The Value Creation Process in the Tunisian Stock Exchange

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Abstract:

This paper investigates the value creation process in the Tunisia stock exchange using a sample including more than 90% of the listed companies. In order to find out the determinants of the value creation of our selected companies, we purpose to use the random probit model estimation procedure with unbalanced panel data. The results indicate that the probability of creating future values is positively and significantly correlated with dividend policy and profitability factor. The results suggest also that the value creation is neither affected by industry patterns, nor by size. Finally, empirical results suggest that non observed heterogeneity between firms, such as quality of management, seems to be significant in the analysis of the value creation of companies in the Tunisia Stock exchange.

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1. Introduction

The Tunisian Stock Exchange has undergone from 1989 several reforms in order to enter the arena of the emergent markets. These reforms include several aspects: Privatization of the stock exchange, creation of a "Tunisian SEC" and a clearing house, introduction of new financial instruments, abolition of taxes on stock revenues, introduction of an electronic quotation system and reorganization of the stock exchange into three different markets. AB these reforms have contributed to increase the market capitalization from 610 million dinars in 1991 to 2632 millions in 1997 and the volume of transaction from 91 millions dinars in 1991 to 590 millions in 1997. These positive indicators – mixed with a study done by Sachs (1998) in which Tunisia is ranked second most competitive African nation – have attracted foreign investors in Tunisia. However, foreign investors have deplored the absence of scientific studies dealing with how the Tunisian financial market works (as far as we are concerned no study has been published in English). Our aim is to fill this gap and then, enable foreign investors to have a clearer insight about the mechanisms ruling the Tunisian stock exchange,

This brings us to the subject of our paper. Strategic analysis was born in the US in 1965 after Ansoff (1989) and the Harvard Business School popularized the concept of strategy. Since then, strategy has evolved as an autonomous area of research separated from financial analysis (Barwise and al., 1989 and Myers, 1984). However De Bodinat (1978) was the first to introduce a link between the strategic positiod of a company and its financial performance. Step by step, emphasis was put on the financial dimension of the strategic models (Boston Consulting Group), but this approach was criticized by many because it fails to grasp rightfully the link between strategy and finance in a company (Couret et al., 1991). In order to respond to such criticism, new global models were set up to integrate finance and strategy (Pène, 1983; Surbled, 1984 and Degos et al., 1988) and reseachers have shed light on the impact of the financial function over the strategic decision process.

More recently, creating value for a firm's shareholders - widely accepted objective for the firm - has been incorporated into the strategic management literature through what is termed value-based planning (Hax et al., 1984). This approach provides a conceptual and operational framework for evaluating corporate strategy. At the same time, academicians have considered value creation issues to mergers and acquisitions (Rappaport, 1981), divestiture decisions (Alberts and al., 1984), business unit evaluation (Arzac, 1986), marketing strategy and company sales (Kerin et al., 1985), and asset growth (Fruhan, 1984 and Higgins et al., 1983).

Rappaport (1987) has defined the value drivers as growth rate, operating profit margin, income tax rate, working capital investment, fixed capital investment, cost of capital and value growth duration. J. Caby et al. (1996) and Ben Naceur et al. (1998) have combined the measures of value creation with the value drivers in order to know empirically the main determinants of the value creation process.

Since then, the dependent variable, i.e the value creation in the stock exchange, is measured by a dichotomous response, the econometric procedure uses Probit models estimated on unbalanced panel data. The use of panel data sets in the emergent financial market studies is a more attractive

issue since it allows the estimation of more realistic behavioural models. Furthermore, the efficiency gains from using the information contents in the panel structure of the data may be substantial in comparison with the use of a single cross section data characterized by a small number of independent units.[1]

The objective of the present paper is to test empirically the determinants of the future value creation of the Tunisian companies listed in the stock exchange during the period 1990-1996. To our knowledge, this is the first empirical study in the literature of the emergent financial market issues, which emphasize the determinants of the value creation in the stock exchange using the random effect panel probit model.[2]

The remainder of the paper is organized as follows. Section 2 presents a brief overview of the methodology adopted. Section 3 presents the statistical specifications of the random effect probit model. Section 4 contains a description of the data source. Section 5 provides evidence on the importance of competing explanations for the future value creation process in the Tunisian stock exchange. Concluding remarks follow.

2. Research Design

2.1. Methodology

Value-based planning models share a common premise that managers seek to create shareholder value by ensuring that the warranted market value, MV, of the equity capital invested in the firm by the shareholders exceed the book value, BV, of equity. In other words, a firm's managers create value for shareholders if MV>BV, destroys value if MV<BV and sustains value if MV=BV. The determinants of value creation and destruction are therefore essentials to shape the strategy of a company.

The first author in the financial literature to investigate the value drivers was Fruhan (1979) who express the ratio MV/BV as:

$$\frac{\mathbf{MV}}{\mathbf{BV}} = \left(1 + \frac{\mathbf{ROE} - \mathbf{K_e}}{\mathbf{K_e} - \mathbf{g}}\right)\left[1 - \left(\frac{1+\mathbf{g}}{1+\mathbf{K_e}}\right)^{\mathbf{n}}\right] + \left(\frac{1+\mathbf{g}}{1+\mathbf{K_e}}\right)^{\mathbf{n}} \qquad \textbf{(1)}$$

with

$$ROE = ROA + (ROA - K_D)*(1 - t_{is})$$

Where

ROE denotes the expected return per year on book equity investment
Ke denotes the cost of equity capital
g denotes the expected annual rate of growth of earnings per year and,

[1] This is the case for Tunisia where the listed companies in the financial market are not numerous.

[2] Most of the studies examining value creation/destraction determinants are based on cross-sectionnal data.

n is the number of years over which the firm is expected to maintain its current ROE. ROA denotes the return on assets.

K_D denotes the cost of debt.

t_{is} is the corporate tax rate.

Equation (1) can be viewed as a generic representation of a value-based model and will be designated the finite growth model. This equation implies that the market-to-book ratio depends on three factors: (1) the level of the percentage spread (ROE-Ke) to be earned; (2) the volume of future investment opportunities as expressed by the rate of growth of earnings per year, g and (3) the number of years, n, during which future investment opportunities will be available so as to enable the generation of exceptional spreads.

This model contrasts with perspectives that state that a positive ROE alone is a signal of a profitable investment (Varaiya and al., 1987). More recently two authors have tried to capture the determinants of firm value: Rappaport (1986) argued that sales growth rate, operating profit margin, income tax rate, working capital management and fixed capital management are the theoretical hypotheses of value creation and Caby et al., (1996) tested empirically five indicators of value creation on a sample of French companies which are: profitability, activity, financial policy, investment policy and dividend policy.

In this paper, we have selected three main determinants of future value creation depending on the availability of data and the exploratory character of this study: firm profitability, financial policy and dividend policy.

H_1. Financial policy hypothesis:

In a seminal paper, Modiglianni and Miller (1958) show that in a world without taxes, agency costs, or information asymmetry repackaging the firm's net operating cash flows into fixed cash flows for debt and residual cash flows has no effect on the value of the firm. More recently, capital structure theories have focused on the tax advantages of debt (starting with Modigliani and Miller, 1963), the use of debt as an anti-takeover device, agency cost of debt (Jensen et al., 1976 and Myers, 1977), the advantage of debt in restricting managerial discretion (Jensen, 1986), the effect of debt on investors' information about the firm and on their ability to oversee management (Harris et al., 1991) and the choice of debt level as a signal of firm quality (Ross, 1977 and Leland et al., 1977). So to examine debt relevance and especially the proposition of Ross (1977) who proved that an increase in the use of debt will represent an unambiguous signal to the marketplace that the firm's prospects have improved, we include in our model the ratio of the sums of all the debts to total assets.

H_2. Dividend policy hypothesis:

Miller and Modigliani (1961) present a cogent argument for the fact that the value of the firm is unaffected by dividend policy in a world without taxes or transaction costs and where every one was fully informed about the distribution of the firm's uncertain future cash flows. Once corporate and personal income taxes were introduced, then the theory (Farrar et al., 1967 and Brennan, 1970) suggested that perhaps it would be optimal to pay no dividends at all because of the tax

disadvantage of ordinary income over capital gains. This point of view was modified somewhat by Miller et al., (1978). Besides, Rozeff (1982) suggests that optimal dividend policy may exist even though we ignore tax considerations.

Ross (1977) suggests that implicit in the Miller-Modiglianni dividend irrelevancy proposition is the assumption that the market knows the random return stream and values this stream to set the value of the firm. A firm that increases dividend payout is signalling that is has expected future cash flows that are sufficiently large to meet dividend payments without increasing the probability of bankruptcy. Therefore, we may except to find empirical evidence[3] that shows that the value of a company increases because dividends are taken as signals that the firm is expected to have higher future cash flows. (see Ross, 1977; Bhattacharya, 1979; Hakansson, 1982 and Miller et al., 1985). So to examine dividend relevance and in particular its signalling impact, we include in our model the ratio of total dividends to total earnings.

H_3. Profitability hypothesis:

According to Rappaport (1986), profitability can be considered as a very important value driver. An improvement of profitability can originate from achieving relevant economies of scale, searching for cost-reducing linkages with suppliers and channels, eliminating overhead that does not add value to the product and eliminate costs that do not contribute to buyer needs. So to examine profitability relevance on value creation, we include in our model the ratio of the operating income to total assets.[4]

The basic specification of our model is as follows:

$$MV / B\ V_{it} = \beta_1 + \beta_2\ Debt_i + \beta_3\ Pay\text{ - }Out_i + \beta_4\ ROA_i + \varepsilon_i \qquad (2)$$

where

mv	is the market value of a firm's equity
BV	is the book value of a firm's equity
Debt	is the leverage ratio, which is total liabilities divided by total assets
Pay-Out	is the Pay-Out ratio, which is total dividends divided by total earnings
ROA	is the return on assets

2.2 The random effects probit model

Random effects probit model (REPM) has been considered by Chamberlain (1980), Heckman (1981) and more recently by Guilkey et al., (1993), Newey (1994) and Lechner (1995). It's a potentially important econometric tool in applied microeconomics using panel surveys data where the dependent variable is measured by a dichotomous response.[5] The REPM model is of the following form:

$$Y_{it}^{*} = X_{it}^{'}\beta + \varepsilon_{it} \qquad i = 1\ldots n; t = 1\ldots T_i \qquad (3)$$

$$\text{With} \qquad \varepsilon_{it} = \mu_i + \eta_{it}$$

[3] The empirical relationship between dividend policy and value are well summarized in Copeland and Weston (1988).

[4] We prefer to use ROA instead of ROE because the former ratio includes exceptional items.

[5] Empirical studies of the REPM can be found in Pfeifer et al., 1992 and Lechner, 1995.

Where i indexes individuals, t indexes time periods, X,, is a kxl vector of exogenous[6] variables, β is a kxl vector of coefficients, $\mu_i \sim IN(0,\sigma^2_\mu), \eta_{it} \sim IN(0,\sigma^2_\eta)$. The errors μ_i, and η_{it},, are mutually independent. Y^*_{it} is an observed latent variable. The observed random variable, Y_{it}, is defined by:

$$Y_{it} = 1(Y^*_{it} > 1) \qquad i = 1 \ldots n;\ t = 1 \ldots T_i \tag{4}$$

Where 1(.) denotes the indicator function, so that Y_{it} is 0,1.[7] The likelihood function for the observed sample Y_{it} is: (see Guilkey and al., 1993).

$$L = \prod_{i=1}^{n} P(Y_{i1}, \ldots Y_{it}) = \prod_{i=1}^{n} \int_{-\infty}^{\infty} \prod_{t=1}^{T_1} \Phi\left\{ \left[X'_{it}\beta + \mu_i \left(\frac{\rho}{1-\rho} \right)^{\frac{1}{2}} \right] [2Y_{it} - 1] \right\} \phi(\mu_i) d\mu_i \tag{5}$$

Where $\rho = \dfrac{\sigma^2_\mu}{\sigma^2_\mu + \sigma^2_\eta}$ is the correlation between successive disturbances ε_{it} for the same individual. Consistent and asymptotically efficient estimator of β and ρ are given by the maximum likelihood procedure according to Buttler and Moffitt's (1982) derivations[8].

3. Empirical Results

This section provides an empirical investigation on the importance of competing explanations for the future value creation process in the Tunisian stock exchange. The testable implications of the panel probit model regarding efficiency gains from the standard probit are left for future exercise pending availability of reliable Tunisian financial market data sets for additional companies[9].

3.1 The data

The data set used in the empirical work was extracted from listed company annual reports. The Tunisian stock exchange bulletin gathered market capitalization information for a sample of 28 companies covering the period 1990-1996. These companies were classified into two categories for the purpose of analysis: Banks and other companies.

The variables of interest incorporated in the analysis were as follows:

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[6] Arellano et al., (1996) developed a class of semi-parametric REPM without the strict exogeneity assumption of the regressors.

[7] In the empirical analysis, $Y_{it} = 1$, when there is a future creation of value in the stock exchange, that is:

$\dfrac{MV_{it}}{BV_{it}} > 1$; $Y_{it} = 0$, elsewhere.

[8] The authors reported that a major computational problem in the estimation process is the evaluation of the integral in (3). To circumvent this problem, they suggest the use of Hermite integration. (see Stround, 1974 for more details). We use LIMDEP 7.0 , where the estimation procedure is well implemented.

[9] As noted by D.K. Guilkey et al., (1993), we must have in mind that: "the asymptotic efficiency of MLE estimator was not always a good indicator of its performance in finite sample", p.316.

- *Market/to book ratio* (MBR). It's calculated on the basis of a formula which divide the market value of common share at the end of the year by the book value of a firm equity at the year-end.

- *The Dividend Policy factor* (Pay-Out). It's calculated as the ratio of total dividends to total earnings.

- *The financial Policy factor,* i.e. Debt, is measured as the ratio of the sum of all the debts to total assets.

- *Profitability* that is ROA. It's the ratio of the operating income to total assets.

- *Size*. It is measured as the log of total assets.

Summary statistics for the variables used in the analysis are reported in the appendix. The matrix of the correlation between the variables used in the analysis is presented in Table 1. It can be seen that except for debt, all the variables of interest are positively correlated with MBR, with a correlation exceeding 10% for profitability (36.1%). We note also a high correlation between Pay-Out and Size (97%), which can induce a problem of multicolinearity.

Table 1. Correlation between variables in the model.

	MBR	**ROA**	**Pay-out**	**Debt**	**Size**
MBR	1.00	0.36	0.086	-0.06	0.073
ROA		1.00	-0.03	0.06	0.026
Pay-Out			1.00	- 0.44	0.97
Debt				1.00	-0.35
Size					1.00

3.2. Main results and concluding discussion

The future value creation in the Tunisian stock exchange is regressed on factors accounting for dividend policy (Pay-out), financial policy (Debt), and profitability (ROA) of the listed companies. Since we are dealing with a pooled sample of individual companies data, the issue of firm heterogeneity is an important issue. The main characteristics of the unit which serve as heterogeneity controls in the model are: The size of the company (Size) and the industry the company belongs to (D_i = l for Banks, 0 elsewhere).

The specification is as follows:

$$Y_{it} = \beta_1 + \beta_2 Payout_{it} + \beta_3 Debt_{it} + \beta_4 ROA_{it} + \beta_5 SIZE_{it} + \beta_6 D_i + \beta_7 t + \mu_i + \varepsilon_{it} \qquad (6)$$

A time trend variable is included as an additional explanatory variable to capture temporal effects (for example, the impact of the reform) on the value creation process.

Table 2. MIE results for random effects panel probit model and standard probit.

	Standard Probit		Random Effect Panel Probit	
	Coefficient	**t-stat**	**Coefficient**	**t-stat**
Intercept	-709.60	**-3.95	-1247	**-3.82
PROF	18.54	**4.46	35.58	*1.91
POUT	0.21	0.27	35.98	**2.24
Size	-0.003	-0.21	0.98	0.64
Debt	-1.65	*-1.73	-0.52	-0.1
DB	0.85	*1.93	-1.52	-0.6
TREND	0.36	**3.95	0.62	**3.84
ρ			0.96	**2.57
Sample	131		131	

*Denotes 10% level of significance ** denotes 5% level of significance.

Table 2 presents the NME results of the RENT and standard probit specification. The former seems to give significant coefficient estimates that are consistent with our theoretical expectations. Especially, the probability of creating future values is positively and significantly correlated with dividend policy (Pay-Out) and profitability factor (ROA). Basically a very profitable company which distribute a great deal of its earning as dividends convey signals of the quality of management and therefore, result in a value creation.

The debt effect is negative but insignificant in the REPM. We should emphasize that the capital structure irrelevance theory of Modigliani and Miller would be accepted for the Tunisian listed companies.[10] The results suggest also that the value creation is neither affected by industry patterns, nor by size.

The hypothesis of no individual random effect in the panel data is performed with a wald test wich consists on testing the null hypothesis H_o: $\rho = 0$ versus H_1: $\rho \neq 0$. The statistic is:[11]

$$W = \frac{\hat{\rho}^2}{v(\hat{\rho})} \rightarrow \chi^2(1) \qquad (7)$$

Using results from table 2, we obtain W = 6.605 which is highly significant. Thus, empirical evidence, suggest that non-observed heterogeneity between firms, such as quality of management, seems to be significant in the analysis of the value creation of companies in the Tunisian Stock exchange.

[10] We must be care that, paradoxically the standard probit model produce conflicting result for this issue since the debt effect seems to be negative and marginally significant (t=-1.73) at 10% level of significance.
[11] The statistics is asymtotically distributed as chi-squarred with degrees of freedom equal to 1.

Finally, the time trend factor is positive and highly significant for both models. This finding suggests that the progressive reforms of the Tunisian stock exchange have attracted new investors, who have contributed by their purchase to the appreciation of the value of listed shares.

APPENDIX - DESCRIPTIVE STATISTICS

Table 3. Descriptive statistics for the variables in the model.

	Mean	Std dev	Skewness	Kurtosis	Minimum	Maximum
MBR	0.74	0.44	-1.1	2.2	0.00	1.00
ROA	0.12	0.05	0.2	3.2	0.002	0.25
Pay-Out	0.54	0.89	7.2	56.4	0.00	7.5
Size	18.24	79.41	7.9	63.0	6.00	6.0
Debt	0.76	0.26	-1.6	4.6	0.00	0.98

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REFERENCES

Alberts W. et al., (1984) *Value based strategic investment planning,* Interfaces, January/February: 138-151

Ansoff I. (1989) *Stratégies de développement de 1'entreprise,* Les éditions d'Organisation.

Arellano M. and Carasco R., (1996) "Binary choice panel data models with predetermined variables", Working paper n°9618. Cemfi. Spain.

Arzac E., (1986) "Do your business units create shareholder value?", *Harvard Business* Review, January/February: 121-126.

Barwise P. et al., (1989) "*Must finance and strategy clash?"*. *Harvard Business Review*, September/October: 85-90.

Ben Naceur S. et Goaïed M., (1998) "La création destruction de valeur des banques dépôts tunisiennes", *Revue Banque et Marchés,* 34: 32-37.

Bhattacharya S., (1979) "Imperfect information, dividend policy and 'the bird in the hand' fallacy", *Bell Journal of Economics,* Spring: 259-270.

Brennan M., (1970) "Taxes, market valuation and corporate financial policy". *National Tax Journal,* December: 417-427.

Buttler J.S. and Moffit R., (1982) "A computationally efficient quadrature procedure for the one-factor multinomial probit model". *Econometrica,* 50: 761-764.

Caby J. et al., (1996) "Stratégie et finance : le processus de création de valeur". *Revue Française de Gestion,* 108: 49-56.

Chamberlain G., (1980) "Analysis of covariance with qualitative data". *Review of Economic Studies,* 47: 225-238.

Copeland T.E. and Weston J.F., (1988) *Financial theory and corporate policy,* Addison-Wesley.

Couret A. et al., (1991) *Initiation à la gestion,* Montchrestien, 2nd ed. 538-551.

De Bodinat H., (1978) "Stratégie et politique financière". *La Revue Banque,* 374: 750756.

Degos J.G. et al., (1988) *Evaluation des sociétés et de leurs titres,* Vuibert, 1988.

Farrar D. et al., Taxes, (1967) Corporate financial policy and return to investors, *National Tax Journal,* December: 444-454.

Fruhan W.E., (1979) *"Financial strategy: studies in the creation, transfer and destruction of shareholder value "*. R.D Irwin, Homewood, IL, 1979, Chapters 1-2.

Fruhan W.E., (1984) "How fast should your company grow*?"*. *Harvard Business* Review, January-February: 84-93.

Guilkey K. and Murphy J.L., (1993) "Estimating and testing in the random effects probit model". *Journal of Econometrics, 59: 301-317.*

Hakansson N., (1982) "To pay or not to pay dividends?". *Journal of Finance, May:* 415-428.

Harris M. and Raviv A., (1991). "The theory of capital structure". *Journal of Finance,* March: 298-335.

Hax A.C. et al., (1984) *Strategic management: an integrative perspective,* Englewood Cliffs, New Jersey, Prentice Hall.

Heckman J.J., (1981) "Statistical models for discrete panel data". in: *Manski, C., Mc Fadden, D.* (Eds.), Structural analysis of discrete data with econometric applications, M.I.T. Press, Cambridge. Pp 114-178.

Higgins R.E. et al., (1983) "Managing the growth-financial policy nexus". *Journal of Retailing,* Fall: 19-48.

Jensen M.C. and Meekling W., (1976) "Theory of the firm: managerial behavior, agency cost and ownership structure". *Journal of Financial Economics,* 3: 305-360.

Jensen M.C., (1986) *"Agency costs of free cash-flow, corporate finance, and takeovers"*. *American Economic Review,* 76: 3 23 -3 29.

Kerin R.A. et al., (1985) "Value-based planning in retailing". *Journal of Retailing,* Spring: 5-10.

Lechner M., (1995) *"Some specification tests for probit models estimated on panel data." Journal of Business Economics and Statistics,* 13: 475-488.

Leland H. and Pyle D., (1977) "Informational asymmetries, financial structure, and financial intermediation". *Journal of Finance,* May, 32: 371-388.

Miller M. and Rock R., (1985) *"Dividend policy under asymmetric information"*. *Journal of Finance,* September: 1031-1051.

Miller M. and Scholes M., (1978) "Dividend and taxes". *Journal of Financial Economics,* December: 333-364.

Miller, M. and Modigliani, F., (1961) "Dividend policy, growth and the valuation of shares". *Journal of Business*, October: 1031-1051.

Modigliani F. and Miller M., (1963) "Taxes and the cost of capital: A correction". *American Economic Review*, June: 433-443.

Modigliani F. and Miller M., (1958) "The cost of capital, corporation finance and the theory of investment", *American Economic Review*, June: 261-297.

Myers S.C, (1977) "*Determinants of corporate borrowing. " Journal of Financial Economics*, November: 147-176.

Myers S.C., (1984) "Finance theory and finance strategy", *Interfaces*, 14: 126-137.

Newey W., (1994) "The asymptotic variance of semiparametric estimators". *Econometrica*, **62** (1994) 1349-1382.

Pène D., (1983) Modèles d'évaluation des entreprises et modèles stratégiques, *Analyse financière*, 54: 55-62.

Pfeifer and Polheimer W., (1992) "Income uncertainty and the probability of self-employment", *Recherches Economiques de Louvain*, 58: 265-381.

Rappaport A., (1986) "Linking competitive strategy and shareholder value analysis". *The Journal of Business Strategy: 5*8-67.

Rappaport A., (1981) *Selecting strategies that shareholder value, Harvard Business Review*, May-June: 139-149.

Rappaport A., (1987) *"Corporate performance standards and shareholder value"*. The *Journal of Business Strategy:* 28-38.

Ross S., (1977) "The determination of financial structure: the incentive signalling approach". *Bell Journal of Economics*, Spring: 23-40.

Rozeff M., (1982) "Growth, beta and agency costs as determinants of dividend payout ratios". *Journal of Financial Research*, Fall: 249-259.

Sachs J., (1998) "L'afrique sur le chemin de la croissance"., *Jeune Afrique*, 1942: 53-63.

Stroud A.H., (1974) *Numerical quadrature*, Springer Verlag, New York.

Surbled G., (1984) "Evaluation financière et stratégique : vers un nouveau cadre conceptuel de 1'évaluation". *Analyse Financière*, 3e trimestre: 78-85.

Varaiya N. et al., (1987) "The relationship between growth, profitability and firm value". *Strategic Management Journal*, 8: 487-497.