Equity Market Timing and Capital Structure: Evidence from Tunisia and France

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Abstract

This paper investigates the relevance of market timing considerations on the debt-equity choice using a panel of tunisian and french listed firms. Consistent with the market timing theory, we find that firms tend to issue equity when their market valuations are relatively higher than their book values and after market performance improvement. As a consequence, these firms become underlevraged in the short-term and this impact of equity market timing on capital structure persists beyond eight years.

Keywords: Capital structure, Equity market timing, Misvaluation, Panel data

JEL classification: G32, G15, C33

1. Introduction

A central question in corporate finance literature relates to the choice between debt and equity. The debate on capital structure choice has been fueled by the publication of the article of Modigliani and Miller (1958). These pioneers of finance beg the question of the pertinence of capital structure. They demonstrated that in efficient, perfect, and integrated capital market, firms draw no gains from opportunistically switching between debt and equity. Therefore, firms can not reduce the overall capital cost by adopting one financial structure instead of another. Subsequently, the static trade-off theory suggests that there is an optimal capital structure determined by the tax structure, costs of financial distress, and agency problems. A deviation from this target level of debt pushes firms to adopt an adjustment process toward this optimum. The second major theory of capital structure is the pecking order theory described by Myers and Majluf (1984). They discuss the impact of asymmetric information in case investors are less informed about the value of the firm than insiders. In the Myers and Majluf framework, investors interpret equity issues as bad news because the firm is expected overvalued. As a result, firm securities would be underpriced. To overcome this underpricing problem, firm should adopt a financing hierarchy starting by internal funds, then debt, and equity as a last resort.

Recently, the market timing theory has challenged both static trade-off and pecking order theories by assuming that observed capital structure is the outcome of past abilities to time equity issues. As defined by Baker and Wurgler (2002), equity market timing refers to the practice of issuing shares at high prices and repurchasing at low prices. The intention is to exploit the temporary fluctuations in the cost equity relative to other forms of capital. Under normal market conditions, firms follow the standard pecking order with internal financing preferred to external financing, and equity issued only as a last resort. When external equity is less expensive than debt, however, firms prefer external equity if they seek external financing.

Identifying market timers as those firms that have a history of raising capital at high market-to-book ratios, Baker and Wurgler (2002) find persistent timing effects on leverage that extend beyond ten years. They conclude that that capital structure is determined by past attempts to time the market. Survey evidence in Graham and Harvey (2001) reveals market timing to be a primary concern of corporate financial officers. However, the persistence of timing behavior on capital structure is not obvious. Baker and Wurgler (2002), Huang and Ritter (2005) emphasize the persistence of market timing effects. Alti (2006), and Leary and Roberts (2004) find that the impact of equity issuance on capital structure completely disappears within two to four years.

The main goal of this paper is to investigate the persistence of the equity market timing attempts on capital structures of Tunisian and French firms. This study makes two main contributions to the literature. Our first contribution is to connect net equity issues to a variable that reflects debt market conditions. Previous studies on the market timing behavior ignored the cost of debt. They included only the cost of equity as an explanatory variable. However, considering only equity cost may lead to wrong interpretations. We could interpret a positive relationship between favorable conditions of the equity market as genuine market timing, while actually managers are just trying to avoid unfavorable conditions in the debt market. A no significant relationship between for example market valuations or prices increase and equity proceeds could be interpreted as an evidence that managers are non-timers, while in fact firms are just taking advantage from more favorable conditions in the debt market. Thus, including the cost of debt when we investigate the equity market timing might be very worthwhile and fruitful.

Our second contribution to the literature is to test the market timing theory using data of Tunisian and French firms. Previous studies are almost reserved to U.S context. Extending the test of timing behavior to Tunisia and France enables us to explore the relevance of market timing considerations in two bank-based systems. Previous studies are almost reserved to U.S firms and other market-based systems.

In the first part of this paper, we connect the equity issues to three measures of the equity market conditions as well as to a variable that reflects debt market conditions. Consistent with market timing predictions we find that Tunisian and French firms take advantages from "windows of opportunity" to raise capital. They issue equity when their market valuations are higher than their book values, and after an improvement of the market performance. More interestingly, we find that equity issues are positively and significantly related to the proxy of debt cost. The last finding is the positive relationship between the profitability and the equity issuance.

In the second part, we examine the impact of equity issues on capital structure. We find that Tunisian and French market timers become underleveraged in the short-term and this equity market timing impact is persistent especially if we focus on market leverage.

The remainder of the paper is organized as follows. Section 2 reviews the literature on equity market timing. Section 3 provides a description of the data used in the empirical analysis and regression results for the determinants of net equity issues. The impact of equity market timing on capital structure is investigated in section 4. Section 5 concludes.

2. The issuance of equity: Overview of the literature

According to the pecking order theory equity is used only as a last resort since underpricing which occurs when the level of information asymmetry between managers and investors is high and deters firms to raise capital. The pecking order approach based on semi-strong market efficiency predicts a rarity of equity issues. By contrast, the market timing model argues the existence of windows of opportunities for firms to reduce the overall cost of capital by issuing equity when market conditions are favorable.

Several studies have indirectly tested the timing behavior using different measures such as historical stock prices, interest rates, market-to-book ratios, and time-varying adverse selection costs. They make evidence that firms tend to time the equity market in order to raise capital at lower costs.

March (1982) examined the debt-equity choice in a sample of listed U.K firms for the period 1959-74. He finds that recent increase in stock prices persuades firms to issue equity. Jung, Kim, and Stulz (1996) and Hovakimian, Opler, and Titman (2001) documented a positive relationship between stock prices and equity issuance. Lerner (1994) finds that the IPOs volume in the biotechnology industry is strongly related to the stock exchange index. Loughran, Ritter, and Rydqvist (1994) find that market capitalizations have statistically significant influences on the probability of going public. Pagano, Panetta, and Zingales (1998) examine determinants of the decision of going public in a sample of Italian firms for the period 1982-92. They find that the industry's market-to-book is the most important factor that influences initial public offering (hereafter, IPO). Graham and Harvey (2001) document that stock price appreciations and the stock undervaluation are the most important factors influencing equity issuance.

Other studies consider subsequent underperformance of equity issuers as evidence that managers are selling overpriced stocks. Loughran and Ritter (1995) examine the performance of equity issuers in a sample of initial public offerings (IPOs) and seasoned equity offerings (SEOs) for the period 1970-90. They find that ex post returns deteriorate but the underperformance is more important for IPO firms. Baker and Wurgler (2000) find that market return is negatively related to equity issues.

Recently, Huang and Ritter (2005) find that publicly traded U.S firms fund a larger proportion of their financing

deficit with external equity when the cost of equity capital is low. Alti (2006) finds that hot-market IPO firms considered as market timers issue significantly more equity than cold-market firms do. Elliot et al. (2007) find that equity market mispricing plays a significant role in security choice decision. Their result is consistent with findings in Baker and Wurgler (2002). Firms tend to raise external equity when they perceive that their stocks are irrationally overpriced.

3. Data and methodology

3.1 Sample selection

To form our main Tunisian sample, we start with all listed firms appearing at any point between 2000 and 2008. We restrict the sample to exclude financial firms. The final sample covers 30 publicly traded Tunisian firms. The French sample consists in 100 non-financial French firms of the Paris stock market index SBF 120. Tunisian data were collected from Tunis Stock Exchange. French data were obtained form the database COFISEM and completed from firms' web sites.

3.2 Definition and measurement of the variables

Net equity issues $\frac{e}{A}$ is the change in book equity minus the change in retained earnings reported to total assets.

Book debt is defined as total liabilities. Book equity is defined as total assets minus book debt. Book leverage $BLEV$ is defined as book debt reported to total assets. We drop observations when book leverage ratios are greater than 100 percent. Market value is measured as total assets minus book equity plus market capitalisation. Market capitalization is obtained by multiplying shares outstanding by their current prices. Market leverage MLE is then defined as book debt divided by market value.

Market-to-book ratio MTB is defined as book debt plus market value of equity divided by total assets. $MARKET$ reflects the performance of stock market and is defined as annual growth rate of the index $TUNINDEX$ for Tunisia and CAC40 for France. Profitability $PROF$ is earnings before interests and tax $(EBIT)$ reported to total assets. $INTEREST$ represents the money market annual average rate for Tunisia and the annual average of $EUR3M$ ($EURIBOR$ for 3 months). Asset tangibility $TANG$ is defined as property, plant, and equipment plus inventories reported to total assets. $SIZE$ is the logarithm of net sales.

3.3 Descriptive statistics

Table 1 reports the descriptive statistics for the dependant and explanatory variables. It shows that equity issuance is less frequent in French companies. The plausible explanation of this report is that raising capital depends basically on the evolution of the equity market conditions. Indeed, the average annual growth rate of the index CAC40 is negative. This bearish trend is a result of the exposure of the Euronext Paris to financial crisis. Figure 1 shows that Tunis Stock Exchange was less affected by the recent subprimes crisis.

Tunisian and French firms have average market-to-book ratios greater than 1. This indicates that market values of Tunisian and French companies are on average higher than their book values. In the market timing framework, a high market-to-book ratio persuades the firm to issue new shares. Nevertheless, this ratio is often considered as an indicator of growth opportunities and a high level of this ratio reflects the existence of growth options. The market-to-book ratio is higher in France than in Tunisia. Indeed, it is equal on average to 1.69 in France against 1.47 in Tunisia. This suggests that it is more judicious to employ this ratio as an indicator of overvaluation than a proxy of growth opportunities since the French firms belonging to the index SBF120 are larger than Tunisian firms. If this ratio reflects growth options, Tunisian firms would have higher average market-to-book ratios.

The variable profitability $PROF$ varies between (-10.32%) and 19.65% with an average value of 5.88% in Tunisia and between (-19.65%) and 34.12% with an average value of 7.53% in France. This evidence indicates that French companies are on average more profitable than Tunisian firms.

The rate EURIBOR for 3 months varies between 2.12% and 4.68% for France against a rate of the Tunisian money market which varies between 5% and 5.94%, i.e. the minimum of the rate of the Tunisian money market exceeds the maximum of rate EUR3M.

Table 2 reports the correlations matrix for explanatory variables. The coefficients of correlation of explanatory variables are generally low. Using a test of Farrar-Glauber (1967), we can accept the hypothesis of the absence of multicollinearity among our independent variables.

3.4 Estimation methods

In the first part of this paper, we run the following regression:

$$(\frac{e}{A})_{it} = \alpha_i + \beta_1 MTB_{it} + \beta_2 MARKET_{it} + \beta_3 PROF_{it} + \beta_4 INTEREST_t + \varepsilon_{it}$$

Using panel data can enhance the quality and quantity of data. It allows us to identify some effects that cannot be detected using time-series analysis. Panel data regression provides three estimators; Pooled OLS, Fixed effects, and Random effects models. A pooled estimator takes α as the same across all cross-section units. The fixed effects model assumes α_i as a group specific term. The random effects approach takes α_i as a group specific disturbance.

Testing the significance of the group effects

To choose between these three approaches we compute a test of homogeneity. The hypothesis of homogeneity of constants across all cross-section units can be formulated as follows:

$H_0 : \alpha_i = \alpha$

$H_a : \alpha_i \neq \alpha$

This test of Fisher is computed as follows:

$$F = \frac{SS_P - SS_W}{SS_W} \frac{N(T-1)-K}{(N-1)}$$

Where:

SS_W : Residues square sum of the individual effects model and

SS_P : Residues square sum of the model Pooled.

N : Number of firms

K : Number of explanatory variables (constant not included)

If calculated *F* is lower than tabulated *F (p-value < 0.05)*, H_0 is rejected and we have to choose between the fixed and the random effects model.

Hausman's test for fixed versus random effects

If the effect is assumed to be individual, the Hausman specification test is carried out in order to decide whether the fixed or the random effects model should be used. The Hausman test compares the fixed and random effects estimates of coefficients.

The tested hypothesis concerns the correlation of the individual effects and the explanatory variables.

$H_0 : \text{cov}(\alpha_i, x_{it}) = 0$

$H_1 : \text{cov}(\alpha_i, x_{it}) \neq 0$

Under the null hypothesis, the individual effects are random and we then have to choose the estimator of GLS. Under the alternative hypothesis, the individual effects are correlated to the explanatory variables and we then have to choose the model to fixed effects.

The test of Hausman compares the matrix of variance-covariance of two estimators:

$$H = \left(\hat{\beta}_{RE} - \hat{\beta}_{FE}\right)' \left[\text{var}\left(\hat{\beta}_{RE} - \hat{\beta}_{FE}\right)\right]^{-1} \left(\hat{\beta}_{RE} - \hat{\beta}_{FE}\right)$$

The statistic *H* is asymptotically distributed as χ^2 with *K* degree of freedom, where *K* is the number of explanatory variables. If calculated *H* is lower than tabulated χ^2 *(p-value < 0.05)*, H_0 is rejected and individual effects are assumed fixed.

3.5 Regression results

Table 3 reports regression results for the model connecting equity issuance to three variables which reflect equity market conditions, profitability, and a last variable which reflects debt market conditions. We provide fixed effects and Pooled OLS results. Both test of Fisher and Chi-square confirm that the estimator Pooled is the proper one.

Overall, our empirical results strongly support the market timing theory which predicts the existence of a significant correlation between market conditions and equity issuance. Indeed, the three variables reflecting

equity market conditions have the expected and significant signs. The market-to-book ratio has a positive impact on equity issues. This result suggests that Tunisian and French firms tend to raise external equity when their market values are relatively higher than their book values. The plausible explanation of this behaviour is that these firms perceive their shares as overpriced and consequently they attempt to draw advantages from this misevaluation. This evidence is consistent with findings in Baker and Wurgler (2000, 2002), Graham and Harvey (2001), Alti (2006). More recent, Chang et al. (2007) explore the impact of mispricing on firm's investment using a sample of Australian firms for the period 1990-2003. They document that overvalued firms tend to raise capital and use equity proceeds to overinvest.

The variable *MARKET* which measures the performance of the stock market (index *TUNINDEX* for Tunisia and *CAC*40 for French) stimulate equity issuance. This result seems to confirm the market timing approach suggesting that Tunisian and French firms consider favourable conditions of the stock exchange market as a "window of opportunity". However, we note that the coefficient of this variable is relatively weak. An improvement of the *TUNINDEX* by 100% raises equity proceeds by only 7% and an enhancement of the *CAC*40 by 100% will be followed by an increase of net equity issues of French firms by only 1,81%.

The variable profitability (*PROF*) is positively and significantly related to equity issuance. This result indicates that firms tend to issue shares after earnings releases in order to exploit investors' over-optimism about firm's prospects. Our result contradicts the pecking order theory according to which firms start with internal funds and issue equity only as a last resort. This evidence is consistent with previous findings that performance deteriorates after equity issuance. Miglo (2007) develops a theoretical model of the debt-equity choice based on information asymmetry. It predicts that firms with higher rate of earnings growth issue debt and firms with lower rate earnings growth issue equity.

The most interesting result is the positive and significant impact of the variable *INTEREST* on equity issuance. This evidence suggests that Tunisian and French firms attempt to raise their capital when to avoid unfavourable credit market conditions.

4. Impact of equity market timing on capital structure

Prior research on capital structure by Rajan and Zingales (1995) using an international sample of the G-7 countries suggests that leverage is positively related to size and tangibility and negatively correlated with profitability and market-to-book ratio. Besides these four variables we introduce another determinant assumed as factor of equity market timing since it reflects market conditions. Thus, we consider that capital structure is explained as follows:

$$Leverage = f(MTB_{ewa}, MARKET, TANG, PROF, SIZE)$$

Where $MTB_{ewa,it} = \sum_{s=0}^{t} \frac{e_{is}}{\sum_{r=0}^{t} e_{ir}} * MTB_{is}$ is the equity issue weighted average market-to-book computed to investigate timing attempts on leverage. This variable is made-up by Mahajan and Tartaroglu (2008). It's a decomposition of the external finance weighted average market-to-book of Baker and Wurgler (2002) computed as follows:

$$MTB_{efwa,it} = \sum_{s=0}^{t} \frac{e_{is} + d_{is}}{\sum_{r=0}^{t} e_{ir} + d_{ir}} * MTB_{is}.$$

Our new variable consists in replacing external finance $(e + d)$ with net equity issue (e). It takes higher values for firms that have a history of issuing new equity when their market valuations are higher than their book values and past market values.

Figures 2 and 3 show that leverage has generally a similar evolution in Tunisia and in France.

Table 4 reveals a relative high level of debt ratios of Tunisian and French firms. This evidence may be due to the specificity of Tunisian and French economies. Indeed, Tunis Stock Exchange is underdeveloped relative to the scale of the economy. Therefore, indebtedness stills the favorite and the first financing source of Tunisian firms. Similarly, the French economy is based on the important role of banks in financing activities. The table of the descriptive statistics shows also that French firms are on average more leveraged than Tunisian firms. The plausible explanation of this report is that French firms are larger than Tunisian ones or the institutional and legislative factors are more persuasive in Franc. Titman and Wessels (1998) find that transactions costs deter

small firms from applying for a loan. Graham and Harvey (2001) find a weak support for the hypothesis of transactions costs.

It is also noted that the book leverage varies between 4.68% and 95.24% in Tunisia and between 10.69% and 99.29%. This evidence indicates that some Tunisian and French firms use basically only debt financing while others straightforwardly privilege equity financing.

The level of market leverage was affected by low market valorizations to reach 93.51%in Tunisia and 96.98% in France. However, the market leverage is on average below the book leverage suggesting that market values of Tunisian and French firms exceed on average their book values.

In addition, we document that the French sample proves more homogeneous whatever the measure of leverage used.

Table 5 of descriptive statistics show the value of the median of variable *TANG* is 26.69% for the Tunisian companies whereas it is only 20.56% in the French context. This result indicates that the Tunisian companies have on average more of the tangible credits (property, plant, and equipments plus inventories) that French companies. A plausible explanation of this evidence is that Tunisian lenders are more risk-averse since they require more collateral to secure the repayment of loans.

The variable *SIZE* has an average of 15.12 for the French firms over the period of our study against only 10.42 for the Tunisian sample. This evidence suggests that the French companies are larger than Tunisian firms.

4.1 The Short-Term Impact of Market Timing on Capital Structure

Market timing consists in taking advantage from the switching opportunity between equity and debt. Thus, net equity issue is likely to negatively affect the leverage ratio, especially if new equity capital is used to pay down debt, while repurchasing is likely to have a positive impact on leverage ratio especially if this repurchasing is financed by debt.

Considering the results of estimating the leverage equation obtained by the random effects approach, our findings are generally consistent with previous empirical studies and theoretical predictions.

Our measure of market timing is negatively and significantly related to the leverage ratio. Our results suggest that non-financial Tunisian and French firms are real market timers. They have a history of raising funds when their market valuations are high relative to book values and past market valuations. Consequently, they become underleveraged in the short-term. Our evidence is consistent with results in Baker and Wurgler (2002), Huang and Ritter (2005) and Alti (2006). Baker and Wurgler (2002) focus on the market-to-book ratio to capture market timing attempts. They find that a one standard deviation increase in market-to-book is associated with a 1.14 percentage-points decrease in leverage. Huang and Ritter (2005) find that a one-standard deviation increase in the implied equity risk premium proxy of market timing is associated with 10.1 percent more of the financing deficit being funded with net debt. Alti (2006) shows that the reduction in leverage due to market equity is less than one for one because market timers use equity proceeds in raising cash and short term investments.

Other results are as follows. The largest effect comes through profitability. In Tunisia a one standard deviation increase in profitability *(PROF)* is associated with a decrease in book leverage of 4.37 percentage points and 8.19 in market leverage. In France, a one standard deviation increase in profitability *(PROF)* is associated with a decrease in book leverage of 2.61 percentage points and 4.28 in market leverage. This result is consistent with the pecking order theory according to which the profitability reduces the reliance on borrowing source. To finance available net present value project, firms should start by self-financing then debt and at last resort to equity finance. Similarly, profitability allows managers to be entrenched and as a consequence resisting to debt finance under the managerial entrenchment theory. However, our result contrasts the static trade-off theory according to which profitability is associated with the availability of free cash flow and as a consequence a high agency costs and as a consequence they should rely on debt to deal with the problem of conflict of interests. Jensen (1986) demonstrates that firms with a large amount of free cash flow and relatively low growth opportunities should rely more on debt financing because debt disciplines the overinvestment behavior. Our results are also consistent with results reported in previous empirical studies. Baker and Wurgler (2002) find that profitability tends to reduce leverage (by 1.40 percentage points per standard deviation increase). Similarly, Huang and Ritter (2005) and Alti (2006) find that higher profitable firms are more likely to reduce their reliance on debt-financing.

Table 5 shows that leverage is an increasing function of tangibility. This result is consistent with the static trade-off theory according to which tangible assets have a positive impact on the borrowing decisions because they have a greater value than intangible assets in case of bankruptcy. Tangibility has a positive impact on

leverage since they are less subject to informational asymmetries under the pecking order theory. Our result is consistent with findings in Baker and Wurgler (2002), Huang and Ritter (2005), and Alti (2006).

Lastly, in Tunisia a one standard deviation increase in size *(SIZE)* is associated with an increase in book leverage of 4.69 percentage points and a decrease of 2.75 in market leverage. In France, a one standard deviation increase in size *(SIZE)* is associated with an increase in book leverage of 6.42 percentage points and of 7.03 in market leverage.

4.2 Persistence of the impact of equity issuance on capital structure

A range of studies make evidence that market timing become an important aspect of real corporate financial policy. However, the persistence of the impact of market timing on capital structure is not obvious. Ones think that market timing could be just an opportunism whose effect is quickly reversed. Others emphasize the persistence impact of market timing. The persistence of market timing impact on capital structure is the key testable prediction of market timing theory. The market timing approach predicts that current capital structure depends on past issuing practice. So, capital structures appear to be negatively affected by past abilities to sell overpriced equity shares. The significance of historical issues' effects contrasts the static trade-off theory according to which current level of leverage is determined by current firm characteristics.

Baker and Wurgler (2002) emphasize the persistence of market timing effects on capital structure. They argue that 70% of current capital structure can be explained by past market timing abilities.

By contrast, Alti (2006) finds that the market timing impact disappears within two years. Leary and Roberts (2004) focus on market leverage and compare equity issuers with non-issuers; they find that the effect of equity issuance on market leverage completely vanishes within two to four years. Kayhan and Titman (2007) find that stock price have strong influence on capital structure change but their effects are subsequently at least partially reversed. They explain that firms may reverse the market timing impact for two reasons. First, the firm has target leverage and the deviation from this target requires costly recapitalization. Thus, this deviation should be temporary as the static trade-off theory recommends. Second, current firm characteristics can move target leverage to coincide with current leverage ratio. Mahajan and Tartaroglu (2008) find that historical market-to-book ratios have an inverse relation with leverage in G-7 countries but equity market timing attempts do not have long lasting impact on firms' capital structure.

Table 7 shows that market timing behaviour has a persistent impact on capital structure of French firms. Indeed, this impact can persist beyond seven years. By contrast, the equity issuance effects on book leverage disappear within two years but they are persistent on market leverage. One plausible explanation for this persistence timing impact is that Tunisian and French firms do not quickly rebalance their capital structures to catch up with their leverage targets. This slow of adjustment speed allows past market timing attempts to affect current capital structure. Our evidence is consistent with findings in Baker and Wurgler (2002).

5. Conclusion

In this paper we investigated the equity market timing behavior in a sample of non-financial publicly traded Tunisian and French firms. The data is treated using a many techniques of panel data. First, we examined whether market timing implications affect equity issues. We find that high market-to-book ratios are associated with high equity issues. This evidence suggests that Tunisian and French firms tend to issue equity when their market values are high. Managers believe that market values are irrationally high. Therefore, they try to take advantage from this opportunity by issuing overpriced equity shares. In fact, the narrowness of Tunis Stock Exchange may increase the degree of informational asymmetry and consequently the likelihood of misevaluation that is at the basis of timing considerations. French firms may exploit the over-optimism of investors about the firm's prospects.

We documented also that firms tend to raise capital after an enhancement of the equity market conditions, earnings releases, and to avoid unfavorable debt market conditions.

Overall, our findings are consistent with the market timing theory according to which managers take advantage from temporary overvaluation by issuing equity.

After showing that non-financial Tunisian and French firms are real market timers, we investigated the implications of timing attempts on their capital structures. Thus, we computed the equity issues weighted average market-to-book ratio. We find that our market timing proxy is significantly and negatively related to the leverage ratio. Tunisian and French firms become underleveraged in the short-term and this equity market timing has a long-lived since Tunisian and French firms do not quickly rebalance their capital structures to move toward their target leverage.

To have a complete work on this topic, future researches shall give attention to the market timing as a whole. Studying simultaneously the debt market timing and the equity market timing will permit to investigate whether Tunisian and French capital markets are perfectly integrated or not and if market timers succeed in reducing the overall cost of capital.

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Table1. Descriptive statistics

Statistics	Tunisia					France				
	$\frac{e}{A}$	MTB	MARKET	PROF	INTEREST	$\frac{e}{A}$	MTB	MARKET	PROF	INTEREST
Mean	0.0553	1.4659	0.1135	0.0776	0.0531	0.0511	1.6915	-0.0323	0.0819	0.0325
Median	0.0356	1.1620	0.1107	0.0838	0.0526	0.0322	1.3121	0.0713	0.0755	0.0289
Maximum	0.3787	4.3299	0.3669	0.2199	0.0593	0.3621	9.0919	0.2102	0.5296	0.0468
Minimum	0.0020	0.2826	-0.1298	-0.1568	0.0500	0.0000	0.6199	-0.5565	-0.6407	0.0212
Std. Dev	0.0663	0.7792	0.1588	0.0581	0.0034	0.0614	1.1510	0.2805	0.0819	0.0084
Observations	123	123	123	123	123	273	273	273	273	273
Cross- section	29	29	29	29	29	97	97	97	97	97

Table 2. Correlation matrix for explanatory variables

Variables	Tunisia				France			
	MTB	MARKET	PROF	INTEREST	MTB	MARKET	PROF	INTEREST
MTB	1				1			
MARKET	0.0920	1			0.1567	1		
PROF	0.3584	-0.0259	1		0.2803	0.0611	1	
INTEREST	0.0805	-0.4799	0.0866	1	0.1675	0.0069	0.0407	1

Table 3. Determinants of equity issuance

Variables	Tunisia		France	
	Pooled	Fixed effects	Pooled	Fixed effects
Intercept	-0.1426***	-0.1456	0.0043	-0.0003
	(-4.33)	(-1.22)	(0.88)	(-0.1)
MTB	0.0068***	0.0115	0.0026*	0.0016
	(2.71)	(0.63)	(1.67)	(0.22)
MARKET	0.0419***	0.0528	0.0181***	0.0224
	(3.24)	(1.04)	(4.46)	(1,55)
PROF	0.5154***	0.7029***	0.0393*	0.2286*
	(11.05)	(4.15)	(1.88)	(1.92)
INTEREST	0.025***	0.0193	0.0015	0.0028
	(4.71)	(0.87)	(1.1)	(0.56)
R square	0.152	0.2791	0,063	0.1576
p – Fisher		0.5824		0.9943
p – Chi – Sauare		0.4054		0.9600
Observations	123	123	273	273
Cross-section	29	29	97	97

Table 4. Descriptive statistics of leverage

Statistics	Tunisia (%)		France (%)	
	BLEV	MLEV	BLEV	MLEV
Mean	49.38	42.23	63.36	48.84
Median	50.26	39.79	64.81	50.14
Maximum	95.24	93.51	99.29	96.98
Minimum	4.68	2.69	10.69	2.11
Std. Dev.	20.34	24.93	15.01	22.29
Observations	207	207	578	587
Cross-section	30	30	99	100

Table 5. Descriptive of determinants of leverage

Statistics	Tunisia					France				
	MTB_{ewa}	*MARKET*	*TANG*	*PROF*	*SIZE*	*MTB*	*MARKET*	*TANG*	*PROF*	*SIZE*
Mean	2,1405	0,1136	0,2669	0,0777	10,4177	2,2315	-0,0325	0,2056	0,0816	15,1208
Median	1,7130	0,1107	0,2785	0,0838	10,5882	1,6721	0,0714	0,1698	0,0753	15,3154
Maximum	6,9204	0,3669	0,6250	0,2199	13,8674	10,9566	0,2102	0,8055	0,5296	18,8928
Minimum	0,2826	-0,1299	0,0124	-0,1569	7,4206	0,6200	-0,5565	0,0131	-0,6408	8,1203
Std. Dev.	1,4332	0,1589	0,1523	0,0581	1,1659	1,6661	0,2811	0,1660	0,0819	1,7437
Observations	123	123	123	123	123	272	272	272	272	272
Cross-section	29	29	29	29	29	97	97	97	97	97

Table 6. Determinants of leverage

Variables	Tunisia						France					
	Pooled		Fixed effects		Random effects		Pooled		Fixed effects		Random effects	
	BLEV	MLEV	BLEV	MLEV	BLEV	MLEV	BLEV	MLEV	BLEV	MLEV	BLEV	MLEV
Intercept	-0.0002	0.3556***	0.5308**	0.7059**	0.1751	0.3537*	0.2508**	0.1046	0.0871	0.2709	0.1394	0.0357
	(-0.01)	(4.82)	(2.30)	(2.29)	(0.86)	(1.73)	(3.32)	(1.14)	(0.29)	(0.48)	(1.40)	(0.31)
MTB_{ewa}	-0.0197***	-0.0554***	-0.0348***	-0.0267**	-0.0384***	-0.0385***	-0.0270***	-0.0627***	-0.0128**	-0.0427***	-0.0158***	-0.0546***
	(-2.75)	(-5.43)	(-6.41)	(-2.37)	(-8.05)	(-4.72)	(-5.30)	(-10.63)	(-2.82)	(-5.28)	(-3.91)	(-9.06)
MARKET	-0.0392	-0.0618	-0481*	-0.0474	-0.0401*	-0.0522	-0.0395	-0.1163***	-0.0269*	-0.1472***	-0.0274	-0.1331***
	(-1.42)	(-1.23)	(1.69)	(-0.67)	(-1.89)	(-1.01)	(-1.50)	(-3.61)	(-1.66)	(-4.88)	(-1.88)*	(-4.98)
TANG	0.2112**	0.3175***	0.1374*	0.0664	0.0871	0.0004	0.0340	0.0151	0.1407	0.1257	0.0586	0.0316
	(2.61)	(3.24)	(1.85)	(0.61)	(1.43)	(0.01)	(0.76)	(0.27)	(0.92)	(0.44)	(0.96)	(0.45)
PROF	-1.1859***	-2.1571***	-0.6780	-1.1504***	-0.7527**	-1.4099***	-0.3484***	-0.5868***	-0.3174**	-0.2892	-0.3183***	-0.5229***
	(-3.53)	(-4.41)	(-2.51)**	(-3.29)	(-2.54)	(-3.75)	(-3.63)	(-5.32)	(-2.52)	(-1.28)	(-3.29)	(-4.11)
SIZE	0.0625***	0.0394***	0.0018	0.0176	0.0402	0.0236	0.0305***	0.0369***	0.0405**	0.0194	0.0368***	0.0403
	(8.47)	(6.27)	(0.09)	(0.64)	(1.92)*	(1.24)	(6.66)	(6.58)	(2.09)	(0.5274)	(5.69)	(5.55)
R square	0.3547	0.5383	0.9283	0.9278	0.3906	0.3849	0.3245	0.5349	0.8904	0.8309	0.4278	0.4685
p – Fisher	0.0000	0.0000	0,0000	0,0000			0.0000	0.0000	0,0000	0,0000		
p – Chi – Square			0,0000	0,0000					0,0000	0,0000		
p – Haussman					0,4131	0,1275					0,6118	0,0887
Observations	123	119	123	119	123	123	269	268	269	268	269	268
Cross-section	29	29	29	29	29	29	96	97	96	97	96	97

***significant at 1% level, **significant at 5% level, *significant at 10% level, t-statistics in parentheses

Table 7. Persistence of the equity market timing on capital structure

	Tunisia		France	
	BLEV	MLEV	BLEV	MLEV
Year	MTB_{ewa}	MTB_{ewa}	MTB_{ewa}	MTB_{ewa}
$t+1$	-0.0170*	-0.0512***	-0.0265***	-0.0515***
	(-1.85)	(-4.76)	(-4.26)	(-5.24)
$t+2$	-0.0104	-0.0536***	-0.0280***	-0.0420***
	(-1.21)	(-5.31)	(-4.79)	(-2.89)
$t+3$		-0.0611***	-0.0188***	-0.0293***
		(-5.75)	(-4.46)	(-2.68)
$t+4$		-0.0569***	-0.0182**	-0.0202*
		(-4.74)	(-2.57)	(-1.67)
$t+5$		-0.0513***	-0.0129*	-0.0073
		(-5.36)	(-1.79)	(-0.66)
$t+6$		-0.0429***	-0.0174***	
		(-4.19)	(-2.80)	
$t+7$		-0.0428***	-0.0125*	
		(-4.29)	(-1.85)	
$t+8$		-0.0389***	-0.0074	
		(-4.25)	(-1.11)	

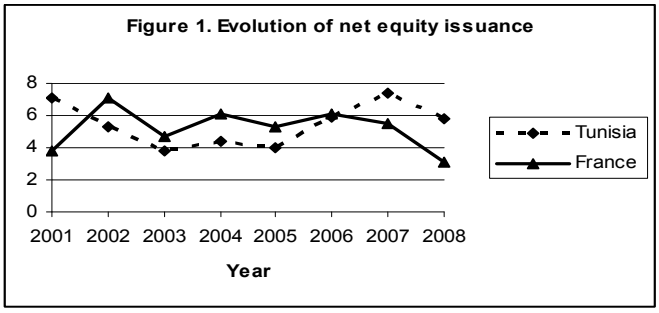
Figure 1. Evolution of net equity issuance
8
6
4
2
0
2001 2002 2003 2004 2005 2006 2007 2008
Year
Tunisia
France

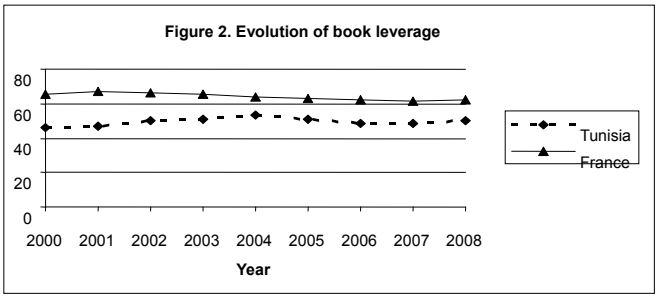
Figure 2. Evolution of book leverage
80
60
40
20
0
2000 2001 2002 2003 2004 2005 2006 2007 2008
Year
Tunisia
France

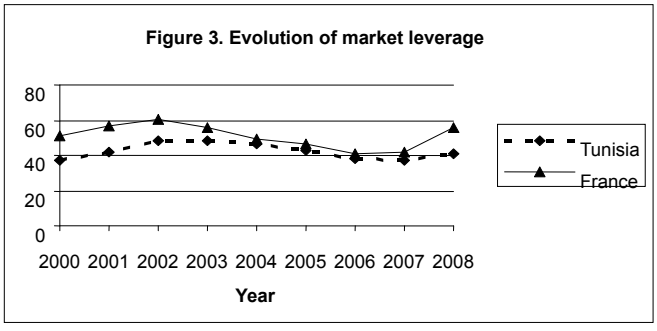
Figure 3. Evolution of market leverage
80
60
40
20
0
2000 2001 2002 2003 2004 2005 2006 2007 2008
Year
Tunisia
France