

ECONOMETRIC ANALYSIS OF THE EFFECTS OF EQUITY CAPITALIZATION STRATEGIES ON BRAZILIAN COMPANIES PERFORMANCE

Otávio Prospero Sanchez*, Elmo Tambosi Filho**, Luis Carlos Domingos***

Abstract

This article explores the effect in performance of two types of firm financing strategies in Brazilian market, IPO and debentures. We use a fixed effects panel data analysis of 264 firms during the period from 2002 to 2008 to analyze how firms that performed IPO and issued debentures differentiate from others, in terms of Tobin Q. We found that firm that performed IPO have shown a negative effect on Tobin Q while firms that performed debentures, a popular financing strategy in Brazil, showed superior performance. These findings, while consistent with previous literature, make important contributions to the understanding of local market conditions given that Brazilian IPO have being very attention grabbing for international investors.

Keywords: cost of capital; debentures; developing countries

*Corresponding author: Otávio Prospero Sanchez

Address: Rua Itapeva, 474 9º andar CEP 01332-000 São Paulo SP

Phone: 55-11-37997755

Email: otavio.sanchez@fgv.br

**Full Professor

Universidade Metodista de São Paulo

***Part time professor

Universidade Metodista de São Paulo

Introduction

Companies in developing countries face a challenge in terms of getting resources for expanding or even sustaining their activities (Neumann, 2003). Especially in Brazil, since the market “risk free” rates are remarkable high, corporate financing decisions are not an easy task.

In Brazil, as in many developing countries, rates are very high comparing to developed countries. Shortcomings in the legal and regulatory framework are known as partially explaining the high costs of capital (Alencar, 2005).

Admitting a much more connected capital world nowadays, however, it is of interest to understand how Brazilian companies succeed in terms of financing their operations. In a real world where competitiveness is intense, alternative financing operations are expected to rise to support the firm’s demands of capital (Camacho and Lemme, 2004).

This paper aims to explore the classical dilemma of alternatives of financing decisions under the context of Brazilian market, and the possible association of such strategies with superior performance of firms.

The study draws on the arguments firstly on the types of financing options managers have in Brazil, given the particular conditions present in a developing

country. Following, the structure of alternatives equity capitalization in Brazil are presented. Next, we elaborate on the arguments and hypothesize about the relationships between those alternatives of capitalization and the overall performance of firms. Then we provide a description of the data source, variables, methods and findings. Finally, we conclude with a discussion and implications for managers in regard of possible alternatives to financing operations and also for policy makers.

Theoretical Background

Getting access of a low cost of capital is of critical importance to managers who evaluate investment projects for capital budgeting purposes as well as to investors who wish to assess the overall riskiness and expected return from a firm’s activities. Although the cost of capital has been a popular issue in corporate finance, yet little is known about the cost of capital on a broader menu of emerging markets (Barry et al, 1998).

In Brazil, debentures are long-term bonds, with repayment term exceeding one year from the date of issue. Its main purpose is to finance investment projects and mainly to lengthen the maturity of liabilities, reducing what the market refers to refinancing risk.

In short, debentures are fixed income instruments issued by companies to raise funds for periods longer than the typical bank loans. These are securities issued by publicly traded companies, with a guarantee of its assets and whether or not secured a subsidiary of financial institution that puts on the market to raise resources for the financing of an investment project or a restructuring of its liabilities. The title assures the buyer (investor) a certain return, not giving him the right to participate in assets or profits.

Among its advantages there is the flexibility in setting deadlines, guarantees and payment terms, which allows adjustment to the disbursement of cash generation ability of the company. The remuneration is linked to an interest rate, a restatement and a premium, which may be renegotiated during the redemption period in accordance with the conditions proposed by the company for the next period and accept the debenture holder. These features make the debenture the most used instrument in the Brazilian capital market to raise funds for medium and long term.

Based on previous studies, it is known that firms performing IPOs or seasoned equity offerings generate low returns over periods of two-to-five years following the issue date. To some researchers, this long-run return evidence challenges the efficient markets hypotheses and motivates the development of behavioral asset pricing models (Ritter, 1991; Loughran and Ritter, 1995).

However, Brav, Geczy, and Gompers (2000) and Eckbo, Masulis, and Norli (2000) presented a strong evidence that the low post-issue return pattern is consistent with standard multi-factor pricing models, and tend to be concentrated in small growth stocks.

In Brazilian stock market, however, none study has been performed to analyze how stocks behave after IPOs and, by extension, how firm's value change after few years of IPO. It is expected that, in a developing country with capital demands and market structural inefficiencies, IPO underperform as an instrument for capital rising for firms, in a way that may reflect higher total cost of capital for firms. In fact, Mikkelsen & al (1997) reported a sudden decrease of the operating performance the year after the IPO, at a level that is below that was achieved by the firm's control.

Sample Selection, Variable Definitions, and Descriptive Statistics

Our initial sample consists of all the firms that are present on BOVESPA, the most important Brazilian institution to intermediate equity market transactions and the only securities, commodities and futures exchange in Brazil, operating in Sao Paulo. The research was conducted with data from the balance

sheet, income statements and value of shares of companies traded on BOVESPA during the period covered the years 2002 to 2008. The data were collected based on Economatica Database, a similar system to Compustat. The selection criteria generate a sample of 692 firm-year observations, with 264 firms.

Dependent variable - The Tobin's Q Index correlates the market value of a company with the replacement value of its assets (Lewellen and Badrinath, 1997). One advantage of employing Tobin's Q is that it makes comparisons easier as compared with comparisons based on a share value or stock returns based on accounting measures because the index reference is the number one. When Q is greater than one, the company shows a higher valuation than its current assets, and it can be inferred that this may be the result of an expectation of future results for its current strategic shares. However, the values below the unit show that the market does not see the company as capable of replacing its own current assets. The system chosen to determine Tobin's Q in this study was proposed by Chung and Pruitt (1994), where Q is defined as "the relation between the market value of the company and the cost of replacing its Physical Assets". Based on this, the following expression can be found for Q:

$$TobinQ = \frac{MSV + BVCL - BVCA + BVS + BVLTD}{TA}$$

Where:

MSV - Market share value transacted on the Stock Exchange. This is calculated by multiplying the number of preferential and ordinary shares of the company by the price quoted on the final day of the transaction of the year in question.

BVCL - Book Value of Current Liabilities

BVCA - Book Value of Current Assets

BVS - Book Value of Stock

BVLTD - Book Value of Long-Term Debt

TA - Total Assets

Independent variables - As Table 1 shows, in the period of time analyzed, the main strategy of financing by firms in Brazil was Debentures. 119 companies of almost 330 listed in BOVESPA issued debentures during 2002-2008 period. Following this number, 41 IPO operations were observed. Comparing to the first strategy, IPO is a more recent way to capitalize firms in Brazil. Until very few years ago, Brazilian stock market was not very developed and was not considered a real option. Given the prevalence of these two strategies over other possibilities, we included Dummy IPO and Dummy Debentures as the predicting variables in the regression.

Table 1. Number of companies by financing strategies

Number of companies	2002	2003	2004	2005	2006	2007	2008	Total
None of 3 types	380	315	294	286	274	280	303	
Only IPO	1	1	1	3	9	22	4	41
Only Debentures	11	5	19	19	20	13	21	119
IPO and Debentures						1		1
IPO and PE-VC			3	3	5	6		17
All 3 types			2	1	3	4		10

Control Variables – In a study of this kind, it is necessary to control the possible exogenous causes of the phenomenon that can affect the dependent variable. Thus, we control for size of the company, Debt to equity ratio, Profitability, Indebtedness, Sales growth, Investment growth and Industry sector.

Size: according to Lo and Sheu (2007), many of the studies found in the literature make a negative correlation between the size of a company and the value of the market. In this study, the natural logarithm of total assets will be used as a proxy for the size of the company. In the process of extracting the logarithm, the variable “size” will maintain a pattern that can most suitably be correlated with the other variables because, in the sample, there are variables whose absolute asset values appear in a more varied band.

Profitability: The assumption is that the use of Return on Assets - ROA is a good way to assess the profitability of companies. Return on Assets is determined by the relationship between Net Income and Total Assets. The relationship is that if the company increases its profitability becomes more likely that this increase will affect their market value.

Sales Growth: Many studies use sales growth as an indicator of company performance and thus market value. Sales growth, measured as the variation in sales between one year and the next, is usually found to have a positive relation with the value of a company (Hirsch, 1991). It can be obtained from the following equation:

$$SalesGrowth = \frac{Sales_{it+1} - Sales_{it}}{Sales_{it}}$$

Investment growth: Allayannis and Weston (2001) suggest that the value of a company depends on the future investment opportunities that can be made since investors seek to obtain a better return on their investments. In our view, the expenditure on Research and Development made by companies might be a good indicator of future investment opportunities. However, the data made available by the Economatica system do not include investments in Research and Development. Fama and French (2002) suggest ways that the growth of investments can be evaluated. Among the choices provided by the authors, in making the data available through the Economatica system, we make use of the growth of Assets, which are evaluated every year by means of the expression given below:

$$(AT_t - AT_{t-1}) / AT_t$$

Industry sector: According to Goldszmit, Brito and Vasconcelos (2007), the industry effect in Brazilian cause companies to have a distinct financial performance, which can be defined as a relation between the market framework and profitability. In this research study, the companies were grouped into industrial sectors, which meant that the influence that each sector can exert on the results could be controlled. In this way, in accordance with the Bovespa (2009), the companies are classified into ten sectors of the economy. The companies were grouped as shown at table 2.

Table 2. Industry sectors codification

Industry Sector	code
Agriculture	1
Base Industry	2
Communications	3
Construction	4
Durable Goods	5
Energy	6
Financial Services	7
Food Industry	8
Industry	9
Information Technology	10
Mechanical Industry	11
Non-durable goods	12
Other	13
Services	14
Transportation	15

Results

Means, standard deviations, and the correlation of dependent and independents variables are listed in Table 3. The correlation statistics suggest no problem of multi-collinearity. Means and standard deviations of variables throughout the industry sectors are presented in Table 4.

Table 3. Descriptive Statistics and Correlations

Variable	Mean	SD	1	2	3	4	5	6	7
1 Tobin's Q	0.18	1.14	1						
2 Size (log Assets)	5.94	0.89	0.11*	1					
3 Debt to equity ratio	0.60	0.45	0.05	0.12*	1				
4 ROA	-2.15	2.26	0.09*	0.04	-0.06	1			
5 Indebtedness	-0.78	0.64	0.00	0.07*	-0.12*	-0.07*	1		
6 Sales growth	105.41	59.71	-0.08*	0.01	0.01	-0.09*	-0.02	1	
7 Investment growth	92.58	43.83	-0.01	-0.22*	0.00	0.03	-0.22*	-0.05	1

* $p < .05$

Note: Variable 1 $N = 2,075$; Variable 2 and 3 $N = 2,316$; Variable 4 $N = 1,754$; Variable 5 $N = 2,133$; Variable 6 $N = 1,289$; Variable 7 $N = 1,839$

Table 4. Mean and SD by Economic Sector[#]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	ANOVA ⁺
1 Tobin Q	0.09 (1.04)	0.03 (0.87)	0.47 (1.01)	-0.25 (0.86)	-0.11 (0.97)	0.55 (1.34)	-0.07 (1.08)	-0.07 (0.96)	-0.13 (0.97)	1.01 (1.69)	0.39 (1.09)	0.29 (0.95)	0.20 (0.78)	-0.13 (1.11)	0.16 (0.95)	F= 10.81 **
2 Size (log Assets)	5.18 (0.36)	6.20 (0.79)	5.63 (0.81)	5.70 (0.64)	5.58 (0.73)	6.67 (0.55)	6.01 (1.28)	6.09 (0.98)	5.40 (0.66)	6.59 (0.78)	5.60 (0.55)	5.31 (0.66)	5.76 (0.78)	5.60 (0.75)	5.77 (0.94)	F= 51.52 **
3 Debt to Equity	0.37 (0.19)	0.60 (0.26)	0.30 (0.31)	0.44 (0.26)	0.45 (0.34)	0.72 (0.36)	0.82 (0.66)	0.80 (0.55)	0.48 (0.35)	0.58 (0.33)	0.66 (0.33)	0.48 (0.62)	0.62 (0.33)	0.61 (0.39)	0.78 (0.64)	F= 12.27 **
4 ROA	-1.87 (1.47)	-1.85 (1.94)	-2.93 (3.24)	-1.68 (1.04)	-2.08 (2.04)	-2.24 (2.60)	-2.07 (1.96)	-1.97 (1.68)	-1.84 (1.93)	-2.02 (2.02)	-1.92 (2.09)	-2.60 (2.53)	-1.50 (1.65)	-1.75 (1.49)	-2.32 (2.49)	F= 1.43 ***
5 Indebtdness	-0.45 (0.91)	-0.75 (0.48)	-0.89 (0.36)	-0.91 (0.60)	-1.17 (1.01)	-0.67 (0.38)	-0.87 (0.75)	-0.56 (0.36)	-0.84 (0.40)	-0.86 (0.60)	-0.59 (0.48)	-0.60 (0.44)	-0.73 (0.32)	-1.16 (0.68)	-0.59 (0.81)	F= 12.92 **
6 Sales growth	88.94 (42.45)	94.49 (53.49)	95.93 (54.43)	123.00 (100.54)	112.71 (54.92)	112.40 (44.26)	113.04 (73.91)	108.65 (62.72)	95.02 (47.43)	111.91 (60.15)	98.16 (57.65)	113.52 (46.34)	133.40 (46.06)	106.80 (75.44)	94.62 (58.36)	F=1.99 **
7 Investment growth	85.75 (48.74)	93.28 (39.38)	81.32 (41.15)	112.67 (49.50)	103.71 (41.84)	76.39 (33.76)	93.51 (50.39)	94.13 (44.19)	97.55 (32.42)	68.53 (24.33)	93.54 (38.22)	113.03 (54.38)	119.08 (30.61)	105.07 (4.03)	83.52 (41.66)	F= 11.35 **

** $p < .01$ *** $p < .10$

[#] For Economic Sector classification, see "Variable Definitions" section

⁺ Results from one-way analysis of variance (ANOVA)

Note: Variable 1 $N = 2,075$; Variable 2 and 3 $N = 2,316$; Variable 4 $N = 1,754$; Variable 5 $N = 2,133$; Variable 6 $N = 1,289$; Variable 7 $N = 1,839$

Univariate tests

According to Table 5, we can see that the mean and median value of Tobin's Q is higher for listed firms that have used the funding strategy of debentures, while those who did IPO are lower than average general business. The group of companies that had

mixed strategies to leverage it stands the lowest level of performance, as measured by Tobin's Q. We have performed an ANOVA test to evaluate differences between means and medians and the results showed clearly at significance level of $p < 0.01$ that groups have different means and medians.

Table 5. Univariate results

	Variable	Mean	SD	Median	Skewness	Kurtosis
None	Tobin Q	0.18	1.13	-0.18	1.45	5.57
	Assets	5.90	0.90	5.94	-0.20	3.41
	Debt to equity	0.61	0.46	0.58	0.89	9.00
	ROA	-2.19	2.30	-1.33	-2.21	6.44
	Indebtedness	-0.78	0.66	-0.64	-1.80	11.68
	Sales Grown	105.40	57.76	96.00	0.96	3.74
	Investments	94.39	44.32	87.00	1.03	4.31
Only IPO	Tobin Q	-0.69	0.69	-0.67	1.01	6.54
	Assets	6.11	0.52	6.12	-0.30	3.58
	Debt to equity	0.47	0.53	0.32	3.62	18.29
	ROA	-1.70	1.49	-1.33	-4.59	23.87
	Indebtedness	-1.05	0.66	-0.84	-1.31	4.59
	Sales Grown	125.14	100.25	89.00	0.45	1.53
	Investments	77.59	43.46	71.00	1.34	4.51
Only debentures	Tobin Q	0.41	1.36	-0.20	2.00	8.40
	Assets	6.77	0.58	6.70	-0.17	3.07
	Debt to equity	0.69	0.32	0.69	1.19	9.45
	ROA	-1.84	1.93	-1.34	-3.50	13.94
	Indebtedness	-0.68	0.27	-0.63	-0.97	3.91
	Sales Grown	96.09	56.65	92.00	0.81	3.44
	Investments	70.03	23.97	68.50	0.50	5.38
All 3 types	Tobin Q	-0.88	0.53	-0.80	-0.86	3.00
	Assets	6.27	0.41	6.17	1.14	3.85
	Debt to equity	0.38	0.19	0.38	0.69	3.04
	ROA	-1.45	0.40	-1.51	-0.61	3.04
	Indebtedness	-0.83	0.37	-0.69	-0.96	2.46
	Sales Grown	132.44	98.73	80.00	0.66	1.62
	Investments	59.70	40.80	56.50	0.65	2.83

Multivariate tests

Multi-varied Tests: To determine whether the sustainability is correlated with the financial performance of the companies, we used the econometric model to express the following:

$$Tobinq_{it} = \alpha_i + \beta'_1 Size_{it} + \beta'_2 DebtEquity_{it} + \beta'_3 ROA_{it} + \beta'_4 Indebt_{it} + \beta'_5 SalesG_{it} + \beta'_6 InvestG_{it} + \beta'_7 IPO_{it} + \beta'_8 Debt_{it} + \epsilon_{it}$$

Where:

i – Time; t – Company

$Tobinq_{it}$ - Value of the company

α_i - Constant scale unit representing the effects that are omitted by the variables that are specified for the 'it'

β' and β'_i - Regression coefficients

$Size_{it}$ - Log of assets

$DebtEquity_{it}$ - Control Variable of Debt-to-Equity ratio; ROA_{it} - Control Variable of Profitability

$Indebt_{it}$ - Control Variable of Indebtedness; $SalesG_{it}$ - Control Variable of Sales Growth

$InvestG_{it}$ - Control Variable of Investment Growth; IPO_{it} - Dummy Independent Variable representing 0- No IPO; 1- IPO

$Debt_{it}$ - Dummy Independent Variable representing 0- No Debenture; 1- Debenture

\mathcal{E}_{it} - Error term accepted as being independent

Generally, short panels (in this case, only three years owing to the history of the BSI) offer a better adjustment in the regime of fixed effects rather than random effects because we accept that there are features in the organizations that are maintained from year to year during this period. However, to check the validity of this premise, we performed the Hausman test. Arellano (2003) states that the Hausman test basically checks whether there is a significant

difference between regressions with random effects and fixed effects. If the null hypothesis is rejected, the coefficients of the fixed effects model and random effects model are orthogonal, and it is better to choose the fixed effects model. The fixed effects model should be used, in accordance with the results shown in Table 6, as the Hausmann cross-section random effects test is significant at $p < 0.001$ level.

Table 6. Hausmann test for Fixed x Random comparison

	Fixed Effects	Random Effects	Difference	<i>p</i>
Size	-1.861	0.104	-1.96	0.333
Debt to Equity	0.845	0.305	.539	0.261
ROA	-0.160	0.056	-0.216	0.079
Indebtdness	0.073	0.037	0.036	0.130
Sales growth	-0.002	-0.002	0.000	0.000
Investment growth	0.000	0.001	-0.000	0.001
dummy IPO	-0.038	-0.411	0.372	0.127
dummyDeb	0.046	0.080	-0.034	0.057
			Cross-section random effects test	0.000

Table 7. Regression Coefficients

VARIÁVEIS	Coef. (Std. Err.)
Size	-1.86 (***) (0.3315)
Debt to Equity	0.85 (***) (0.3001)
ROA	-0.16 (**) (0.0722)
Indebtdness	0.07 (0.1623)
Sales growth	0.00 (0.0008)
Investment growth	0.00 (0.0002)
dummy IPO	-0.04 (0.2391)
dummyDeb	0.05 (**) (0.0215)
Intercept	11.35 (****) (2.1102)
R ²	0.1087
Number of groups	264

**** $p < .001$ *** $p < .01$ ** $p < .05$ * $p < .10$

OBS: Fixed effects algorithm performed as Hausmann test indicates

Discussion

Table 7 indicates that several variables are statistically significant, consistent with expectations, as the firm size and intercept, which proved to be

significant at $p < 0.001$. The results show that the ratio Debt-to-Equity has a high coefficient of positive and significant at $p < 0.01$, indicating an association between the degree of indebtedness of the firm and its performance measured by Tobin's Q. Consistent with

previous studies, the initiative for funding through IPO negative result, indicating an inverse association between the firm making the IPO and get result in the same period.

Analysis with lags of 1, 2, 3 and 4 years in the independent variable were performed, not presented here, are available under request. None of the models resulted significant for the IPO strategy, which seems to indicate that the Brazilian market lacks the conditions to maximize results that can mature in such period, for most firms.

This study makes several important contributions to research on the financing strategies of firms in the Brazilian market. Initially, we find that the use of debentures still remains the main source of funding for Brazilian companies. Consistent with this observation, we find a strong association between firms with high values of Tobin's Q and debt. The magnitude of this coefficient in relation to coefficients of other variables indicates that this factor has high explanatory power in relation to the variability of firm performance.

Second, and possibly more important, this study found that IPO strategy over the period 2002 to 2008 did not present a viable and strengthen alternative for financing operations of most companies. After few years of performing IPO, firms are not to show perceive superior performance when measured by Tobin Q, which incorporates stock variance and market reactions.

However, as the interest for IPO in Brazil rises, many executive have been involved in understanding its implications for firms. Since very few companies have tried this path until now, it is remarkable that firms are still clearly engaged in performing IPO as low business value is expected as result.

Limitations and future research

First, it focused on a special event, the performance of IPOs and Debentures, on a specific market, Brazil, and in a range of relatively short time.

Also, some caveats have to be done when interpreting the empirical results of this research. First, the causality between IPO and Debentures performance and business value as measured by Tobin Q may not be inferred by panel data analysis, specially given that significance were not found in lagged additional analysis. Similarly, additional conclusions could be driven based on concurrent nested models that would help to clarify the relationship of estimates.

References

1. ALLAYANNIS, G.; PRESTON, J.P. 2001. The Use of Foreign Currency Derivatives and Firm Market Value. *The Review of Financial Studies*. V. 14, p.243-276,
2. ARELLANO, M. 2003. *Analysis of Panel Data*, Oxford University Press: United Kingdom
3. ALENCAR, RC. 2005. Cost of Equity Capital and Disclosure Level in Brazilian Companies. *Brazilian Business Review*. Vol. 2, No. 1, p. 01-12
4. BARRY, C.B., PEAVY III J.W. and RODRIGUEZ, M, 1998, Performance Characteristics of Emerging Capital Markets, *Financial Analysts Journal*, January/February, 72-80.
5. BOVESPA, 2009, Available at: <<http://bovespa.com.br>>. Accessed in Mar/2008. The São Paulo Stock Exchange
6. BRAV, Alon, GECZY, Christopher, and GOMPERS, Paul A., 2000, Is the abnormal return following equity issuances anomalous?, *Journal of Financial Economics* 56, 209–249
7. CAMACHO, PT; LEMME, CF. 2004. The Cost of Equity Capital and the Risk Premium for Evaluating Projects of Brazilian Companies Abroad: A Study of the Period from 1997 to 2002. *Latin American Business Review*. 5:3, p1, 23p
8. CHUN, K.H; PRUIT, W.P. 1994 A Simple Approximation of Tobin's q *Financial Management*, v.23, n. 3, p. 70-74
9. ECKBO, B. Espen., MASULIS, Ronald W and ØYVIND, Norli, 2000, Seasoned public offerings: Resolution of the 'new issues puzzle', *Journal of Financial Economics* 56, 251–291
10. FAMA, E.; FRENCH, K. R. 2002. *Testing trade-off and pecking order predictions about dividends and debt*. *Review of Financial Studies*. P.15, 1-33 .
11. GOLDSZMIDT; R.G.B.; BRITO, L.A.L.; VASCONCELOS, F.C. 2007. The country's effects on the performance of a firm: a multi-level approach v.47, n.4.
12. HIRSCH, B. T. (1991) Union Coverage and Profitability among US Firms, *The Review of Economics and Statistics*, 73, 69–78.
13. LEWELLEN, W.G.; BADRINATH, S.G. , 1997, On the measure of Tobin's Q. *Journal of Financial Economics*. N.44, p.77-122
14. LO, S.; SHEU, HER-J. 2007 Is Corporate Sustainability a Value Increasing Strategy for Business? *Corporate Governance: An International Review*. V.15, p. 345-358
15. LOUGHRAN, Tim, and RITTER, Jay R. 1995, The new issues puzzle, *Journal of Finance* 50, 23–51.
16. MIKKELSON, W., PARTCH, M., & SHAH, K., 1997, Ownership and operating performance of companies that go public. *Journal of Financial Economics* 44, 281-307.
17. NEUMANN, RM. 2003. International capital flows under asymmetric information and costly monitoring: implications of debt and equity financing. *Canadian Journal of Economics*; Vol. 36 Issue 3, p674-700, 27p
18. RITTER, Jay R., 1991, The long-run performance of initial public offerings, *Journal of Finance* 47, 3–27.