3.27)***					1.5248 (1.26)	2.5475 (2.12)*
DIVTRADE							1.2493 (3.05)***	1.6718 (4.27)***			.12219 (3)***	1.5605 (3.94)***
DIVWOFF									.6231 (1.02)	.8075 (1.37)*	.7115 (1.29)*	7614 (1.42)*
RD					-.10747 (-0.91)	0.1404 (0.59)	-.1180 (-1.07)	0.1239 (0.49)	-.1290 (-1.05)	0093 (0.31)	-.1485 (-1.34)*	01013 (0.44)
R2	0.0671	0.0668	0.097	0.4066	0.1996	0.5641	0.3057	0.5313	0.1692	0.2063	0.3632	0.6909
Hausman Test	0.4937	0.4937	0.0021	0.0021			0.1552	0.1552			0.0368	0.0368

Y = investLBO

T-statistics for the coefficient are in parenthesis.

* Significant at 1%, ** significant at 5% and*** significant at 10%.

We can see that both GDP growth and market capitalization variables display insignificant coefficients, whatever we retain the fixed or random effects model. This is adequate for Jeng and Wells (2000) and Groh et al. (2008), but contradictory with the most previous studies (Gompers and Lerner, 1998; Felix et al., 2007; Cherif Gazdar and 2009). We can therefore conclude that the increases in market capitalization does not correspond to the increase in LBO investments, that is to say we cannot mention market capitalization as one of the most important financial market factors influencing the private equity market.

In the majority of cases, the variable interest rate was negative and statistically significant at the 10% and 20%. The study of Jagwani (2000) found the same result. This is adequate to macroeconomic theory suggests a negative relationship between the interest rate and the investment of private equity. If interest rates rise, the relative attractiveness of investment in private equity funds will probably deteriorate. However, this result does not support the conclusions of other previous studies, indicate the positive effect of this variable on this type of investment (Gompers and Lerner (1998) and Romain and La Potterie (2004).

According with our expectations, the UNEMPL rate has a negative and significant impact on investment in LBO in all estimated models. This result corroborates those recently obtained by Cherif and Gazdar (2009) and other studies (Jeng and Wells (2000), Marti and Balboa (2001), Romain and La Potterie (2004)).

Finally, our results confirm the conclusions proposed by Lerner et al. (2008) that affirm the positive relationship between the expenditures in research and development and LBOs. However, this variable cannot further explain our exogenous variable. It shows insignificant coefficients and the only time this variable indicates a statistically significant coefficient it is negative (-0.1458) (when introducing institutional variables).

b) *The institutional determinants of LBO fundraising*

In addition to macroeconomic factors, the institutional environment affects LBO investments. This involves emphasizing the influence of some institutional qualities.

To explain this form of investment, we have thus conducted regressions on all six models estimated previously by adding two variables regulation and CORRP in our regression. The estimation results summarized in the model (7) to (12) in Table4. We can deduce that the variable CORRP has no effect on investment in LBO that is contradictory to the results found by Cherif and Gazdar (2009).

Following the recommendations of Cherif and Gazdar (2009) who propose that the institutional environment plays an important role in determining European Private Equity investments, we can say that the regulation may have a positive effect on LBO investments.

c) *The divestments*

The divestment phase constitutes the end of buyout. Academic literature mentions mostly three rote of exit: IPO, trade sale and liquidation of the asset Kaplan and Stromberg (2009). This result is consistent with the recommendations of Giot and Schwienbacher (2007). IPO is widely considered as the most profitable exit route from private equity investments. The models indicate that the variable divestment by IPO has a significant positive impact (at 1% level) on the supply of this type of investment (Gompers and Lerner, 1998; Romain et al. 2004; Felix et al. 2007)

Therefore, IPO or Divestments by trade sale remain one of the strongest determinants of equity financing. However, this result does not support other previous who have argue that all three variables are not statistically significant determinant of LBO fundraising (Marti and Balboa, 2001; Felix et al., 2007; and Cherif Gazdar, 2009).

V. Conclusion

Private equity funds play a major role in the economy. It represents a fundamental support of the unlisted company throughout its existence. It directly contributes to the creation of enterprises, promotion of innovation and new technologies, growth, employment and renewal of the economic base. The presence of strategic role of private equity in the development of the global economy gives it a major character and gives it a special interest in supporting its expansion and essentially its growth. Then it is important to identify and understand the determinants of PE investment offer in an economy.

In this research, we proposed to study the characteristics of private equity and specifically LBO transactions. In other words the determinants of the supply of this type of investment. Our empirical application, including a panel of 19 European countries for the period 2001 to 2010.

About the financial markets, we found statistically significant results, which show that IPOs mentioned as one of the most important factors that positively influence the LBO investment. Among the country-specific factors, country GDP growth does not show any significant impact. However, other determining variables of this investment such as the interest rate and the unemployment rate negatively affect the growth of LBO investments.

Finally, we have shown the relevance of the institutional quality as a determinant of the European funds raised. In contrast to financial theory, coefficients of institutional variables (corruption) through our model regressions are not significant.

33

References Références Referencias

1. Beck, T., Demirguc-Kunt, A., & Levine, R. (2003). *Law and finance: why does legal origin matter? Journal of Comparative Economics, Elsevier, 31(4), 653-675. December.*

2. Black and Gilson (1998). *Venture Capital and the Structure of Capital Markets: Banks versus Stock Markets. Journal of Financial Economics, Vol. 47, pp. 243-77.*

3. Cherif and Dubreuille (2005). *Création de valeur et capital-investissement. Synthex économie gestion, Pearson Education, P375, pp.125-135.*

4. Cherif M. and Gasdar K. (2009). *What drives Venture Capital in Europe across-country panel data analysis? International Journal of Public Management Performance.*

5. Cherif, M. and Gazdar, K. (2009*). Public institutions and venture capital in Europe: a cross-country panel data analyses. International Journal of Public Sector Performance Management*

6. Cumming, D., Schmidt, D. and Walz, U. (2008*).Legality and venture capital governance around the world. Journal of Business Venturing.*

7. Felix, E., Gulamhussen, M.A. and Pires, C.P. (2007). *The Determinants of Venture Capital in Europe – Evidence across Countries. CEFAGE-UE Working Paper No. 2007/01.*

8. Giot, Pierre & Schwienbacher, Armin, 2007*. IPOs, trade sales and liquidations: Modelling venture capital exits using survival analysis. Journal of Banking & Finance. Elsevier, vol. 31(3), pages 679-702, March.*

9. Gompers, P.A. and Lerner, M. (1999).*What Drives Venture Capital Fundraising? NBER Working Paper No. 6906.*

10. Gompers, P., Lerner, J. (2000). *The venture capital cycle.MIT Press, Cambridge, MA.*

11. Gompers, P.A. and Lerner, M. (2001). *The Venture Capital Revolution. Journal of Economic Perspectives 15 (2), 145-168.*

12. Hausman, Jerry. 1978. *Specification Tests in Econometrics. Econometrica 46: 1251–1272.*

13. Jagwani S. (2000). *Supply and demand of venture capital in the US. The park place economist III, vol. 8, pp. 90-98.*

14. Jeng, L.A. and Wells, P.C. (2000). *The determinants of venture capital fundraising: Evidence across countries. Journal of Corporate Finance, 6 (3), 241-289.*

15. Kaplan S. (1989a). *Management Buyouts: Evidence on Taxes as a Source of Value. Journal of Finance, July 24(2) pp. 217-254.*

16. Kaplan, S. N., and A. Schoar. (2005).*Private equity returns: persistence and capital flows. Journal of Finance 60, 1791-1823.*

17. Kaplan, Steven N., and Per Stromberg. (2009). *Leveraged Buyouts and Private Equity. Journal of Economic Perspectives, 23(1): 121-46*

18. La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R.W. (1998*). Law and Finance. Journal of Political Economy, 106 (6), 1113-1155.*

19. Levine. Ross. (1997). *Financial Development and Fronomic Growth: Views and Agenda. Journal of Economic Literature, Vol. 35, NO. 2. pp. 688—726.*

20. Marti, J. and Belboa, M. (2001). *Determinants of Private Equity Fundraising in Western Europe. Working Paper University complutense of Madrid.*

21. Romain A. and De La Potterie B. (2004). *The determinants of venture capital: Additional Evidence. Discussion paper series 1. Studies of the economic research centre N° 19/2004, Deutshe Bundesbank.*

22. Schertler A. (2003). *Driving Forces of Venture Capital Investments in Europe: A Dynamic Panel Data Analysis. Working Paper 1172. Kiel Institute for World Economics.*

23. Schwienbacher A. (2004). *An Empirical Analysis of Venture Capital Exits in Europe and in the United States.Mimo, University of Amsterdam*

24. Yousfi Ouided, (2007). *Le rôle de la dette dans le LBO: fondements théoriques et validations empiriques.Euro-Midetterrane an Economics and Finance Review, Vol 2, N_2, pp 234-251.*