

## UK AND US MULTINATIONAL CORPORATIONS CAPITAL STRUCTURE: DIFFERENT APPROACHES TO SHAREHOLDER VALUE MAXIMIZATION

FLOAREA IOSUB-DOBRICA \*

### Abstract

*The shareholder value maximization is the keystone of the actual stage of capitalism. The objective function of publicly quoted corporations is nowadays the maximization of the shareholders' wealth, i.e. the sum of dividends and capital gains. Despite the increasing international financial opening, the shareholder value model, usually associated with UK and US, is typically presented as opposed to that of Continental Europe (i.e. Germany, France) and Japan. Yet, less attention is paid to the particularities of the shareholder value model across its representative countries. Are American and British corporations using similar financial strategies in response to shareholders exigencies? The empirical analysis conducted herein allows us to assert that, despite the association of both countries to the same model, there are striking differences in the financing strategies of UK and US MNCs.*

**Key words:** shareholder value, multinational corporations (MNCs), capital structure, agency problem, market timing, payout ratio, stock buyback, equity-issue.

### 1 Introduction

The end of the 20<sup>th</sup> century is marked by an important shift in the corporate governance mechanism: the managerial capitalism, specific to the post-war period, evolved into financial capitalism, and shareholders increasingly overpowered managers.

In the late seventies and early eighties, a particularly inflationary period with the inherent high interest rates and low growth, the stock market emerged as the best source of corporate finance. Regaining the financial market attention became critical. In order to succeed, managers had to break off with the industrial diversification strategies inspired by the portfolio investment management. A wave of concentration-aimed sectorial mergers and acquisitions followed. Two decades later, the initial quest for financial investors' interest turned into a pursuit of shareholders' wealth maximization. The long-established *quarterly ritual* of income forecast puts pressure on the management, which must positively *surprise* the market. The aim of improving the corporate competitive advantages melts nowadays in the maximization of shareholder value objective.

The favorable institutional framework makes USA and UK the two leading countries of this movement. Their financial system is traditionally qualified as *market-oriented*: firms originating in these two countries are, at least in theory, mainly laying on stock market financing. From this point of view, the American and British corporations are opposed to those originating in Continental Europe and Japan (*bank-oriented* system representative countries), whose investment projects are more often financed by (bank) debt. However, the increasing reliance of corporations on exchange markets, as well as the high-speed

---

\* PhD student, Centre de Recherche sur l'Intégration Economique et Financière (CRIEF), UFR Sciences économiques, Poitiers University, Poitiers-France, e-mail: [floarea.iosub@univ-poitiers.fr](mailto:floarea.iosub@univ-poitiers.fr)

innovation in credit markets instruments, is supposed to reshape the corporate financing pattern. In addition, considering the international integration of the capital markets, as well as the simultaneous presence of the multinational corporations in several countries<sup>1</sup>, mitigated financing patterns and capital structure determinants might be observed across countries. This leads to similarities between MNCs belonging to opposing country-groups and/or discrepancies amongst MNCs originating within the same country-group.

Despite the widespread consensus regarding the opposition *market-* versus *bank-* oriented financial system, there is a lack of empirical studies confirming or disapproving the common financing pattern of MNCs originating in one country-group. The present paper aims at filling this lack, proposing an empirical analysis of the capital structure and capital structure determinants of American and British MNCs, two representative countries for the shareholder value model. The next section reviews the capital structure theoretical framework, followed by the empirical analysis and its main results.

## 2 Capital Structure Theoretical Framework

The capital structure analysis, in general, and that of multinational corporations, in particular, is largely tributary to the work of Modigliani & Miller [1958]. In their seminal paper, Modigliani & Miller [1958] postulate the irrelevance of capital structure for corporate value. Under perfect capital market assumptions, it is not the capital source that increases the firm value, but the assets that the capital finances. The cost of different capital sources varies in a non-independent manner. Hence, there is no reason for an opportunistically switch between equity and debt. The usually retained hypotheses leading to the neutrality of the capital structure are the lack of taxes, the lack of bankruptcy risk, and the efficient and perfectly integrated capital markets.

By relaxing the particularly restrictive hypotheses of Modigliani & Miller model, numerous consequent studies aim at showing an existing dependence between financial choices and corporate value. The purpose of these studies is to identify an optimal debt level, as well as the determinant factors of debt financing.

The various contributions to the capital structure theoretical framework put forward since the middle of the past century have highlighted the importance of the institutional dimension (taxation, bankruptcy regulation) but also the relevance of the governance mechanisms (agency costs, transaction costs) for the corporate financing decisions. They laid ground to two different approaches crystallized in the 80's: the trade-off theory (henceforth, TOT) and the pecking order theory (henceforth, POT) [Myers, 1984]. Synthesizing the contributions exposed in a wide manner in the post - Modigliani & Miller [1958] corporate finance literature, these two approaches will provide a reference frame for almost all consequent empirical studies. From these perspectives, the external financing (equity and debt financing) has costs and advantages whose consideration is necessary. Thus, the financing structure (in other words, the income repartition between stockholders and bondholders) is dictated by the arbitrage between the costs and the advantages of different financing sources.

The trade-off theory emerges from the studies highlighting the non-neutrality of taxes, bankruptcy and agency costs in the settling of corporate financial strategies. Debt advantages (fiscal, disciplinary role of debt on managers – [Jensen & Meckling, 1976], [Grossman & Hart, 1982] -, lower information costs relative to equity finance costs) and drawbacks (bankruptcy costs due to higher debt, agency costs due to information asymmetry between shareholders and creditors, etc.) can therefore be identified. The corporate capital structure is thus an outcome of debt advantage-drawback trade-off. Companies acting in line with this theory would continuously adjust their capital structures toward a target debt ratio. Beside the target debt ratio as evidence of the TOT, two prevailing leverage determinants

can be identified. These are the tax benefits and bankruptcy costs. A highly profitable corporation should have a considerable leverage in order to offset debt costs and debt tax shield. Under the TOT, a company with a relatively high leverage would be expected to mostly consider the tax advantage of debt rather than other factors in financing choices.

Contrary to the trade-off theory, the pecking order theory does not suppose that an optimal debt level exists. The taxes and the financial bankruptcy are important, but not decisive. Essentially constructed on the information asymmetry hypothesis, the POT postulates the existence of a hierarchy in the financing sources choices. Developing its theory around the adverse selection problem, Myers contends that managers will prefer the internal resources to debt and equity finance. The distinction is thus made between three financing sources: retained earnings (no adverse selection problem), debt (small adverse selection problem) and the equity-issue (serious adverse selection problem, thus higher risks relative to debt) [Myers, 1984] [Myers & Majluf, 1984].

Besides the debt financing cost-advantage trade-off, the corporate stock mispricing provides a new explanation to corporate financing choices. The recent proofs of the inaccuracy of the efficient market hypothesis turned economists' attention toward the possible contribution of stock mispricing to the capital structure theory. Thus, the market-timing approach gains ground in the capital structure theoretical field, essentially due to the recent empirical work of two behavioral finance partisans, Baker & Wurgler [2002].

In the market-timing framework, firms are more likely to issue equity when their market values are high, relative to their book and past market values, and to repurchase equity when their market values are low. In this line, "the capital structure is the cumulative outcome of attempts to time the equity markets" [Baker & Wurgler, 2002]. The managers are hence able to identify the stock mispricing and to act consequently, in function of the relative cost of equity and debt. Since the publication of Baker & Wurgler paper in 2002, many authors challenged the postulate that, on one hand, the corporate financing decisions are more and more dictated by market timing, and, on the other hand, that the market timing has a lasting effect in the capital structure, i.e. there is no target debt ratio.

Taking into account these theoretical postulates, an empirical analysis is hence conducted on the capital structure decisions of American and British MNCs.

### 3 Empirical analysis

The purpose of the empirical analysis is to identify common and distinctive patterns in corporate financing decisions across the two *shareholder value*-led countries. The MNCs retained in the present study are very large publicly quoted and non-financial companies, with a revenue superior to three billions USD. The annual financial account data for a ten years period (1996-2005) are extracted from the Bureau Van Dijk's ORBIS database. The country panel size is significantly reduced, due to the lack of fulfillment of data series and due to delayed time series across companies. The study is therefore conducted on a considerably smaller number of corporations than initially predicted. The final panel consists of 640 American MNCs (out of 783) and 114 British MNCs (out of 292).

#### 3.1 Descriptive statistics

The evolution of debt financing dependence (estimated here by the debt-to-equity ratio) of American and British MNCs suggests different patterns across countries (Figure 1). In order to relate their debt-to-equity ratio to that of MNCs originating in bank-oriented countries, the debt-to-equity ratio of German and Japanese MNCs is also presented.

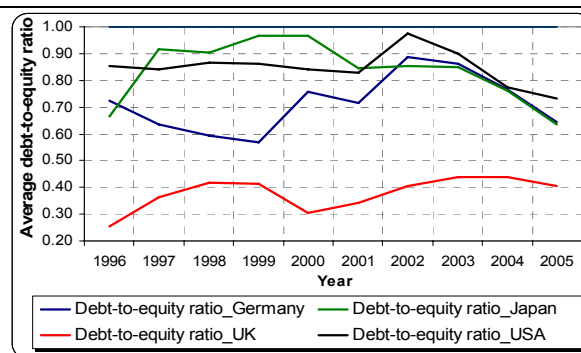


Fig. 1 Country average debt-to-equity ratio (1996-2005)

Surprisingly, the American multinational corporations are found, together with the German and Japan MNCs, at the upper top of the plot, contrary to the UK multinationals. The relative lower debt financing dependence of UK MNCs suggests a preference for the larger use of shareholders equity. This apparently contradictory result is explained by the detractors of shareholder value creation who posit that debt must finance as much as possible the corporate assets. Beyond the debt tax shield, the debt cost is lower than equity funds cost. Thus, the return on the shareholders investment is higher when using more debts instead of equity funds [Batsch, 2002]. Indeed, more debts lead, *ceteris paribus*, to higher financial risk and, thus, to higher shareholder yield requirement.

A closer look to the net equity, net debt issue ratio and payout ratio shows even wider gaps between the American and British MNCs. Seemingly, a dividend payout consequent policy allows the UK MNCs to primarily opt for equity financing. On the contrary, the US MNCs dividend policy is further moderated and the stock buybacks are, in average, superior to the new equity issues. Bearing in mind the debt level gap between the MNCs originating in these two countries, the US MNCs relatively higher indebtedness might be explained by large stock buyback operations<sup>2</sup>. The widespread *stock-option* remuneration system in US might lead to massive buyback waves, in order to cope with the inherent dilution problem.

Dividend distribution appears to be the principal financial mechanism for shareholder value creation in British MNCs, while a mixture of capital gains and dividends policy seems to channel value toward US MNCs shareholders. Considering these preliminary remarks, a dynamic-panel estimation is conducted in order to identify the US and UK MNCs debt ratio determinants.

### 3.2 Econometric method and explicative variables

The Generalized Method of Moments (GMM henceforth) for dynamic panel-data estimation was chosen in order to control for the simultaneity and endogeneity problems, inherent when manipulating corporate balance sheet data. Dynamic panel models permit to explain the current level of the dependent variable in function of its past realizations. The relations between an endogenous variable and its lagged values would be difficult to estimate in a static fixed or random effects panel model due to the correlation between the lagged values and the error term.

The Arellano & Bond [1991] one-step GMM estimator is used here. Despite the improved efficiency of the two-step GMM estimator relative to the one-step GMM, our choice is justified by the size of the data sets. For small samples, Arellano & Bond [1991] recommend using one-step results for inference on the coefficients, since the two-step standard errors tend to be biased downward.

The explicative variables retained for the econometric estimation are those identified by the traditional theoretical framework: collaterals, profitability, operating risk, industry<sup>3</sup> average debt ratio, and growth opportunities<sup>4</sup>. In order to test the market-timing approach postulates, an “*external finance weighted-average*” variable, as proposed by Baker & Wurgler [2002], is used in our estimation.

### 3.3 Results

Dynamic panel estimations were run for each of the two country data sets: United States and United Kingdom. The leverage ratio variation is herein explained by the tangibility ratio, the profitability, the risk, the industry average debt level, the growth opportunities (approximated by the market-to-book ratio), and the external finance weighted average market to book. Both the endogenous and the exogenous variables are scaled. Hence, country average of each variable is equal to one. The estimations results are reported in Table 1.

*Table no. 1 - Econometric estimation results*

	Debt ratio <sub>t,(t-1)</sub>	Collateral	Profitability	Risk	Industry debt level	Growth opportunity	Market timing	Hansen P-value	Arellano & Bond AR(1)/AR(2) test p-value
UK	<b>0.418***</b> (0.091)	-0.179 (0.218)	<b>-0.051*</b> (0.011)	0.018 (0.011)	<b>0.852***</b> (0.211)	-0.021 (0.015)	<b>0.003*</b> (0.001)	0.157	0.026/0.114
USA	<b>0.866***</b> (0.000)	-0.018 (0.066)	-0.032 (0.025)	-0.004 (0.004)	<b>0.163*</b> (0.093)	<b>0.014**</b> (0.007)	<b>-0.064**</b> (0.025)	0.274	0.000/0.070

*Note:* STATA estimations results; the dependent variable is the debt ratio; \*\*\*, \*\*, and \* denote significance at 1%, 5%, and 10% level, respectively. Robust standard errors are reported in parenthesis.

The American and British MNCs debt ratio is similarly influenced by the tangibility, risk and industry average debt ratio. Nevertheless, differences amongst the US and UK financing pattern can be noticed in relation with the profitability, growth opportunities and market timing *proxy* variables.

There is a consensus in the existing literature that the informational asymmetry between lenders and corporations is generally reduced by the pledge of collateral. The larger is the part of tangible assets in the total assets, the larger the collateral is and the smaller the creditor expected loss is, in case of insolvency. The increasing importance of unsecured bonds in corporate debt financing seems to operate a relative rupture between asset tangibility and leverage ratio. Moreover, the widespread use of credit ratings, mostly based on the current assets and liabilities in the balance sheet, combined with the larger interest for operational flexibility, encourage corporations to reduce the part of fixed assets in their total assets, leading to the documented neutrality of the collateral in the corporate debt contracts.

The operating risk associated with a high volatility of the income leads, under both POT and TOT, to lower leverage ratios. Nevertheless, the risk seems to have little influence on the US and UK MNCs leverage ratio. On the other hand, both the US and UK MNCs are adjusting their debt level toward the industry average. The relative lower adjustment costs, but also lower intensity of debtholders-shareholders conflicts of interest, explain a relative higher adjustment speed of UK MNCs debt, compared to US MNCs.

Lower agency costs of equity financing also provide an explanation for the negative correlation found between leverage ratio and profitability. Dividend payment leads to lower agency costs of equity. Thus, active dividend policy firms (as the British MNCs) can raise

more equity, leading to lower debt ratio. However, this variable does not appear statistically significant for the debt ratio of US MNCs.

The growth opportunities estimated by the market-to-book ratio are statistically significant only for the US MNCs. Nevertheless, the documented sign is counterintuitive: the more important the growth opportunities are, the higher the corporate debt ratio is. A positive correlation between the growth opportunities and the debt ratio is generally found in the estimations made on the convertible debt, and not on the total long-term interest bearing debt. Because the convertible debts are diminishing the agency cost of debt, they are widely used by firms facing intense agency conflicts. One might conclude that the convertible debts are preponderant in the long-term debt financing of the US MNCs.

The market-timing approach postulates are only confirmed by the US MNCs: the long-run external finance timing leads to a decrease in the leverage ratio over the analyzed period. Contrary to the US MNCs, the UK MNCs market timing operations lead to higher debt ratio.

#### 4 Conclusions

The empirical analysis of the capital structure of UK and US MNCs highlights striking dissimilarities in terms of financing choices amongst the two representative countries of the shareholder value model. Over the period 1996–2005, the US multinationals seem to be more subjected to agency problems than their British counterparts do. Therefore, the financial management responses to shareholder exigencies are different. The US MNCs are mainly using an aggressive stock buyback policy with the inherent increasing of debt financing, while the British MNCs are mostly promoting an active dividend payment policy with new equity-issues financing. The reaction of the detractors of the shareholder value model might appear legitimate, as long as the increasing corporate indebtedness does not necessarily finance the corporate strategic investment projects, but rather fuels the shareholders' wealth. In response, a raising number of US MNCs (Coca-Cola, Gillette and Intel, amongst others) are stopping the practice of the *quarterly ritual* of income forecast, and are moving toward a yearly forecast.

#### References

- Aglietta, M. and Rebérioux, A., *Dérives du capitalisme financier*, Ed. Albin Michel, Paris, 2004.
- Arellano, M., and Bond, S., "Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations," *The Review of Economic Studies*, 58: 277-297, 1991.
- Baker, M., and Wurgler, J., "Market Timing and Capital Structure", *The Journal of Finance*, 57(1): 1-32, 2002.
- Batsch, L., *Le capitalisme financier*, Ed. La Découverte, Paris, 2002.
- Grossman, S.J., and Hart, O., "Corporate Financial Structure and Managerial Incentives", in *J. McCall, ed.: The Economics of Information and Uncertainty*, University of Chicago Press, Chicago, 1982.
- Jensen, M.C., and Meckling, W.H., "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure", *Journal of Financial Economics*, 3: 305-360, 1976.
- Modigliani, F., and Miller, M.H., "The Cost of Capital, Corporate Finance, and the Theory of Investment", *American Economic Review*, 48: 261-297, 1958.
- Myers, S., "The Capital Structure Puzzle", *Journal of Finance* 39: 575-592, 1984.

Myers, S.C., and Majluf, N., "Corporate Financing and Investment Decisions when Firms Have Information that Investors Do Not Have", *Journal of Financial Economics* 13: 187-221, 1984.

#### Notes

1. Multinational corporations (MNCs) are companies that have offices, production and sales facilities in more than one country.

2. In May 2007, the American group IBM initiated a buyback operation, which concerns 8% of IBM publicly traded stocks. IBM finances this operation by 11.5 billion USD contracted debt and 1 billion USD cash. The implicit effect is an increase of the earning per share in 2007 (*La Tribune*, May 30<sup>th</sup> 2007, "IBM rachète massivement ses actions").

3. The initial NACE classification of industries (as found in the ORBIS database) is regrouped in the MSCI business sectors. Details can be found at <http://www.msccibarra.com/products/gics/>.

4. Leverage ratio  $lev_t = \frac{long\ term\ debt_t}{total\ assets_t} * 100$ ; tangibility ratio  $tng_t = \frac{tangible\ assets_t}{total\ assets_t} * 100$ ; profitability

ratio  $prof_t = \frac{net\ income_t}{total\ assets_t} * 100$ ; market timing proxy  $efwa_{it-1} = \frac{\sum_{s=0}^{t-1} e_s + d_s}{\sum_{r=0}^{t-1} e_r + d_r} (MB)_s$ ;

operating risk  $risk_{it} = \left[ \frac{net\ income_{it}}{turnover_{it}} - \left( \frac{net\ income_t}{turnover_t} \right) \right]^2$ .