

Financial Structure between Modern and Traditional Theories

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Abstract: The financial structure of the most important issues for which it received the interests of scientific research in the field of financial management, where developed several theoretical at about optimizing selection of the financial structure of the institution and the interpretation of behavior finance has, however, until now, there is no consensus or agreement on the theory of a particular answer on the various questions in this regard, and especially the issue of optimizing the financial structure, the economics of debt and a market economy. This paper aimed at identifying the most important determinants of the financial structure of listed industrial companies in Egypt, The researcher analysis is comprehensive for the companies; my results are compared contrasted with those reported for US Company by Graham and Harvey (2001), in addition to identifying these companies debt capacity and their ability to borrow from financing companies. So, the overall objective of this study is to examine the corporate finance practices being adopted by Egyptian companies.

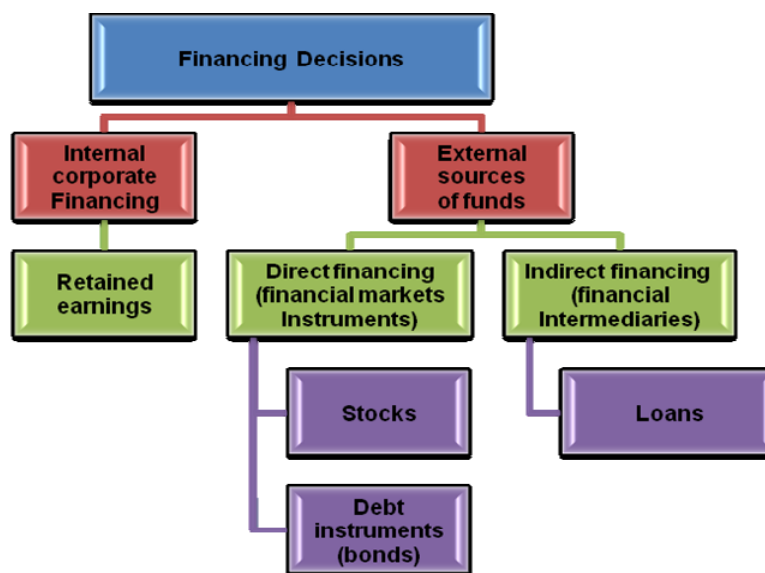
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Keywords: financial structure; CFOs, CAPM, IRR, NPV, DCF, the cost of capital; optimizing the financial structure; the value of the institution.

1. Introduction

In organizing the survey, several options were available. One approach which has proved fruitful in other areas is to construct or identify a very general model and then examine how existing models specialize this framework. This approach has the advantage of showing clearly the interrelationships among models. In the case of capital structure, however, the set of features one must include in such a general model is so large and complicated that the resulting structure would not yield clear insights.

In this study try to know how professional financial managers deal with different critical situations within modern financial management. I selected professional financial managers in Egypt from a wide range of Egyptian firms. I present vision about theories financial with the behavior of financial managers, I apply research; analyze many corporate finance issues, ranging from capital budgeting methods and techniques to capital structure and corporate governance. Doing so allows me to link the different issues and to deepen my analysis.



Several theories have been developed suggesting a number of factors that might determine a firm's financial structure decision.

The determination of capital structure has been one of the most contentious issues in the finance literature since Modigliani and Miller introduced their capital structure irrelevance in their seminal article in 1958.

Two models appear strongly one of them is the trade-off theory, which assumes that there are benefits and costs associated with the use of debt. In the beginning, the theory was limited to the tradeoff between the tax advantages of debt and bankruptcy costs. Then, it was extended to include benefits and costs of debt associated with agency conflicts. The other main theory is the pecking order hypothesis which assumes that, under information asymmetry between insiders and outsider, firms will resort to internally generated funds first to finance their growth, but when external financing is needed, firms prefer to raise debt before equity. Empirically, numerous studies have been conducted to investigate the determinants of capital structure on the basis of these two theories. However, neither trade-off theory nor the pecking order hypothesis has found to provide robust and exclusive explanatory power. Nevertheless, Harris and Raviv (1991) conclude that it is necessary that empirical research be directed to test determinants of capital structure in various contexts. Motivated by their conclusion, this dissertation investigates the determinants of capital structure in the quite different context of Egypt.

The key issue in corporate finance are Capital budgeting, cost of capital, and capital structure. Major theoretical developments in capital budgeting have been incorporated into corporate practice.

Recent studies on capital budgeting show that European firms are still remarkably keen on applying the payback criterion, instead of discounting their cash flows by using the internal rate of return (IRR) or the net present value (NPV). Similar to their US colleagues, European CFOs determine their cost of capital using the capital asset pricing model (CAPM), rather than applying arithmetic-average historic returns or the dividend discount model. Overall, they find that firm size is positively related to the use of the discounted cash flow method and the application of the CAPM. Smaller firms and firms less oriented towards maximizing shareholder value are more likely to evaluate their investment opportunities by using the payback period criterion and setting their cost of capital at

whatever level their investors tell them. For capital structure, they find smaller disparities between corporate debt policies.

The one of the key developments in over four decades, Sharpe's (1964) publication of the Capital Asset Pricing Model (CAPM). American evidence suggests that the adoption of the CAPM in the practice of capital budgeting has been widespread (Graham & Harvey 2001). However, there is no Egyptian evidence on this issue. While the CAPM was being increasingly adopted in practice, at least in the US, it has also come under academic attack (Fama & French 1992). At the same time, new approaches to asset pricing and capital budgeting have been developed. Developments in real options, for example, have reached the textbook level (Copeland & Antikarov 2003), but relatively little is known about the impact of these developments on capital budgeting practice.

Graham and Harvey (2001) found that IRR and NPV were the most frequently used capital budgeting techniques. Other techniques such as the payback period were less popular, but were still being used by a majority of companies.

Block (1997) found that the payback method was preferred by small firms (42.7%) of the firms. Despite being advocated by academics as a method that could supplement and overcome the limitations of DCF methods, real options techniques were relatively unpopular; they ranked eighth among twelve techniques considered by Graham and Harvey. In another study, Block (2007) covered eight major industrial classifications covering 302 Fortune 1,000 companies. Five key areas related to capital budgeting were covered. Overall, this study shows that, just as industry characteristics often affect the financing patterns of firms (debt versus equity), they also affect the asset deployment decisions. This study brings the left-hand side of the balance sheet up to the level of the right-hand side in terms of industry analysis.

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).

These surveys found that DCF based techniques (IRR and NPV) were dominant and the CAPM was the most popular approach to estimating the cost of capital.

This study will be distinguished from previous surveys in a number of dimensions. We have identified four categories of determinants of capital structure. These are the desire to

Ameliorate conflicts of interest among various groups with claims to the firm's resources, including managers (the agency approach), Convey private information to capital markets or mitigate adverse selection effects (the asymmetric information approach), Influence the nature of products or competition in the product/input market, or Affect the outcome of corporate control contests.

1.2 Objective

The need for relevant information and analysis of corporate finance alternatives has inspired the evolution of a series of models to assist firms in making the "best" allocation of resources.

The overall objective of this study is to examine the corporate finance practices being adopted by Egyptian companies.

Specifically this study aims at:

1. Measure and analyze the extent to which theoretical concepts of capital budgeting techniques have been adopted by professionals from a wide range of Egyptian firms.
2. Measure and analyze the extent to which theoretical concepts of estimating cost of capital have been adopted by professionals from a wide range of Egyptian firms.

1.3 Problem definition

Given the rate of change in business practice over the 1990s, and the developments in the academic literature, it is timely to investigate the extent to which the CAPM and newer theoretical developments have affected Egyptian practice. We consider a number of issues that have received no attention in previous investigations of corporate finance practice. These include: the extent to which companies use real-options analysis in addition to popular techniques such as discounted cash flow (DCF); the use of time-varying discount rates; the extent of use of the CAPM and alternative asset-pricing models such as the Fama and French three-factor model; the inputs companies use when applying the CAPM; whether companies incorporate the value of imputation tax credits into their capital-budgeting procedures, and if so, how they do it; and whether there are differences between Egyptian corporate and regulatory practices in relation to the cost of capital.

1.4 Important questions

Questions of this study revolve around the theory of capital structure of the exchange and capture, and extensions of previous studies that dealt with research and testing, the study questions include the following:

- 1 - How to benefit from the tax savings from the

use of debt on the value of the company?

2 - What is the extent of damage caused by financial hardship in the value of the facility?

3 - How to calculate the cost of the agency, what their impact in the value of the company?

4 - What is the adoption of internal funding goal or the detention of foreign earnings and its relation to the decision of the dividend and investment (debt and ownership).

1.5 Hypotheses

To examine this section I will try test hypotheses about the relation between theory of corporate finance and Egyptian firms practices, the following null hypothesis is proposed:

Ho: There is no significant relationship between Capital budgeting practices of Egyptian firms and capital budgeting studies.

Ho₁: There is no significant relationship between Cost of Capital practices of Egyptian firms and cost of capital studies.

Ho₂: There is no significant relationship between Capital Structure practices of Egyptian firms and capital structure studies.

Ho₃: There is no significant relationship between corporate finance practices of Egyptian firms and corporate finance practices of US firms.

2. Theoretical background

The modern theory of capital structure began with the celebrated paper of Modigliani and Miller (1958). They (MM) pointed the direction that such theories must take by showing under what conditions capital structure is irrelevant. Since then, many economists have followed the path they mapped. Now, some 30 years later it seems appropriate to take stock of where this research stands and where it is going. Our goal in this survey is to synthesize the *recent* literature, summarize its results, relate these to the known empirical evidence, and suggest promising avenues for future research.'

Graham and Harvey's (2001) comprehensive survey on capital budgeting cost of capital and capital structure is also a notable contribution. They find that management use techniques to value projects and estimate cost of capital that have been taught in business school for years, but in contrast, CFOs are less likely to follow the academic recommendations and theories when determining capital structure. Anand (2002) also surveys 81 CFOs in India by examining capital budgeting, cost of capital, capital structure, and dividend policy decisions. His study finds that the practitioners do use the basic corporate finance tools that have been taught in business school when determining capital budgeting, cost of capital and capital structure. Brounen *et al.*,(2004) present results of an

international survey among 313 CFOs on capital budgeting, cost of capital, capital structure, and corporate governance in UK, the Netherlands, Germany, and France.

Rajatanavin & Venkatesh (2008) also survey 40 CFOs in Thailand to investigate current corporate finance. The questionnaire is a slightly modified version of the one used in Graham and Harvey (2001) to investigate corporate finance practices in US companies. Findings from their Thai survey are contrasted with those of the US survey. They also report on the gap between finance theory and its practice in Thailand. They conclude with implications of their findings for finance education and for financial decision-making in Thai firms. Their survey research of the practice of corporate finance in Thailand indicates that practice follows theory but only in parts. NPV and IRR are found to be popular.

2.1 Models Based on Agency Costs

Significant fraction of the effort of researchers over the last 10 years has been devoted to models in which capital structure is determined by agency costs, i.e., costs due to conflicts of interest. Research in this area was initiated by Jensen and Meckling (1976) building on earlier work of Fama and Miller (1972). Jensen and Meckling identify two types of conflicts. Conflicts between shareholders and managers arise because managers hold less than 100% of the residual claim. Consequently, they do not capture the entire gain from their profit enhancement activities, but they do bear the entire cost of these activities.

Equity holders bear this cost to debt holders, however, when the debt is issued if the debt holders correctly anticipate equity holders' future behavior. In this case, the equity holders receive less for the debt than they otherwise would. Thus, the cost of the incentive to invest in value-decreasing projects created by debt is borne by the equity holders who issue the debt. This effect, generally called the "asset substitution effect," is an agency cost of debt financing.

Agency models have been among the most successful in generating interesting implications. In particular, these models predict that leverage is positively associated with firm value (Hirshleifer and Thakor (1989), Harris and Raviv (1990a), Stulz (1990)), default probability (Harris and Raviv (1990a)²³), extent of regulation (Jensen and Meckling (1976), Stulz (1990)), free cash flow (Jensen (1986), Stulz (1990)), liquidation value (Williamson (1988), Harris and Raviv (1990a)), extent to which the firm is a takeover target (Hirshleifer and Thakor (1989), Stulz (1990)), and the importance of managerial reputation

(Hirshleifer and Thakor (1989)). Also, leverage is expected to be negatively associated with the extent of growth opportunities (Jensen and Meckling (1976), Stulz (1990)), interest coverage, the cost of investigating firm prospects, and the probability of reorganization following default (Harris and Raviv (1990a)). Some other implications include the prediction that bonds will have covenants that attempt to restrict the extent to which equity holders can pursue risky projects that reduce the value of the debt (Jensen and Meckling (1976)) and that older firms with longer credit histories will tend to have lower default rates and costs of debt (Diamond (1989)). Finally, the result that firm value and leverage are positively related follows from the fact that these two endogenous variables move in the same direction with changes in the exogenous factors (Hirshleifer and Thakor (1989), Harris and Raviv (1990a), Stulz (1990)). Therefore, leverage increasing (decreasing) changes in capital structure caused by a change in one of these exogenous factors will be accompanied by stock price increases (decreases).

All the theories based on agency problems surveyed in the remainder of this section use one of the conflicts introduced by Jensen and Meckling as a starting point. Consequently, we classify these papers into two subsections corresponding to the conflict between equity holders and managers and the conflict between equity holders and debt holders.

2.A. Conflicts between Equity holders and Managers

The two papers surveyed in this subsection share a common concern with manager-shareholder conflicts but differ according to the specific way in which this conflict arises. More importantly, they also differ in how debt alleviates the problem and in the disadvantages of debt. In Harris and Raviv (1990) and Stulz (1990) managers and investors disagree over an operating decision. In particular, in Harris and Raviv managers are assumed to want always to continue the firm's current operations even if liquidation of the firm is preferred by investors. In Stulz, managers are assumed to want always to invest all available funds even if paying out cash is better for investors. In both cases, it is assumed that the conflict cannot be resolved through contracts based on cash flow and investment expenditure. Debt mitigates the problem in the Harris and Raviv model by giving investors (debt holders) the option to force liquidation if cash flows are poor. In Stulz, as in Jensen (1986), debt payments reduce free cash flow. Capital structure is determined by trading off these benefits of debt against costs of debt. In

Harris and Raviv, the assertion of control by investors through bankruptcy entails costs related to the production of information, used in the liquidation decision, about the firm's prospects. The cost of debt in Stulz's model is that debt payments may more than exhaust "free" cash, reducing the funds available for profitable investment. This comparison of Harris-Raviv and Stulz is summarized in Table I where the relationship of these two models to Jensen and Meckling (1976)

and Jensen (1986) is also shown. The optimal capital structure in Harris and Raviv trades off improved liquidation decisions versus higher investigation costs. A larger debt level improves the liquidation decision because it makes default more likely. In the absence of default, incumbent management is assumed not to liquidate the firm even if the assets are worth more in their next best alternative use.

Table 1 Comparison of Agency Models Based on Manager-Shareholder Conflicts

Model	Conflict	Benefit of Debt	Cost of Debt
Jensen and Meckling (1976)	Managerial perquisites	Increase managerial ownership	Asset substitution
Jensen (1986)	Overinvestment	Reduce free cash	Unspecified
Harris and Raviv (1990a)	Failure to liquidate	Allows investors option to liquidate	Investigation costs
Stulz (1991)	Overinvestment	Reduce free cash	Underinvestment

2. B. Conflicts between Equity holders and Debt holders

This subsection surveys two papers in which reputation moderates the asset substitution problem, i.e., the incentive of levered equity holders to choose risky, negative net-present-value investment. Diamond (1989) and Hirshleifer and Thakor (1989) show how managers or firms have an incentive to pursue relatively safe projects out of reputational considerations. Diamond's model is concerned with a firm's reputation for choosing projects that assure debt repayment. There are two possible investment projects: a safe, positive NPV project and a risky, negative NPV project. The risky project can have one of two payoffs ("success" or "failure"). Both projects require the same initial investment which must be financed by debt. A firm can be of three, initially observationally equivalent types. One type has access only to the safe project, one type has access only to the risky project, and one type has access to both. Since investors cannot distinguish the firms ex ante, the initial lending rate reflects their beliefs about the projects chosen by firms on average. Returns from the safe project suffice to pay the debt holders (even if the firm is believed by investors to have only the risky project), but returns from the risky project allow repayment only if the project is successful. Because of the asset substitution problem, if the firm has a choice of projects, myopic maximization of equity value (e.g., in a one-period situation) would lead the firm to choose the risky project. If the firm can convince lenders it has only the safe project, however, it will enjoy a lower lending rate. Since lenders can observe only a firm's default history, it is

possible for a firm to build a reputation for having only the safe project by not defaulting.

2.2 Capital Budgeting Practices

Capital budgeting decisions are among the most important decisions the financial manager of a company has to deal with. Capital budgeting refers to the process of determining which investment projects result in maximization of shareholder value. Generally speaking, there are four main capital budgeting techniques the manager may use when evaluating an investment project. The Net Present Value (NPV) and Internal Rate of Return (IRR) methods are considered to be discounted cash flow (DCF) methods. The Payback Period (PB) and Average Accounting Rate of Return (ARR) methods are so-called non-DCF methods. From a pure theoretical point of view the NPV is considered to be the most accurate technique to evaluate projects.

2.3 Cost of Capital Practices

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).

The well-known theoretical basis of this by Miller and Modigliani (1963) follows from the assumption of perfect frictionless capital markets and ignores tax distortions. However, in practice dividends contribute more to value than earnings and personal tax effects can be distortionary.

Growth effects can be important contributors to the cost of equity capital, especially in instances of strong brand names (e.g. Coca-Cola (Financial Times, 1998)) or a strong market position (e.g. Microsoft (Economist, 1999). As to a sample of 42 UK analysts, Barker (1999) found that, as far as

valuation models are concerned, the price-earnings ratio is preferred when analyzing the services, industrials and consumer goods sectors, whereas the

dividend yield is predominant in the financial and utilities sectors.

Figure 2-1 Summary of selected surveys of capital budgeting techniques

Surveyed Year(s)	Survey Author(s)	Method	Number of Usable Responses	Sample
1982	Stanley & Block (1984)	questionnaire	121	CFO's of Fortune 1000 multinationals
1986	Pruitt & Gitman (1987)	questionnaire	121	VP Finance or Treasurer of largest industrials in Fortune 500
1986	Pohlman, Santiago, & Markel (1988)	questionnaire	232	CFO's of Fortune 500
1988	Gordon & Myers (1991)	questionnaire	282	Executives and capital budgeting directors of large US industrials except utilities and transportation
1988	Myers, Gordon, & Hamer (1991)	questionnaire	282	Large public firms from FASB Data Bank
1992	Bierman (1993)	questionnaire	74	100 largest of Fortune 500
1990	Porterba & Summers (1995)	questionnaire	160-228	CEO's of Fortune 1000
1991	Gilbert & Reichert (1995)	questionnaire	151	Fortune Magazine Directory CFO's
1992	Trahan & Gitman (1995)	questionnaire	84	CFO's of Fortune 500 + Forbes 200
1992	Shao & Shao (1996)	questionnaire	188	Managers of foreign manufacturing subsidiaries of US industrials
1992	Burns & Walker (1997)	questionnaire	180	Fortune 500
1996-97	Bruner et al (1998)	telephone survey	7,27,10	7 best-selling texts, 27 prestigious CFO's, 10 leading financial advisors
1992-93	Mukherjee & Hingorani (1999)	questionnaire	102	Fortune 500 CFO's
1994	Payne, Heath, & Gale (1999)	questionnaire	155	USA and Canadian based companies from S&P Compustat database
1997	Gitman & Vandenberg (2000)	questionnaire	111	CFO's from Fortune 1000
1999	Graham & Harvey (2001)	questionnaire	392	CFO's from FEI corporations
1999	Triantis & Borison (2001)	interviews	39	executives of large companies
1999	Ryan & Ryan (2002)	questionnaire	205	CFO's of Fortune 1000
2005	Block (2007)	questionnaire	40	top-ranking officers of Fortune 1000

Krishnan and Moyer (1996) found support

for Myers (1984) pecking-order hypothesis that

retentions were a preferred form of finance to new equity but that debt finance is preferred to new equity. They also found size and growth to be important determinants of capital structure in several countries including the US, Germany, Japan and Italy. The link between gearing and the cost of equity, at least in terms of dividend payout ratios, has been examined by Chang (1992) who found that the higher the payout ratio the greater the degree of US debt financing.

Firm size may also be an important key factor. Large institutional investors may not find it worthwhile to research into the performance and potential of smaller firms, since they would avoid investing too much equity in an individual firm. By contrast, their investments in larger firms would tend to push up prices and depress returns. As to emerging markets, Fama and French (1998) find that smaller stocks tend to generate higher returns than larger stocks, although their investigation did not cover Egypt.

2.4 Asymmetric Information

The main predictions of asymmetric information theories concern stock price reactions to issuance and exchange of securities, the amount of leverage, and whether firms observe a pecking order for security issues.

2.4.1 Stock Price Effects of Security Issues

- Debt: Myers and Majluf (1984) and Krasker (1986) predict the absence of price effects upon issuance of (riskless) debt. Noe (1988) and Narayanan (1988) predict a positive price effect of a (risky) debt issue.
- Equity: Myers and Majluf (1984), Krasker (1986), Noe (1988), Korajczyk, *et al.* (1990c), and Lucas and McDonald (1990) predict a negative price effect of an equity issue. This price drop will be larger the larger is the informational asymmetry and the larger is the equity issue. Moreover, Lucas and McDonald (1990) show that, on average, equity issues will be preceded by abnormal stock price increases.

2.4.2 Stock Price Effects of Exchange Offers

- Debt Increasing Offers: Constantinides and Grundy (1989) predict a positive stock price reaction that is larger the larger the exchange.
- Equity Increasing Offers: Brennan and Kraus (1987) predict a positive stock price reaction.

2.4.3 Is There a Pecking Order?

Yes: Myers and Majluf (1984), Krasker (1986), and Narayanan (1988).

No: Brennan and Kraus (1987), Noe (1988), Constantinides and Grundy (1989) dispute the pecking order result in models similar to that of Myers and Majluf. Other signaling models, such as

Ross (1977), Leland and Pyle (1977), and Heinkel (1982) do not obtain a pecking order result.

2.4.4 Leverage

Myers and Majluf (1984) implies that leverage increases with the extent of the informational asymmetry. Ross (1977), Leland and Pyle (1977), Heinkel (1982), Blazenko (1987), John (1987), Poitevin (1989), and Ravid and Sarig (1989) all derive a positive correlation between leverage and value in a cross section of otherwise similar firms. Ross (1977) also predicts a positive correlation between leverage or value and bankruptcy probability, while Leland and Pyle (1977) predict a positive correlation between value and equity ownership of insiders.

2.5 Models Based on Product/Input Market Interactions

Capital structure models based on product/input market interactions are in their infancy. These theories have explored the relationship between capital structure and either product market strategy or characteristics of products/inputs. The strategic variables considered are product price and quantity. These strategies are determined to affect the behavior of rivals, and capital structure in turn affects the equilibrium strategies and payoffs.

Models involving product or input characteristics have focused on the effect of capital structure on the future availability of products, parts and service, product quality, and the bargaining game between management and input suppliers.

The models show that oligopolists will tend to have more debt than monopolists or firms in competitive industries (Brander and Lewis (1986)), and that the debt will tend to be long term (Glazer (1989)). If, however, tacit collusion is important, debt is limited, and debt capacity increases with the elasticity of demand (Maksimovic (1988)). Firms that produce products that are unique or require service and/or parts and firms for which a reputation for producing high quality products is important may be expected to have less debt, other things equal (Titman (1984) and Maksimovic and Titman (Forthcoming)).

Finally, highly unionized firms and firms whose workers have easily transferable skills should have more debt (Sarig (1988)). Models of capital structure based on industrial organization considerations have the potential to provide interesting results. For example, models similar to the ones surveyed above could delineate more specifically the relationship between capital structure and observable industry characteristics such as demand and supply conditions and extent of competition. In addition, it would be useful to explore the impact of capital structure on the choice of

strategic variables other than price and quantity. These could include advertising, research and development expenditure, plant capacity, location, and product characteristics. Such research could help in explaining inter-industry variations in capital structure.

2.6 Theories Driven by Corporate Control Considerations

The papers discussed in this section provide a theory of capital structure related to takeover contests. The major results are as follows. First, all three papers conclude that takeover targets will increase their debt levels on average, and this will be accompanied by a positive stock price reaction. Second, all three show that leverage is negatively related on average to whether the tender offer succeeds. Third, Harris and Raviv (1988) also show that targets of unsuccessful tender offers will have more debt on average than targets of proxy fights. They also show that among firms involved in proxy fights, leverage is lower on average when the incumbent remains in control. Fourth, with regard to the relationship between fraction of the takeover premium captured by the target's equity and the amount of debt, Stulz (1988) and Israel (Forthcoming) obtain opposite results. In Stulz, the premium paid to target shareholders increases with increases in the target's debt level. In Israel, as the bargaining power of the target shareholders decreases, the target optimally issues more debt, and the fraction of the takeover premium captured by the target equity falls. Fifth, Israel shows that targets that are more costly to take over have less debt but capture a larger premium if a takeover occurs. Sixth, Israel predicts that firms that have greater potential takeover gains will have more debt. Two important observations should be noted here. First, the theories surveyed in this section should be viewed as theories of short-term changes in capital structure taken in response to imminent takeover threats, since the optimal capital structure derived in these models can be implemented in response to hostile takeover activity. As a result, theories based on corporate control considerations have nothing to say about the long run capital structure of firms. Second, these papers take as given the characteristics of the securities issued by firms. In particular, both the cash flow aspects and the assignment of voting rights and other control-related features are treated as exogenous.

2.7 Previous Studies on Capital Structure Practices

The empirical literature suggests a number of factors that may influence the financial structure of companies.

Most of the empirical evidence on capital structure comes from studies of the determinants of

corporate debt ratios e.g., Titman and Wessels (1988), Rajan and Zingales (1995), Graham (1996) and John studies of issuing firms' debt vs. equity financing choice Marsh (1982), Jallilv and Harris (1984). These studies have successfully identified firm characteristics such as size, R and D intensity, market-to-book ratio of assets, stock returns, asset tangibility, profitability and the marginal tax rate as important determinants of corporate financing choices. The effects associated with profitability and market-to-book ratio have been found to be especially important. Allen (1991) investigated the financial managers' perceptions of the broad determinants of listed Australian company capital structure decisions. His results were consistent with Donaldson's (1994) previously reported American funding, in that companies appear to follow a pecking order with respect to funding sources and also report policies of maintaining spare debt capacity. His study provides a practical explanation of why debt levels and company profitability might be inversely related. They find only weak support for this hypothesis and conclude that firms act rationally with respect to financing decisions. Hence, we cannot reject any of the theories suggesting on optimal capital structure. The findings justify the use of the co integration framework on capital structure relationships and this ought to be applicable on other companies as well as industries. Bancel and Mittoo (2002) in their study survey managers of firms in seventeen European countries on their capital structure choice and its determinants. Financial flexibility, credit rating and tax advantage of debt are the most important factors influencing the debt policy while the earnings per share dilution is the most important concern in issuing equity. Evidence also supports that the level of interest rate and the share price are important considerations in selecting the timing of the debt and of interest rate and the share price are important considerations in selecting the timing of the debt and equity issues, respectively. Finally, hedging considerations are the primary factors influencing the selection of the maturity of debt or when raising capital abroad. Horakimian *et al.* (2003) have successfully identified firm characteristics such as size, market-to-book ratio of assets, stock returns, asset tangibility, profitability and the marginal tax rate as important determinants of corporate financing choices. It was reported that high market-to-book firms have low target debt ratios. On the other hand, consistent with market timing, high stock returns increase the probability of equity issuance, but have no effect on target leverage.

Our knowledge of capital structure has

mostly been derived from a large volume of research conducted in developed countries but very little is known about Arab countries, in particular Egypt. Following are the studies found in the literature to investigate directly or indirectly the capital structure determinants of some Arabic companies.

The empirical evidences discussed above came out of research investigations that mainly reproduced the literature relating to developed economies and few developing countries. Hence, the understanding of the determinants of capital structure can hardly be understated for a developing economy such as Egypt, given the present state of international capital market.

3. Research Methodology

The methodology adopted in this research includes critical and comparative analyses. The critical analysis reviews the theoretical and empirical literature related to cost of capital, and capital structure. The researcher analysis is comprehensive for the companies; my results are compared contrasted with those reported for US Company by Graham and Harvey (2001) . Specifically, the objectives of the survey are the following; first, to determine the techniques Egypt companies use in their investment decisions and capital budgeting decisions, second, to find out how Egypt companies estimate their cost of capital and capital structure, and third, to evaluate the companies' debt policy as a function of the choices for the companies' debt and appropriate amount of debt, through questionnaire and interviews with the financial managers to discuss the research problem.

3.1 Problem definition

Given the rate of change in business practice over the 1990s, and the developments in the academic literature, it is timely to investigate the extent to which the CAPM and newer theoretical developments have affected Egyptian practice. We consider a number of issues that have received no attention in previous investigations of corporate finance practice. These include: the extent to which companies use real-options analysis in addition to popular techniques such as discounted cash flow (DCF); the use of time-varying discount rates; the extent of use of the CAPM and alternative asset-pricing models such as the Fama and French three-factor model; the inputs companies use when applying the CAPM; whether companies incorporate the value of imputation tax credits into their capital-budgeting procedures, and if so, how they do it; and whether there are differences between Egyptian corporate and regulatory practices in relation to the cost of capital.

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Questions of this study revolve around the theory of capital structure of the exchange and capture, and extensions of previous studies that dealt with research and testing, the study questions include the following:

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3.4 Hypotheses

To examine this section I will try test hypotheses about the relation between theory of corporate finance and Egyptian firms practices, the following null hypothesis is proposed:

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Ho₁: There is no significant relationship between Cost of Capital practices of Egyptian firms and cost of capital studies.

Ho₂: There is no significant relationship between Capital Structure practices of Egyptian firms and capital structure studies.

Ho₃: There is no significant relationship between corporate finance practices of Egyptian firms and corporate finance practices of US firms.

3.5 Method of the survey

The researcher analysis is comprehensive for the companies that use debt, cost of capital, discount rate, tax advantage, retained earnings and capital structure.

3.6 Empirical study

The data for the analysis have been obtained by using the results of a survey. This survey was sent to 150 Egyptian listed and non-listed firms. Investigating both listed and unlisted companies ensured that different size companies are embodied

in the sample and the companies represent the different industrial sectors in the Egypt market. Merely selecting firms listed on the Egypt stock market would have biased the sample towards large firms. It would also have severely reduced the sample size. The inclusion of unlisted companies enables both small and middle size firms to be investigated.

With respect to the questions related to corporate finance practices we asked firms to indicate the frequency of the use of different techniques (running from 0 to 4, where 0 = never and 4 = always). To increase the chances of getting responses from the companies, I decided to keep the survey as short as possible. In total, it included only 15 questions.

4. Results of Empirical study

4.1 Capital Budgeting Practices

The evaluation of new investment projects requires capital budgeting techniques. This section investigates the capital budgeting practices.

To link the results to differences in, for example, firm size and CEO education, we consider the underlying firm characteristics. As do Graham and Harvey (2001) we use a variety of capital budgeting techniques; discounted cash flow

techniques like the IRR, NPV, adjusted present value (APV) , discounted payback period, and profitability index; next to price earnings multiples, book rates of return; and then more advanced methods like sensitivity analysis, and real options. We asked respondents to score how frequently they use the capital budgeting techniques on a scale of zero to four (zero meaning never, four meaning always).

Figure 4-1 displays the functional segments responsible for making capital budgeting decisions. Nearly 58 % (29 firms) of the firms use a team that consists of accounting, management, and marketing personnel to make capital budgeting decisions. Approximately 22 % (11 firms) of the respondents chose “the other category. An analysis of their written responses indicates that those who chose the “other category” also used a team approach. The composition of the team varied across firms. The majority of the firms used teams that at least, included accounting, manufacturing, finance, and operational personnel. Thus, approximately 70% of respondents use some types of team to make capital budgeting decisions. Apparently, the great majority of the respondents believe that it is necessary to draw on the diverse expertise of the many functional areas to make sound capital budgeting decisions.

Figure 4-1: Division responsible for capital budgeting decisions

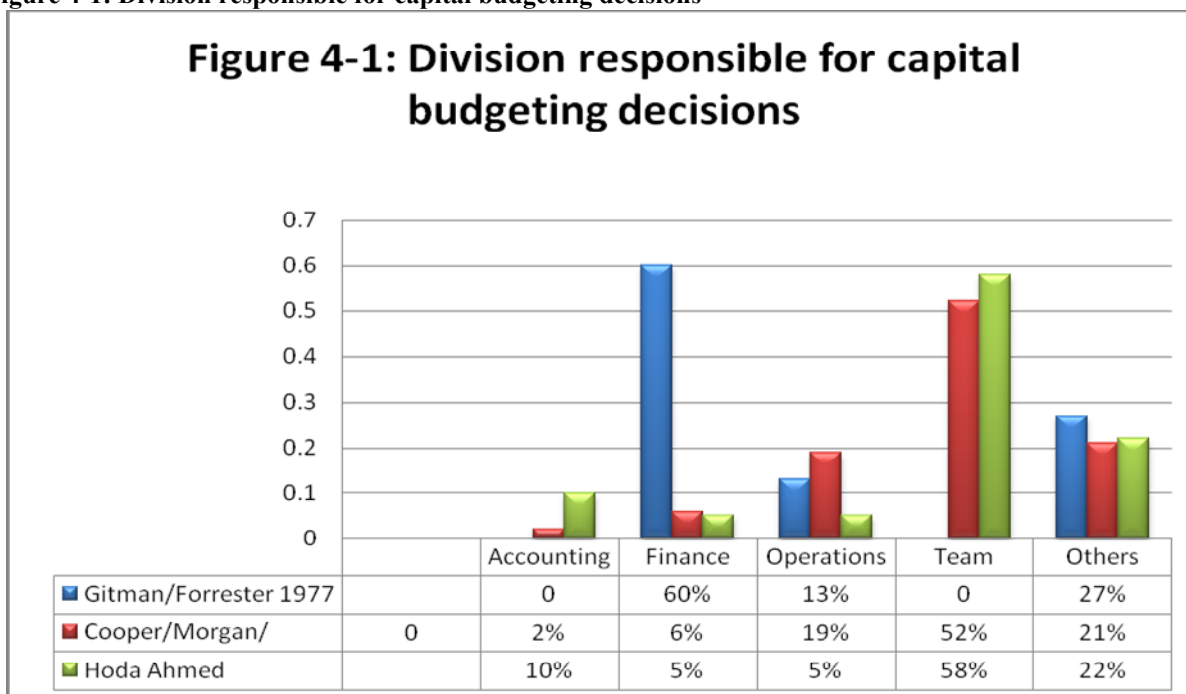


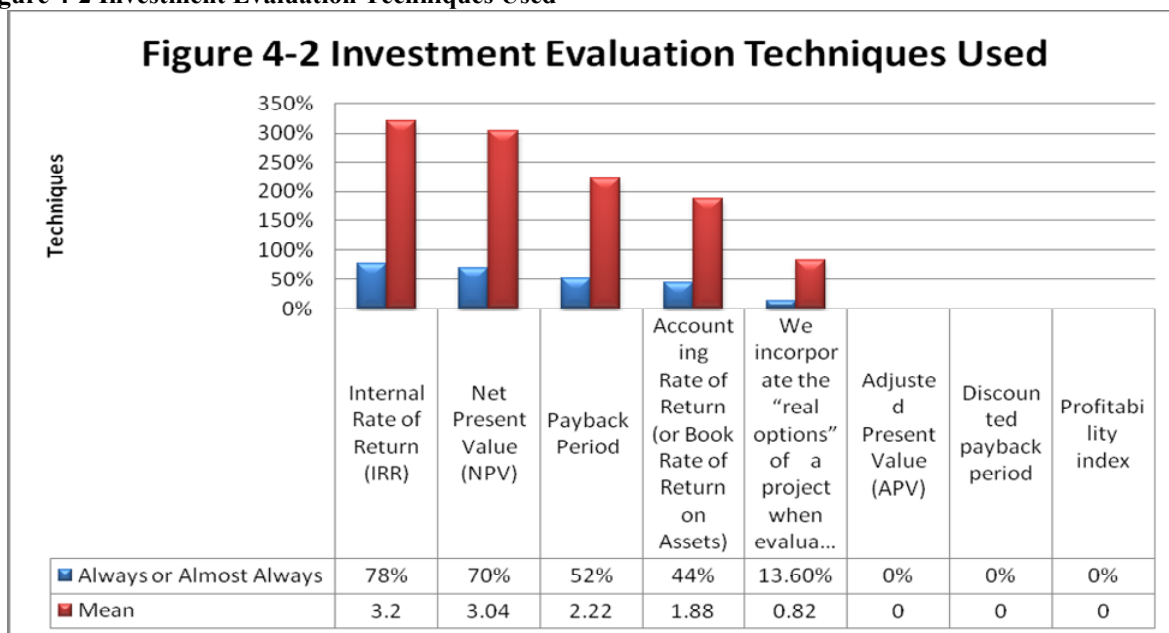
Figure 4-2 reports the survey results on capital budgeting techniques used for decisions making . The response that had the

highest average score when asked “how frequently did your firm use the following capital budgeting techniques when deciding

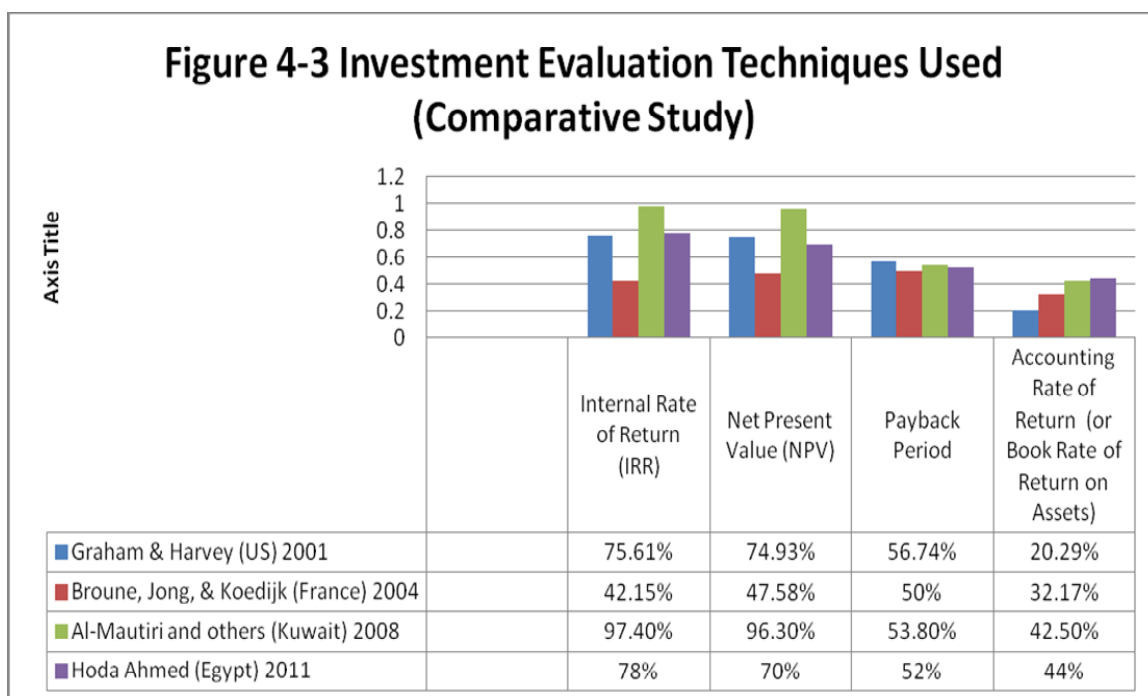
which projects or acquisitions to follow” was IRR on (78%, rating of 3.2) followed by NPV (70%, rating 3.04). Non- DCF methods (such as Accounting Rate of Return (ARR) and PB) are less popular among Egyptian firms. The pay back method is also popular (52%, rating of 2.22). Adjusted Present Value (APV),

discounted payback period, and profitability index are not used in Egyptian firms. The payback criterion is more popular among privately and publicly owned companies that are managed by CFO with non-MBA with medium tenure. see Figure 4-2

Figure 4-2 Investment Evaluation Techniques Used



As shown in Figure 4-3 NPV vs. IRR analysis and ask whether firms use the following evaluation techniques: Adjusted present value, payback period, discounted payback period,, and accounting rate of return. Finally, the researcher is interested in the importance of real options in project evaluation

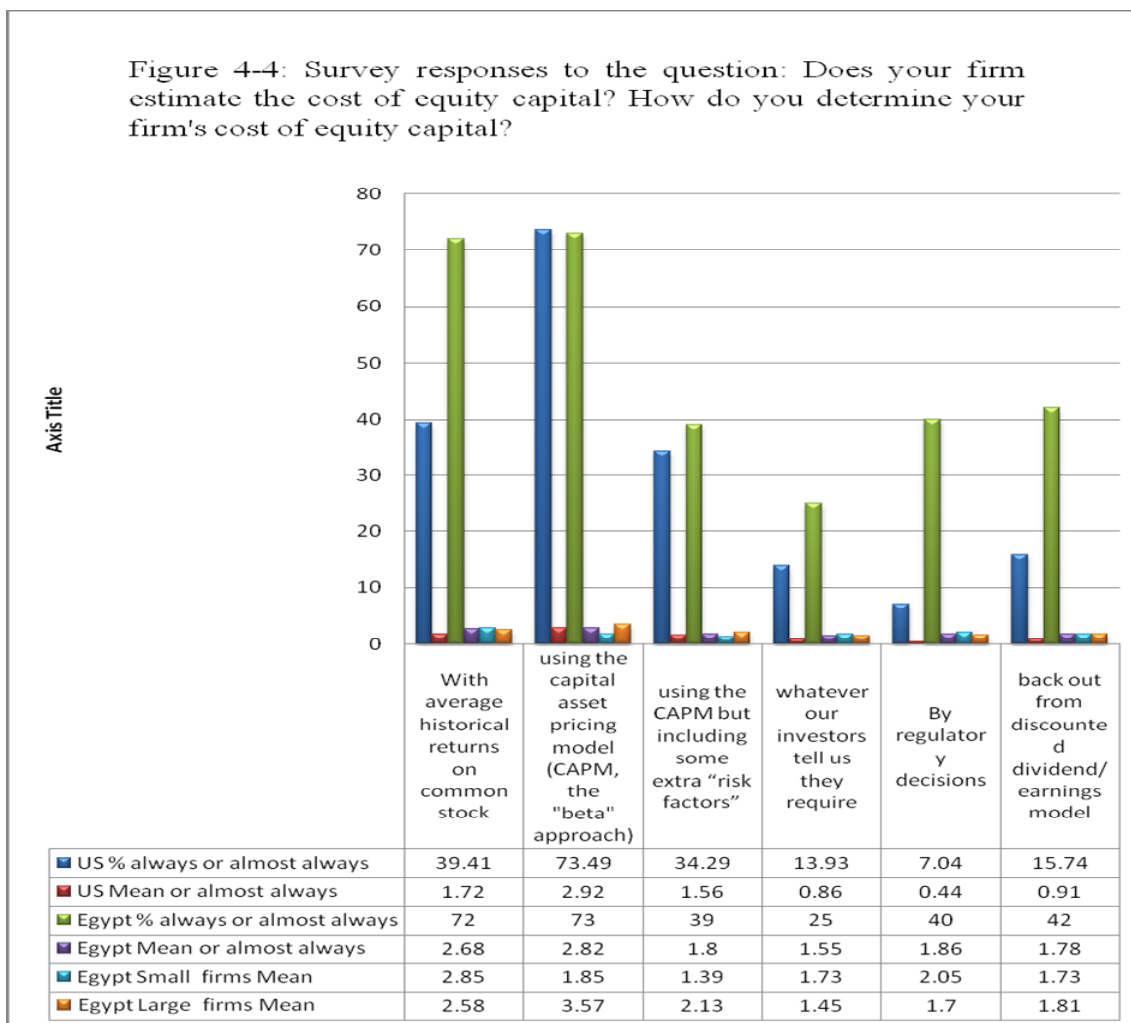


4.2 Cost of Capital Practices

Only 64% of the respondents said that they estimated their cost of capital. This raises questions about how the other respondents use the DCF techniques. Between 6% and 20% of the respondents do not know at least four techniques of estimating Cost of Capital which are listed in the questionnaire. Accounting for the responses which say “I don’t know”, the use of average historical returns on common stock is the most popular method of estimating the Cost of Capital in Egypt. Seventy percent of the respondents claim to use it always or

almost always, which makes it twice as popular in Egypt compared to the US (see figure 4-4). Egyptian companies are also thrice as likely to use the Dividend discount model as US companies to estimate their Cost of Capital.

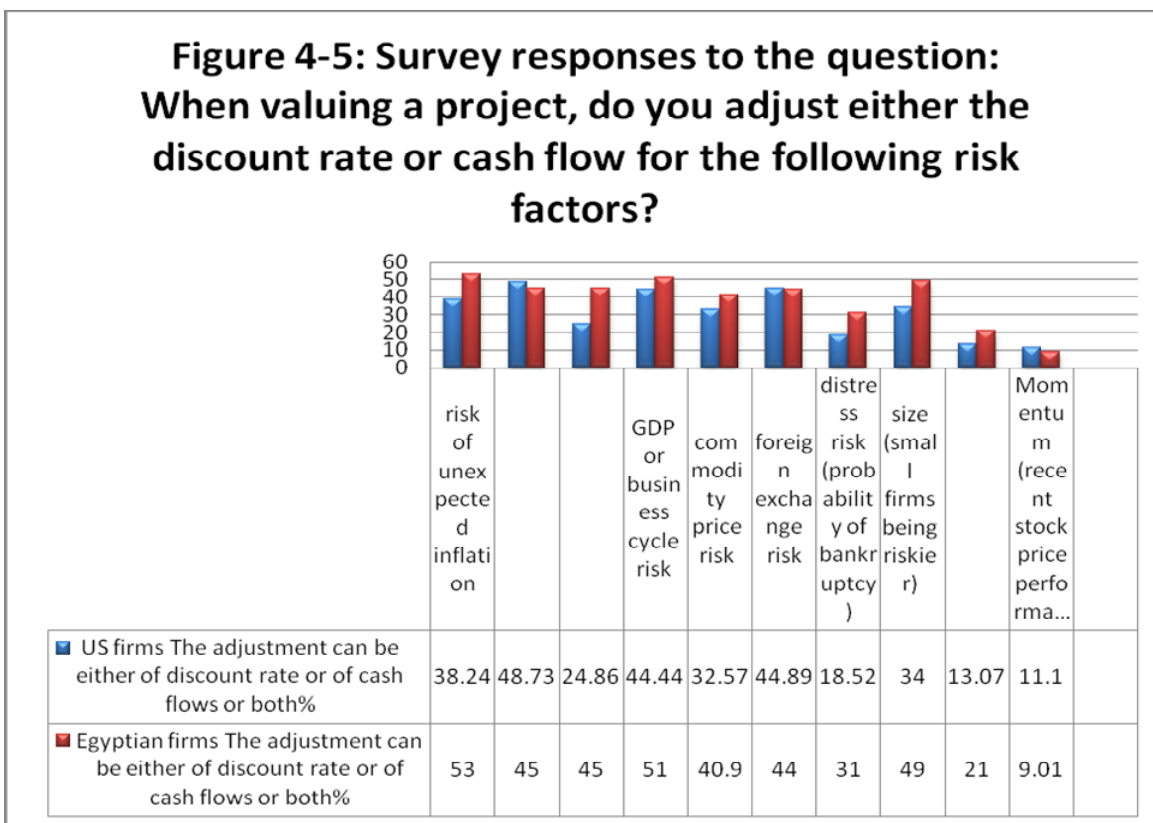
The use of CAPM in estimating cost of capital seems popular in Egypt companies (73%). However, as Graham and Harvey (2001) point out in the context of similar results with the US sample, the findings do not indicate whether the CAPM is properly applied in practice or whether it is at all the best model to determine the Cost of Capital.



In Figure 4-5, few firms adjust either discount rates or cash flows for book-to-market, distress, or momentum risks. Only 21% of respondents consider the book-to-market ratio in either the cash flow or discount rate calculations (13.1 in US). Momentum is only considered important by 9.0% of the respondents (11.1 in US). Small and large firms have different priorities when

adjusting for risk. For large firms, the most important risk factors (in addition to market risk) are foreign exchange risk, business cycle risk, commodity price risk, and interest rate risk. This closely corresponds to the set of factors detailed in Ferson and Harvey (1993) in their large-sample study of multi-beta international asset pricing models. Ferson and Harvey find that the most

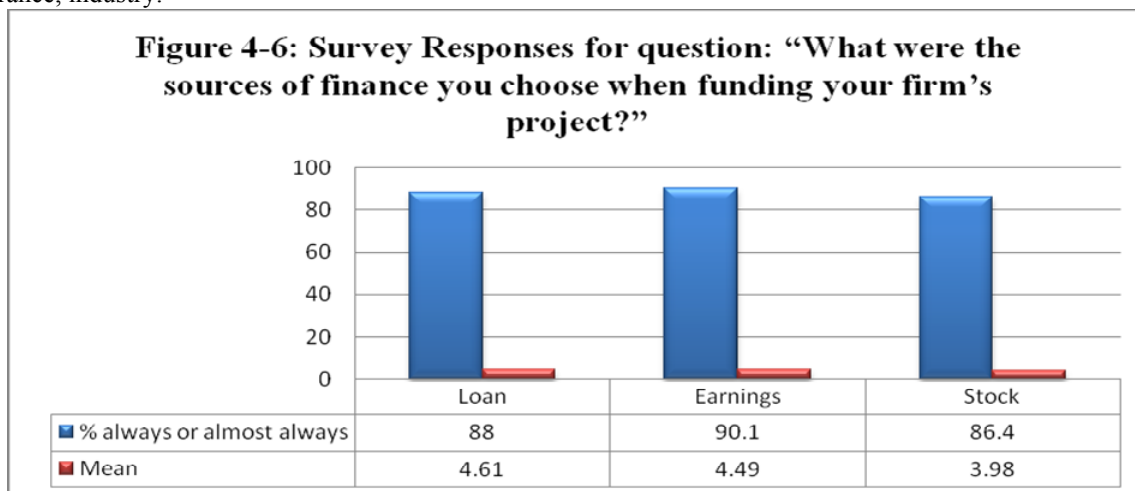
important additional factor is foreign exchange risk.



4.3 Capital structure practices

In Figure 4- 6, the results indicate the sources of financing choices and rank them in order of their relative importance in terms of its use. The results indicate that retained earnings are the most favored source of finance among Egyptian firms. Nearly 90 percent of the respondents consider it very important or important source of finance. Retained earnings are significantly used by investment, insurance, industry.

Financial institutions are the next most widely used source of finance. 88 percent of the respondents have indicated that loans from financial institutions as the most important or important source of finance. Issue of equity capital stock as source of finance is one of the most preferred by the respondents (mean = 3.98). Nearly 86 percent of the respondents consider it as most preferred or preferred source of finance.



Results

1. Results explored that Egyptian executives use the mainline techniques that business schools have taught for years, NPV and CAPM, to value projects and to estimate the cost of equity. From the above hypotheses correct and we accept the following two hypotheses:

- A positive relationship will exist between Capital budgeting practices of Egyptian firms and capital budgeting studies.
- A positive relationship will exist between Cost of Capital practices of Egyptian firms and cost of capital studies.

2. Financial executives are much less likely to follow the academically proscribed factors and theories when determining capital structure. From the above hypotheses in incorrect and we reject the following two hypotheses the third hypothesis and last hypotheses:

- A Positive relationship will exist between Capital Structure practices of Egyptian firms and capital structure studies.
- A positive relationship will exist between corporate finance practices of Egyptian firms and corporate finance practices of US firms.

5. Results Research

5.1 Increased importance of internal rate of return and net present value as evaluation techniques (DCF) methods.

5.2 Use of CAPM in estimating cost of capital seems popular in Egypt companies (73%). 57.1% of the respondents always or almost always use the discount rate for the entire company, and the mean for large firms is higher than the small firms, while 32.2% of the responds always or almost always use the discount rate for the overseas market (country discount rate). Large firms are significantly more likely to use the risk-matched discount rate than are small firms (rating of 2.21 versus 1.81).

5.3 Results indicate that retained earnings are the most favored source of finance among Egyptian firms. Nearly 90 percent of the respondents consider it very important or important source of finance. Retained earnings are significantly used by investment, insurance, industry,

5.4 In the both Egypt and the US, the tax advantage of interest deductibility is seen as the most important benefit to companies from issuing debt.

5.5 Seven most important factors that determine the firm's capital Structures with comparisons between US and Egypt.

5.6 Bankruptcy costs, which represent the negative effects of debt financing, are less important. The costs of bankruptcy scores 48% (21% in US). The

results also show that the volatility of earnings, which increases the probability of bankruptcy and thus the expected costs, is more important (55%, while 48% in US). We find no compelling variation across industries. Firms in all industries consider bankruptcy costs and tax advantages as important.

5.7 The pecking order theory, the desire for financial flexibility and pecking-order behavior, are important considerations in all countries. We find however, that the asymmetric information problems do not drive this pecking order behavior. These results corroborate the findings of Graham and Harvey (2001) and Bancel and Mittoo (2004).

5.8 High percentage (51.5%) of our respondents wants to restrict borrowing so that "profits from new/future projects can be captured fully by shareholders and do not have to be paid out as interest to debt holders".

5.9 The importance of maintaining a target debt-to-equity ratio is highlighted in the tabulated responses (mean score of 3.3 for larger companies compared to 3.41 for smaller companies). Earning per share (EPS) dilution is an important factor that affects US firms' decisions about issuing common stock. Figure for the US sample is 68.55% and mean score of 2.84 compared to the Egyptian sample is only 30% and mean score of 1.8.

5.10 Most Egyptian(56%) and US (46%) companies still issue debt when interest rates are particularly low. Overall mean scores on this factor is 2.56 and 2.36 for large and small Egyptian companies respectively.

Conclusion

1- Compared to previous research, these results suggest increased importance of internal rate of return and net present value as evaluation techniques (DCF methods), although some recent studies argue that, in an era of continuous curriculum expansion, the use of discounted cash flow (DCF) analysis for capital investment decision-making should be eliminated from the curriculum or, at the very least, drastically pruned. This contention is based on several perceived limitations of DCF as a capital investment appraisal tool, most noticeably, the limited, or incomplete information that is frequently available when making capital investment decisions. Whether used formally or informally, it is important to say that DCF has a role to play in capital investment decision making. To exclude it from the curriculum would deprive future generations of students from familiarization with a technique that does provide extremely useful screening information for the majority of capital investment decisions.

- 2- This last finding raises possibilities that require additional thought and research. Perhaps the relatively weak support for many capital structure theories indicates that it is time to critically reevaluate the assumptions and implications of these mainline theories. Alternatively, perhaps the theories are valid descriptions of what firms should do, but many corporations ignore the theoretical advice. Moreover, perhaps the NPV and CAPM are more widely understood than capital structure theories because they make more precise predictions and have been accepted as mainstream views for longer. Additional research is needed to investigate these issues.
- 3- Survey results show that financial flexibility is the most important reason why companies restrict debt so they have enough internal funds available to pursue new projects when they come along.
- 4- The tax advantage of interest deductibility is seen as an important benefit by large Egyptian firms issuing debt. Transaction costs and fees are important factors that mitigate against the use of debt. Companies delay retiring debt because of recapitalization cost and fees.
- 5- A surprise finding is that Egyptian firms pay less attention to credit rating (as assigned by rating agencies) when comparing to the US respondents, in their capital structure decision.
- 6- Egyptian firms are not concern with earning-per-share dilution when issuing common stock. This is in contrast to US firms. This factor might be effect from firm's size which is not the public companies in the stock market. They will issue common stock whether their recent profits have been sufficient to fund our activities and maintaining a target debt-to-equity ratio.

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