AMF Economic Papers, Number 8

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Abu Dhabi, February 2004

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Abstract

What role do stock returns play in determining investment? In this paper, we investigate the independent effect of stock returns on investment within the context of four hypotheses: passive informant, active informant, financing, and stock market pressure. Using a sample of 83 firms from five Arab countries during 1996-2001, we find that the passive informant hypothesis holds true, with only sales and debt growth as significant determinants of capital expenditures. Surprisingly, cash flow has no effect on investment, which could mostly be due to the dividend policy of Arab firms. The fact that Arab stock markets do not allocate capital expenditures unwarranted by fundamentals gives support to current efforts at strengthening Arab stock markets.

I- Introduction

It is well recognized that stock markets perform at least three functions: a signaling mechanism to managers regarding investment, a source of finance, and a catalyst for corporate governance. It is the first function, however, that has attracted a lot of investigation, focusing on whether stock markets or market sentiments influence investment over and above the influence exerted by fundamentals or managerial sentiments.[1] This issue is important for two reasons. First, if stock prices affect investment independently of fundamentals, then the ensuing misallocation of capital can have considerable damage, especially at the sectoral level.[2] Second, in such a case, emerging economies that are keen on developing stock markets should seriously reconsider these endeavors in light of the unproductive role that stock markets could play.

Luckily, the investigations concerning this issue do not seem to provide much support to the above implications. These investigations have followed largely two tracks, one tracing investments at the aggregate level and the other at the firm level. Initially, they were primarily concerned with developed countries, but increasingly they

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[1] For a good survey on this literature, see Stein (2001). There are a number of reasons why market sentiments would differ from managerial sentiments: (i) the market may have less information than managers; (ii) even if their information sets are the same, the market may not value assets at their fundamental value and market valuation may involve a rational bubble; (iii) the market may be liable to fads that make valuations depart from fundamentals for long periods.

have included developing countries. At the aggregate level and focusing primarily on US data, the early evidence supporting a positive independent relation between stock prices and investment appeared in Fischer and Merton (1984) who argued that, when stock market valuation reduces the cost of equity capital, then firms should increase their investments until the marginal product of capital (MPK) is equal to the reduced cost of capital. These results were corroborated by Barro (1990) using q ratios for stock market valuations.[3] But it was Blanchard, Rhee, and Summers (1993) who casted doubt on the validity of these results by arguing that, if investment proceeds at more than what is warranted by fundamentals, then MPK would fall below the cost of capital.[4] As a result, they found that market valuations, based on q ratios, play a *limited* role in determining investment decisions after controlling for fundamentals. Extending the analysis to developing countries, a salient paper by Durham (2000) showed that stock returns play even a *smaller* independent role in developing

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2 At the aggregate level, investment variations caused by false signals from the stock market translate to less harmful intertemporal substitution of investment.

3 The q ratio is equal to the firm's market value divided by its replacement cost; for early and key analysis of q, see Brainard and Tobin (1968) and Hayashi (1982).

4 According to Morck, Shleifer, and Vishny (1990) this implies that "firms instead may issue the overvalued equity and then invest the proceeds in financial securities which are zero net-present value investments, rather than in negative net-present value projects. In other words, firms issue equity when equity is overpriced, but issue debt or finance internally when equity is not overpriced; investment is the same in either case". (p. 166).

countries, because equity markets there are less effective in distributing information and signaling productive activities.[5]

Important as aggregate investment is, it is however investment at the firm level that deserves more attention, because of its impact on efficient resource allocation and the development of small-and medium-sized firms. For developed countries, the paper that pioneered such studies is Morck, Shleifer, and Vishny (1990). In it, the authors proposed and tested four stock market hypotheses (passive and active informant, financing, and market pressure), and found that for US non-financial firms the stock market is neither a sideshow nor very central for investment. This ambivalent view toward stock markets, and the prominence it gave to fundamentals in determining investment, was reinforced by Samuel (1996) using individual q ratios as a proxy for the market valuations of firms. In a departure from these results, however, Stein (1996) and Baker, Stein, and Wurgler (2001) showed that if managers are financially constrained, then deviations from fundamentals can increase investments for firms that are in need of equity capital. These firms are most likely to be young, and to have high leverage, low cash flows but high cash volatility, and strong

[5] Fore more on the differences between developed and developing stock markets as they relate to aspects dealing with microstructure, asset pricing, and trading systems, see Green, Murinde, and Ngugi (2000). Also, Mauro (2000), capturing a long line of research where *income per capita* is the dependent variable, showed that stock returns could have a significant effect on income growth if market capitalization to GDP is high and the legal system is of English origin.

investment opportunities.[6] As a result, in these situations market *inefficiencies* may actually be helpful. However, these inefficiencies may not be as helpful if other firm and market characteristics are present. Specifically, as in Polk and Sapienza (2002), investment tends to over-react to stock mispricing for firms with higher R & D intensity (suggesting longer periods of information asymmetry) and/or higher share turnover (suggesting that the firms' shareholders are short-term investors).[7] On balance, though, the bulk of the evidence still does not seem to seriously challenge the Morck, Shleifer, and Vishny (1990) finding nor its implication that market inefficiencies play a limited role in distorting investments.

In the case of developing countries, the importance of stock market valuations to investment at the firm level acquires an *added* significance. This is because of three reasons. First, there is evidence that, unlike the pecking-order pattern of corporate finance prevailing in developed countries, some developing countries' equity finance exceeds their debt or internal funds finance.[8] Second, in the aim of minimizing the destabilizing impact of capital flows to developing countries, equity finance introduces risk sharing via reductions in

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[6] Baker, Stein, and Wurgler (2001) used an index developed by Kaplan and Zingales (1997) to rank these firms, and found that the sensitivity of investment to q is almost three times as large for firms in the top quintile than for those in the bottom quintile of the index.

[7] The excessive capital investments that accompanied the rise in technology stocks on US markets in the second half of the 1990s could be a good example of that; see also Bolbol and Lovewell (2001).

[8] See Singh and Hamid (1993).

moral hazard with ownership as well as more efficient resource allocation via share-price signaling.[9] Third, developing countries undergoing liberalization of their trade and interest rates would experience higher borrowing costs (bankruptcy risk) and higher but unpredictable returns (risk of losing domestic markets and not succeeding in foreign markets). As a result, a high perceived variance of returns would likely reduce the level of borrowing and increase the resort to equity finance for new investment opportunities.[10] This added level of significance, however, has not been matched by an adequate interest in research studies. One paper that stands out in this regard is Demirguc-Kunt and Maksimovic (1996) concerning the financing choices of firms in developing and developed countries. The authors found that stock market developments are associated with more leverage by *large* firms, whereas *small* firms do not appear to be significantly affected.

There is a need, then, to study the effect of stock market performance on real capital expenditures at the firm level for developing countries. The aim of our paper is to fill this gap for a group of Arab countries, a part of the world that is much understudied in the area of financial economics. A lot of Arab countries have embarked on a process of privatization and stock market liberalization in the aim – among others – of deepening their markets and improving their corporate governance

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[9] See Rogoff (1999).

[10] See Snowden (1997).

for a nascent private sector.[11] As a result, it is worthwhile to see what impact these reforms have had on stock returns and consequently on private investment. We will proceed by first outlining the model and methodology in section II, and there we follow closely the framework of Morck, Vishny, and Shleifer (1990) as our benchmark model. In section III we present the data for our cross-section of Arab firms, and provide descriptive statistics for the variables comprising the estimated model. Section IV analyzes the results, and they indicate that Arab stock markets do not seem to provide much input to managers in designing their investment decisions; they also point that stock market developments tend to mostly enhance debt financing. In section V we investigate the reasons behind the lack of a significant relation between cash flows and investment, and propose some answers that rely on the dividend policy of Arab firms. Section VI concludes the paper, and reaffirms the need to further strengthen Arab stock markets.

II- Model and Methodology

To what extent managers of firms pay attention to the stock market in the Arab world? Arab stock markets have witnessed an expansion in recent years, and they are relatively active in the reform countries of Egypt, Jordan, Morocco, and Tunisia, and among the Gulf Cooperation

[11] For more on development of Arab stock markets, see AMF (Various Issues).

Council (GCC) countries especially in Kuwait and Saudi Arabia.[12] There is also evidence of considerable inefficiencies in these markets.[13] Given then the degree of Arab stock market development and the extent of its inefficiency, we will try to answer the above question using the atheoretical framework of Morck, Shleifer, and Vishny (1990) as our working model. Specifically, we will investigate the independent effect of stock returns (as they deviate from fundamentals) on investment within the context of four hypotheses: (i) passive informant, which says that stock returns do not carry added information and managers do not rely on them to undertake investments. In other words, managers know more than the public or the econometrician about the investment opportunities facing the firm; (ii) active informant, where managers sometimes rely on market information which may or may not be true about fundamentals. This is mainly because stock prices could be contaminated by sentiments that managers can not separate from fundamentals;[14] (iii) financing, which

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[12] There are stock markets currently in Algeria, Egypt, Jordan, Lebanon, Morocco, Sudan, and Tunisia; and in the GCC including Abu Dhabi, Bahrain, Dubai, Kuwait, Qatar, Oman, and Saudi Arabia. The markets, however, are still smaller and less active than the developing countries' average; for example, in 2001 Arab market capitalization to GDP and turnover ratios averaged 26% and 6% respectively against corresponding averages of 33% and 20% for developing countries. They also suffer from concentrated ownership, modest number of listings, and a fair number of closed companies. As a result, the Arab financial system is still considered largely bank based. For more on these characteristics, see AMF (Various Issues), Bolbol (2001), and Shachmurove (2003).

[13] See Omran and Farrar (Forthcoming), and El-Erian and Kumar (1996).

[14] As Morck, Shleifer, and Vishny (1990) argue, it is plausible that aggregate stock returns are what matters for this hypothesis, for managers know more things from the stock market about the economy *as a whole* than about their own firms.

argues the common view that the stock market affects investment through its influence on the cost of funds and external financing. In this case, stock price appreciations would increase not only the issuing of equity but also the capacity for transacting more debt due to its lower cost made feasible by the higher worth of firms; (iv) stock market pressure, where stock returns could have a separate effect on investment because managers need to cater to shareholders' opinions so as to protect their jobs – as when market sentiment depresses unnecessarily a firm's stock prices, and managers refrain from undertaking worthy investments because of their fear of antagonizing further sensitive shareholders.

Before we introduce the unstructured equations that capture the validity of these hypotheses, it is instructive to mention three crucial points. First, the first hypothesis (passive informant) does not allow market sentiment to affect investment, i.e. stock prices forecast investment only to the extent that they forecast fundamentals, but the other hypotheses do allow it through deviational signals, financing costs, and pressure on managers. Second, the first hypothesis also can never be rejected because the independent ability of stock prices to predict investment might be due to the inability of the econometrician to model fundamentals adequately. Third, after controlling for fundamentals and financing, the impact of the active (but faulty) informant and market pressure hypotheses could be captured but there is no way to differentiate between either one.

Following Morck, Shleifer, and Vishny (1990), we use the following unstructured four-equations model, placing few restrictions on how the independent variables enter the investment equations:

$$\overset{T}{\underset{t=1}{INV_i}} = \alpha + \beta_1 \overset{T}{\underset{t=1}{CF_i}} + \beta_2 \overset{T}{\underset{t=1}{SAL_i}} + \varepsilon \qquad T = \{1,2,3\}, \quad (1)$$

$$\overset{T}{\underset{t=1}{INV_i}} = \alpha + \beta_1 \overset{T}{\underset{t=1}{CF_i}} + \beta_2 \overset{T}{\underset{t=1}{SAL_i}} + \beta_3 \overset{T-1}{\underset{t=-1}{R_i}} + \varepsilon \qquad T = \{1,2,3\}, \quad (2)$$

$$\overset{T}{\underset{t=1}{INV_i}} = \alpha + \beta_1 \overset{T}{\underset{t=1}{CF_i}} + \beta_2 \overset{T}{\underset{t=1}{SAL_i}} + \beta_3 \overset{T}{\underset{t=1}{EQ_i}} + \beta_4 \overset{T}{\underset{t=1}{DBT_i}} + \varepsilon \qquad T = \{1,2,3\}, \quad (3)$$

$$\overset{T}{\underset{t=1}{INV_i}} = \alpha + \beta_1 \overset{T}{\underset{t=1}{CF_i}} + \beta_2 \overset{T}{\underset{t=1}{SAL_i}} + \beta_3 \overset{T}{\underset{t=1}{EQ_i}} + \beta_4 \overset{T}{\underset{t=1}{DBT_i}} + \beta_5 \overset{T-1}{\underset{t=-1}{R_i}} + \varepsilon \qquad T = \{1,2,3\}, \quad (4)$$

where:

$\overset{T}{\underset{t=1}{INV_i}}$ is the growth rate of real investment expenditure of firm *i* over *T* periods, in which *T* takes 1, 2 and 3 years.

$\overset{T}{\underset{t=1}{CF_i}}$ is the growth rate of real cash flow (after-tax profits plus depreciation) of firm *i* over *T* periods,

$\overset{T}{\underset{t=1}{SAL_i}}$ is the growth rate of real sales of firm *i* over *T* periods,

$\overset{T-1}{\underset{t=-1}{R_i}}$ is the abnormal return of firm *i* over the period *t= -1* to *T-1*,

$\overset{T}{\underset{t=1}{EQ_i}}$ is a dummy variable that takes one if the firm *i* issued new equity over *T* periods, and zero otherwise,

$\underset{t=1}{\overset{T}{DBT_i}}$ is a dummy variable that takes one if the growth rate in debt of firm *i* was positive over *T* periods, and zero otherwise.

As we can see from the above, all variables are in growth rates rather than levels so as to ensure that residuals in regressions are not serially correlated. The dependent variable, investment expenditures, excludes acquisitions; and fundamentals are represented by cash flows and sales where both reflect current and future profitability and the ability to finance internally. We use dummy variables to express growth rates in equity and debt financing because using continuous variables instead would have resulted in many outliers. We do not use q ratios to measure market valuations because of the exacting data requirements that are needed in their computation, especially in relation to the replacement costs of firms' capital stock.[15] As a result, we use abnormal returns, $\underset{t=-1}{\overset{T-1}{R_i}}$, which are calculated using monthly prices of stocks and are customarily lagged by a one-year period. In this context, there is no consensus on the appropriate methodology of calculating the requisite long-run returns.[16] Researchers use two methods to calculate these returns: cumulative return and buy-and-hold return. Since each method has been shown to yield different results, it is appropriate to consider both methods in calculating long-run returns. To arrive at the corresponding cumulative *abnormal* returns (CARs)

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[15] See Salinger and Summers (1983) for a suggested methodology on how to calculate q ratios and Samuel (1996) for its application to US firms.

[16] See Kothari and Warner (1997) and Barber, Lyon, and Tsai (1999).

and buy-and-hold *abnormal* returns (BHARs), we utilize both the market-adjusted model and the Sharp-Lintner Capital Asset Pricing Model (CAPM), the latter having the advantage of explicitly adjusting returns for betas and taking as a result the risk factor into consideration (see Appendix I for derivation of returns). We adopt one-, two-, and three year *non-overlapping* periods as our time horizons, so as to capture any delayed changes in investment due to changes in the independent variables without unduly adding to the endogeneity problems that longer horizons usually entail. Lastly, since firms' characteristics also shape investment expenditures, we repeat regression equation (4) with dummy variables in order to see the effect of size (SIZ_i), industry (IND_i), and ownership (OWN_i), as follows:

$$\sum_{t=1}^{T} INV_i = \alpha + \beta_1 \sum_{t=1}^{T} CF_i + \beta_2 \sum_{t=1}^{T} SAL_i + \beta_3 \sum_{t=1}^{T} EQ_i + \beta_4 \sum_{t=1}^{T} DBT_i + \beta_5 \sum_{t=-1}^{T-1} R_i + \beta_6 SIZE_i + \beta_7 IND_i + \beta_8 OWN_i + \varepsilon \quad T = \{1,2,3\}, \qquad (5)$$

In addition, we employ both the parametric *t* test and the non-parametric Mann-Whitney test to validate the results obtained from the above use of dummy variables.

As important, the empirical design involves a methodology that can capture the incremental impact of the determinants of investment presented in equations (1) – (4). That is, if the faulty informant and market pressure hypotheses hold true, the coefficient of R_{t-1} in equation (2) should be significant and the R^2 should be much larger than in equation (1). Also, when we control for financing and fundamentals variables, the return variable in equation (4) should be

significant and the incremental R^2 should be larger relative to equation (3). However, if the financing hypothesis is true, which means that financing is the main channel through which the stock market affects investment, we expect the following: (i) the financing variables in equation (3) should be significant and large, and the incremental R^2 should be relatively large compared with equation (1); (ii) moving from equation (3) to equation (4) should produce an insignificant coefficient of the lagged stock returns and no significant increase in the value of R^2; and (iii) the coefficient of the lagged stock returns in equation (4) should fall compared with equation (2), since the sensitivity of investment to return should be reduced once the financing variables are included in the estimated regression. But before we undertake these estimations, an analysis of data characteristics and the descriptive statistics of the various variables used is relevant.

III- Data and Descriptive Statistics

The data set for this study was obtained by analyzing firms from five Arab countries that are listed in the International Finance Corporation (IFC) indices over the period during 1996-2001. These are Egypt, Jordan, Morocco, Saudi Arabia, and Tunisia. We limited our sample to firms in these countries, because some countries have not yet established stock markets (Iraq, Libya, Syria, and Yemen), and other countries have established stock markets only recently (Algeria, Sudan, Qatar, and United Arab Emirates), while for the rest of the Arab countries, though stock markets do exist, data on listed firms could not

be easily obtained.[17] However, we believe that those five countries dominate Arab stock markets as they have the biggest and most active markets in the region, and consequently provide a representative evidence of Arab firms' behavior in relation to stock valuations.[18]

Listed firms in IFC indices were targeted in preference to local market indices for a number of reasons. IFC indices are widely accepted in the international investment industry, forming the basis for index funds and structured financial instruments. The firms included in the IFC indices are selected on the basis of market size, trading activity, and sector representation, whereas selecting firms based on local indices may be misleading since they contain a large number of firms that are traded infrequently.[19] Additionally, the IFC provides a price index for each firm that is adjusted for dividend payments, stock splits, capital increases, and any other event, all making for an accurate calculation of stock returns. Depending on the availability of *accounting data* on listed firms, the study period differs for different countries. It ends in 2001 for all five countries, but starts from 1996 for Egypt, 2000 for Jordan, 1998 for Morocco, 1997 for Saudi Arabia, and 1996 for Tunisia.

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17 The countries whose firms are listed in the IFC index are (data of listing): Bahrain (1998); Egypt (1995); Jordan (1978); Lebanon (1998); Morocco (1995); Oman (1998); Saudi Arabia (1996); and Tunisia (1995).

18 Of course, Kuwait has a big and active stock market and would have been good to include it in the study, but Kuwaiti firms are not listed in the IFC index.

19 In Egypt, for instance, the number of listed firms exceeds 1100, whereas only 10% of these firms are traded frequently as the rest are family or closed firms. In fact, closed or family firms seek listing in the stock market for tax purposes only.

As seen in Table (1), Panel A, the total number of listed firms in IFC indices reaches 159 firms with market capitalization of US$ 48.6 billion, which represents around 53.5% of total market capitalization. However, the original sample (159) contains 56 firms belonging to the financial sector, so they had to be excluded.[20] No complete accounting data were available for 16 other firms; in addition, four other firms had witnessed mergers. Hence, all those 20 firms were excluded from the analysis. The final sample thus contains 83 firms, in which more than 50% are drawn from Egypt. Additionally, the sample firms dominate more than 50% and 27% of total market value of listed firms in IFC and local stock markets, respectively. Panel B shows that the size of firms exhibits heterogeneity both across countries and for each individual country, with the average market capitalization of Saudi firms dominating all others. The number of sample firms used over each of the three-years period is given in Panel C, and we can see that Jordan, though adequately represented in the one-year period, is absent from the two-and three-years period. Egyptian firms, of course, still dominate the sample because of the availability of accounting data. Firms' classification by industry for all countries is given in Panel D, and by ownership for Egypt only in Panel E.[21] And it is clear that manufacturing firms (as opposed to non-manufacturing firms, mainly

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[20] IFC indices for Jordan and Tunisia, in particular, are dominated by banks and other financial service firms.

[21] For the sake of simplifying our statistical analysis, we grouped firms under two industry categories only: manufacturing and non-manufacturing. Nevertheless, sample firms could be grouped across six different categories. We do not present this distribution here, but they are available from the authors upon request. Also, since Egypt embarked on an active privatization program via the stock market, data allow us to classify firms according to ownership structure

construction) and majority-private firms are heavily represented in the sample (see Appendix II for data sources).

Tables (2) and (3) present the basic descriptive statistics of the accounting and market returns variables. Table (2) is confined to Egypt for each of the 3-years period, and it is evident that cash flows growth exhibits less variation over time; whereas investment growth exhibits less variation over two years but more variation over three years, and the opposite is true for equity financing growth. Only sales and debt financing growth show more variation over time. Note also that abnormal returns calculated from the market adjusted model, whether based on cumulative or buy-and-hold long-run returns, are always higher (less negative) than those calculated from CAPM. As a result, this indicates in all likelihood a negative risk premium (the difference between market returns and risk-free returns) and an average beta of less than one.[22] Table (3), Panels A and B, repeat the same descriptive statistics for all countries, and its results mirror those obtained in Table (2) because they are largely dominated by the sizable number of Egyptian firms. Panels C and D, on the other hand, contain the similar statistics for all countries excluding Egypt, and we can notice here two differences from the results of Table (2). First, investment varies more, and sales vary less, over the two-years period. Second, abnormal returns turn positive but still those calculated from the market adjusted model are higher than those calculated from

[22] Egyptian stock market returns (at close to 6%) over 1996-2001 performed less than returns on Treasury bills and saving deposits (at close to 9%); see Omran (2002).

CAPM, thus indicating mostly a positive risk premium and an average beta greater than one. Given all this, what follows in the next section is an analysis of how well these descriptive statistics mesh with our estimated regression results.

IV- Results and Analysis

The regressions based on the unstructured equations (1) - (5) are estimated at three levels: Egypt, over each of the three-years period; all countries including Egypt, over one-and two-years period; and all countries excluding Egypt, over one-year period. The all-country regressions are estimated using an unbalanced (year-wise) panel data and with fixed effects that control for country differences. Tables (4) – (6) present the results pertaining to Egypt. We can see from model 1 in Table (4) that sales growth is the only fundamental having a significant effect on investment (we will say more about cash flows in the next section); and moving from model 1 to models 2-5 produces insignificant coefficients for abnormal returns – *however calculated* – and hardly any changes in R^2. As a result, the faulty informant and market pressure hypotheses do not seem to hold. However, moving from model to 1 to model 6, we see that the coefficient for debt financing *only* is now significant and R^2 is higher by at least 5%. This shows that debt financing is the channel through which the stock

market affects investment.[23] And this result is reinforced by moving from model 6 to models 7-10, because such a move includes abnormal returns in the regressions but without arriving at any significant coefficients for them and without obtaining incremental increases in R^2.

It seems then that for Arab Egyptian firms the passive informant hypothesis better reflects their view of stock markets, and outsiders seem to know little about these firms that insiders do not also know. One viable reason that the market pressure and faulty informant hypotheses do not seem to be valid is because the separation of ownership from control in Arab firms does not necessarily apply – *owners are the managers* – and managers "jealously" know more about their companies than the "noisy and nosy" market. Also, having sales and debt growth as significant determinants of investment means that both output and the cost of capital influence investment, although the effect of output (larger coefficient for sales) is more pronounced. It also implies that issuing equity is not significantly used by Arab firms, neither to finance real investments nor to invest in financial securities, so as not to dilute control and spread thin the concentrated ownership. As important, the higher leverage by firms associated with stock market developments indicates that, at this level of the emerging

[23] Morck, Vishny, and Shleifer (1990) obtained some validation of the faulty informant and market pressure hypotheses in that abnormal returns had a significant coefficient of 0.3 and incremental R^2 was close to 4%. Also, debt financing was the more important of the two forms of financing but only added an incremental R^2 of 1.6%.

Egyptian stock market, a market-based and a bank-based financial system could complement each other and go hand in hand.[24]

Models 11-14 of Table (4) extend the regressions to include the dummy variables on size (1 for firm size larger than the sample median, zero otherwise), industry (1 for manufacturing firms, 0 otherwise), and ownership (1 for mostly-private firms, 0 otherwise). The results show that, of all the three characteristics, mostly private is the feature that has significant effect on investment. This is of particular interest to Egypt, because all but three of the mostly-private firms are privatized state enterprises and they have been very instrumental in activating the Egyptian stock market. It seems now that they also have been utilizing stock market developments to undertake more investments.[25] The result concerning firms' size is surprising, since stock market developments tend to facilitate financing for young and small firms, but it conforms with previous studies that have shown that size does not matter much in making the stock market a better predictor of investment.[26]

Tables (5) and (6) present the results for Egypt over two-and three-years respectively. Qualitatively, the results reproduce the outcome

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[24] This result corroborates the findings of Demigruc-Kunt and Maksimovic (1996) for emerging markets. However, those findings also indicate that further development of the stock market is expected to produce substitution of equity for debt.

[25] This result is reinforced by Omran (2003).

[26] See Morck, Shleifer, and Vishny (1990) and Demigruc-Kunt and Maksimovic (1996).

obtained in Table (4), but quantitatively there are two differences. First, extending the time horizon allows for more explained variation in investment since R^2 is largest for the three-year period (by 15%–20%), thus strengthening the notion that investment does not respond contemporaneously but needs time to adjust. Second, the coefficient of sales growth also gets larger – almost double – over the three-years period, whereas that of debt stays the same. Hence, output growth (demand conditions) seems to play an even bigger role than financial cost in affecting investment over the medium term.

As to the country groups, Tables (7) and (8) show the corresponding results for all the countries in the sample, including Egypt, for one-and two-years respectively. Again, qualitatively the results are identical to those of Egypt only, and the differences are quantitative. Of these, the most salient are the incremental increases in R^2 by about 8-10% in the two-years period and by about 3-4% with the inclusion of debt financing growth, in addition to the *smaller* coefficient (at 1.3) for sales growth. When we exclude Egypt and its *dominant presence* from the sample, as is shown in Table (9), we find that over the one-year period the explained variation in investment is now larger: R^2 increases by more than 10%, and the inclusion of debt financing growth adds at least 7%. However, both sales and debt financing growth now have a smaller significant effect on investment.

All in all, for Egypt R^2 increases with the time horizon because this captures the delayed changes in investment, and for all the other countries R^2 increases when Egypt is excluded because this allows for

more investment variation among these countries; and in both cases, sales and debt growth remain the only significant determinants with the latter contributing at least 5% in additional R^2. Lastly, to check for the robustness of the results obtained from the use of dummy variables in the regression models, we test for the equality of investment expenditure for firms according to their size, industry, and (for Egypt only) ownership structure. We employ the parametric *t* test and the non-parametric Mann-Whitney test and report the results in Table (10).[27] The results confirm the previous findings from the regression models. Panel A shows insignificant differences between Egyptian firms according to size and industry classifications, over the three periods. Panels B and C show also insignificant differences between firms in all countries, including and excluding Egypt, over one-and two-year periods. However, we find significant differences in capital expenditure between mostly-private and mostly-public firms over the three periods, as both tests pass the critical values of significance at different levels.

[27] Since the test for normality is rejected for some variables, this would violate one of the important assumptions underlying the *t* test. Although we report parametric and the non-parametric results, we have to keep in mind that the non-parametric test statistics are uniformly more powerful than parametric *t*statistics when data are not normally distributed. Consequently, results from the parametric test should be treated with caution.

V- Payout Ratios and Investment

One of the results that we left unexplored is the absence of any significant relation between cash flows and investment. This ties to an interesting issue in financial economics that started with the important paper by Fazzari, Hubbard, and Petersen (1988). To recap, the pecking-order theory of finance argues that firms prefer to finance investment from internal funds or retentions rather than from debt and then equity.[28] As a result, one would expect a high sensitivity between cash flows and investment.[29] Among the explanations given for this relation, is that higher tax rates on dividend payments relative to capital gains leave firms with high retention or low payout ratios from which they could fund investment.[30] This view was elaborated further by Fazzari, Hubbard, and Petersen (1988) who argued that financially constrained firms with low payout ratios experience a *higher* investment-cash flow sensitivity. And these firms tend to be immature and less well-known and as a result must pay a premium for external funds – which naturally makes of cash flows a supply of low-cost

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[28] See Myers (1984).

[29] As in Morck, Shleifer, and Vishny (1990) and Samuel (1996).

[30] See, for instance, Fazzari, Hubbard, and Petersen (1988).

investment finance.[31]

In light of the above, it is pertinent to ask why Arab firms have unexpectedly witnessed an insignificant relation between investment and cash flows. The answer largely lies, as we can see from Panel A in Table (11), in that Arab firms have *high* payout ratios with an average of more than 66%.[32] And such low retention of cash flows means that the latter would not be a critical determinant of investment. There are three reasons that could explain this outcome. First, in our country sample there are very little or no taxes on dividends, so no bias against payouts exists and no critical mass of internal funds is consequently generated. Second, in emerging Arab stock markets, investors prefer to receive periodical income in given periods, just as they would with bank deposits. As a result of this behaviour, one persuasive way to keep investors actively involved in the stock market is by providing them with high payouts. Third, these high payouts signal to the market the credible position of these firms that would help them to reduce any cost disadvantages they might face in their external finance. As important, this also helps to explain the significant debt financing

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[31] As firms mature, the asymmetric information problem associated with the cost disadvantage relating to external finance becomes less severe. Firms that are not financially constrained and with higher payout ratios, on the other hand, can rely more on external finance to smooth investment in the face of fluctuations in cash flows. In this context, dividend payments represent a signal to the market that enhances the credibility of the firm and lowers or erases the premium on external funds.

[32] Compared to 40%, for example, in the Fazzari, Hubbard, and Petersen (1988) and Kaplan and Zingales (1997) samples of US firms.

observed earlier for Arab firms, in addition to the possible violation of the pecking-order theory in the context of Arab finance.

Given the insignificant relation between investment and cash flows, it is still worthwhile to ask which class of firms exhibits more or less investment-cash flows sensitivity. To accomplish this, we split the sample of firms into two classes: the class of less constrained firms with payout ratios above the sample median and the class of more constrained firms with payout ratios below the sample median. Table (11), Panel B, shows that for the sample of all countries the coefficient of cash flows is highest for the less constrained firms, followed in order by the coefficients of the sample of all firms and the more constrained firms.[33] And these results prevail also for the case of Egypt only. The fact that the *more* constrained firms with low payout ratios have *less* investment-cash flows sensitivity contrasts with the result obtained by Fazzari, Hubbard, and Petersen (1988), and it is interesting to see why.[34] One good reason could be that more constrained firms are also *financially stressed*. If so, then this means that their creditors would pressure them into using more of their cash flow to repay debt rather than to use it for investment; similarly, if their cash position is low, they would keep more of their cash flow as liquid

[33] The coefficients are based on model 9. Results are the same from all other models.

[34] However, the result agrees with that of Kaplan and Zingalis (1997). The latter do not provide a reason, but speculate it could be due to the shape of the cost function of raising external finance or mischarcterisation of the reasons why firms are reluctant to raise external finance.

assets. As a result, we expect these firms to have *higher* leverage and *lower* liquidity ratios.

We tested the above propositions and report the results in Panels C and D of Table (11). For *each* of the country samples we see that the low payout firms have a higher debt to equity (leverage) ratio and a lower cash to current liabilities (liquidity) ratio than all other firms. The statistical tests (parametric *t* test and the non-parametric Mann-Whitney test) also show that these differences are significant across all country samples except Egypt for the leverage ratio and except all countries excluding Egypt for the liquidity ratio.[35] These results, then, provide added support to the importance of debt in Arab finance and to the fact that the pecking-order theory does not necessarily hold.

VI- Conclusion

Arab stock markets are a *sideshow*. This is what the paper has shown, in that stock price movements that are inefficient or unwarranted by fundamentals are not taken into consideration by Arab managers when deciding on their investments; and, in so doing, no misallocation of capital resources necessary happens. Stock market activity is also shown to assist privatization and to facilitate the acquisition of more debt financing. The latter helps to invalidate the pecking-order theory in Arab finance and, especially for highly-leveraged firms, to render

[35] Omran and Pointon (Forthcoming) arrive at similar results for a sample of 94 Egyptian firms, and Aivazian, Booth, and Clearly (2003) for a cross-section of firms from emerging markets.

cash flows an insignificant determinant of Arab investment. These seem like good-enough implications to justify further developments of Arab stock markets, but there are actually more. Two additional reasons could recommend themselves towards that end, especially when accompanied by the requisite legal and regulatory stock market reforms, and they are as follows[36]. First, Arab firms are still largely closed, family-owned with a narrow concentration of ownership, so stock market developments can ultimately widen the investors' base, separate ownership from control, and in due time inject qualified management to run the affairs of these firms besides tapping the stock market as a source of funds. Second, growing and reforming Arab economies that are keen at changing the output and technology mix of their industries, will need stock markets to better allocate their investments to new industries, because stock markets provide a better way of checking that new firms are well run when there are divergences of opinion on how they *should* be run. In this sense, stock market development will effectively complement the financial services provided by the bank-based Arab financial system.

[36] For a critical view of stock market developments in emerging markets, however, see Singh and Weisse (1998).

Appendix I

1. Cumulative Abnormal Returns Method

Monthly market-adjusted returns are defined as the monthly raw return on a firm *i* minus the monthly raw return on a corresponding reference portfolio (IFCG or IFCF) for the same trading period[37]:

$$MAR_{i,t} = R_{i,t} - R_{crp,t}, \qquad \text{(A1)}$$

where:

$MAR_{i,t}$ is the market-adjusted return for firm *i* for the month *t*,

$R_{i,t}$ refers to the raw return for firm *i* for the month *t*, and

$R_{crp,t}$ is the raw return on corresponding reference portfolio for the month *t.*

So, the CAR for each firm is:

$$CMAR_{i,t} = \sum_{t=1}^{T} MAR_{i,t} \qquad T = \{12, 24, 36\} \qquad \text{(A2)}$$

where:

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[37] We mean by corresponding reference portfolio the International Finance Corporation Global (IFCG) index for each country except Tunisia , for which we use IFC Frontier (IFCF) index because it is not included in IFCG index.

$CMAR_{i,t}$ is the cumulative abnormal return or cumulative market-adjusted return for firm *i* from *t=1* until the anniversary month *T* (12, 24, and 36 months)

2. Buy-and-Hold Abnormal Returns Method

Similarly, BHARs are calculated as the raw return on a firm *i* minus the raw return on a corresponding reference portfolio over identical interval periods:

$$BHMAR_{i,T} = \left[\prod_{t=1}^{T}(1+R_{i,t})-1\right] - \left[\prod_{t=1}^{T}(1+R_{crp,t})-1\right] \quad T=\{12,24 36\}, \quad \text{(A3)}$$

where:

$BHMAR_{i,T}$ is buy- and-hold market-adjusted return for security *i*, in period *T*, where T is the trading month number 12, 24 and 36, respectively, and

$t=1$ indicates the first trading month.

3. CAPM Abnormal Return

To take the risk factor into consideration, we calculate the abnormal return using the CAPM as follows:

$$CAPMAR_{i,t} = R_{i,t} - R_{f,t} - \beta_i [\, R_{crp,t} - R_{f,t} \,], \qquad \text{(A4)}$$

where:

$CAPMAR_{i,t}$ is the abnormal return using CAPM,

$R_{i,t}$ refers to the monthly return for security *i* in month *t*,

$R_{f,t}$ is the risk-free rate proxied as a short-term one-month rate for bank deposits,

β_i is the risk of security *i* compared with the market index (corresponding reference portfolio), and

$R_{crp,t}$ indicates the monthly return on the corresponding reference portfolio in month *t*.

β_i is given from the CAPM regression, which is the slope obtained from regressing $[\, R_{i,t} - R_{f,t} \,]$ on $[R_{crp,t} - R_{f,t}]$ for the estimation period. With the *CAPMAR* calculated, we apply the same two methods, CARs and BHARs, mentioned previously.

Appendix II

Data on stock market returns were taken form International Financial Corporation (IFC), *Emerging Markets Database*. Accounting data for Egyptian firms were taken from *Compass Egypt Financial Yearbook* (Cairo: Fiani and Co., 1998/99 and 2002/03); for Saudi Arabian firms from *Manual of Saudi Public Companies* (Riyadh: Saudi Share Registration Company, 2001); and for Jordanian, Moroccan, and Tunisian firms from their local stock market databases. Investment was calculated as capital expenditures for Jordan, Saudi Arabia, and Tunisia, and as the change in fixed assets and projects under progress for Egypt. Investment and accounting variables were deflated by the GDP deflator from World Bank, *World Development Indicators*. Ownership data for Egyptian firms were taken from Omran (2003) based on records from Ministry of Public Enterprise, Egypt.

Tables:

Table (1)
Descriptive Analysis

The table shows the number of firms listed in the International Finance Corporation (IFC) indices for each country, along with their market capitalization, in both dollar value and as a ratio of total market capitalization. We provide similar information regarding the final sample of firms we used in the analysis. We also provide selected descriptive statistics regarding the size of the firms in our sample, and a breakdown of the number of firms in our sample according to industry and ownership over one-, two- and three-year periods.

Panel A : All Countries - Number and Size of Firms in IFC Index and in Sample (Market Cap, 1998)

	IFC Index			Sample			
	Number of Firms Listed	Market Cap. of Firms		Number of Firms Used	Market Cap. of Firms in Sample		
		Value ($ millions)	% of Total Market Cap.		Value ($ millions)	% of IFC Market Cap.	% of Total Market Cap.
Egypt	66	9,756	40.0	46	7,280	74.6	29.9
Jordan	41	4,277	73.3	15	681	15.9	11.7
Morocco	18	9,674	61.7	7	4,432	45.8	28.3
Saudi Arabi	21	23,791	55.9	11	11,863	49.9	27.9
Tunisia	13	1,089	48.0	4	378	34.7	16.7
Total	**159**	**48,587**	**53.6**	**83**	**24,634**	**50.7**	**27.2**

: All Countries - Basic Descrptive Analysis of Firms in Sample (Market Cap, 1998, in $ millions)

	Mean	Median	Maximum	Minimum
Egypt	152	60	826	6
Jordan	43	15	264	2
Morocco	320	204	1,393	223
Saudi Arabi	1,078	341	7,680	31
Tunisia	94	80	174	46

Table (1) Continued

Panel C : All Countries - Number of Firms in Sample			
	One - Year Period	Two - Year Period	Three - Year Period
Egypt	46	42	35
Jordan	15	-	-
Morocco	7	5	4
Saudi Arabia	11	11	11
Tunisia	4	4	4
Total	**83**	**62**	**54**

Panel D : All Countries - Classification of Firms in Sample According to Industry						
	One - Year Period		Two - Year Period		Three - Year Period	
	Manufacturing	Non-Manufacturing	Manufacturing	Non-Manufacturing	Manufacturing	Non-Manufacturing
Egypt	36	10	34	8	30	5
Jordan	15	-	-	-	-	-
Morocco	7	-	5	-	4	-
Saudi Arabia	6	5	6	5	6	5
Tunisia	2	2	2	2	2	2
Total	**66**	**17**	**47**	**15**	**42**	**12**

Panel E : Egypt - Classification of Firms in Sample According to Ownership						
	One - Year Period		Two - Year Period		Three - Year Period	
	Majority Private	Majority Public	Majority Private	Majority Public	Majority Private	Majority Public
Egypt	29	17	27	15	23	12

Table (2)
Egypt : Basic Descriptive Statistics

This table shows basic descriptive statistics of the variables of the study by providing measures of central tendency, variability and shape for the Egyptian firms. We present the mean, median, standard deviation, minimum and maximum values for each variable over one-, two-, and three-year periods. INV is the growth rate in investment expenditure, CF is the growth rate in cash flow plus depreciation, SAL is the growth rate in sales, EQ is the growth rate in equity, DBT is the growth rate in debt, M-CAR is the cumulative abnormal return calculated using the market-adjusted model, M-BHAR is the buy-and-hold abnormal return calculated using the market-adjusted model, C-CAR is the cumulative abnormal return calculated using CAPM, and C-BHAR is the buy-and-hold abnormal return calculated using the CAPM.

nel A : One - Year Period (114 observations)					
	Mean	**Median**	**Std. Dev.**	**Minimum**	**Maximum**
INV	8.22	-20.78	113.55	-98.64	681.97
CF	-7.32	-0.63	54.21	-478.82	125.44
SAL	-2.28	-3.04	19.41	-54.87	62.36
EQ	7.22	0.00	26.39	0.00	200.00
DBT	-0.51	-5.42	53.74	-100.00	186.05
M-CAR	-7.70	-15.96	53.99	-145.29	236.24
M-BHAR	-0.75	-19.44	80.68	-125.25	669.82
C-CAR	-13.22	-20.36	53.46	-132.69	243.26
C-BHAR	-6.59	-24.17	82.79	-85.00	677.77

Table (2) Continued

anel B : Two - Year Period (44 observations)					
	Mean	**Median**	**Std. Dev.**	**Minimum**	**Maximum**
INV	-8.35	-37.69	92.90	-97.82	333.15
CF	-9.18	-2.69	35.39	-142.04	53.01
SAL	-8.21	-12.10	27.01	-75.39	97.32
EQ	19.23	0.00	58.89	0.00	350.00
DBT	18.25	-7.69	100.37	-100.00	286.28
M-CAR	-5.03	-1.03	68.40	-151.72	208.95
M-BHAR	6.39	-9.60	101.60	-116.37	580.71
C-CAR	-14.39	-1.56	78.12	-161.16	219.47
C-BHAR	-2.52	-21.38	108.76	-111.90	592.97

Table (2) Continued

C : Three - Year Period (29 observations)					
	Mean	**Median**	**Std. Dev.**	**Minimum**	**Maximum**
INV	73.09	-24.25	304.28	-95.60	1,232.00
CF	-10.00	-10.05	35.95	-71.02	60.70
SAL	-13.46	-15.93	39.73	-88.89	133.86
EQ	15.94	0.00	33.23	0.00	100.00
DBT	63.70	-9.43	258.16	-100.00	960.00
M-CAR	-11.49	-15.57	86.00	-162.67	175.11
M-BHAR	-83.20	-27.95	176.94	-736.93	77.25
C-CAR	-29.91	-23.36	94.61	-200.70	173.63
C-BHAR	-106.80	-38.64	188.68	-796.10	61.64

Table (3)
All Countries : Basic Descriptive Statistics

This table shows basic descriptive statistics of the variables of the study by providing measures of central tendency, variability and shape for all firms, including and excluding Egyptian firms. We present the mean, median, standard deviation, minimum and maximum values for each variable over one- and two-year periods. INV is the growth rate in investment expenditure, CF is the growth rate in cash flow plus depreciation, SAL is the growth rate in sales, EQ is the growth rate in equity, DBT is the growth rate in debt, M-CAR is the cumulative abnormal return calculated using the market-adjusted model, M-BHAR is the buy-and-hold abnormal return calculated using the market-adjusted model, C-CAR is the cumulative abnormal return calculated using the CAPM, and C-BHAR is the buy-and-hold abnormal return calculated using the CAPM.

anel A : All Countries (Including Egypt)
One - Year Period (170 observations)

	Mean	Median	Std. Dev.	Minimum	Maximum
INV	5.46	-6.88	94.18	-98.64	681.97
CF	-7.17	0.21	57.25	-478.82	158.75
SAL	-0.09	-1.19	21.74	-59.59	111.49
EQ	5.88	0.00	22.54	-24.00	200.00
DBT	4.03	-3.97	69.19	-1.30	91.69
M-CAR	-4.69	-7.73	49.05	-145.29	236.24
M-BHAR	0.80	-11.49	71.15	-125.25	669.82
C-CAR	-9.31	-12.78	47.66	-132.69	243.26
C-BHAR	-3.88	-16.86	72.00	-85.00	677.77

Table (3) Continued

Panel B : All Countries* (Including Egypt) Two - Year Period (60 observations)					
	Mean	**Median**	**Std. Dev.**	**Minimum**	**Maximum**
INV	-4.37	-22.78	81.82	-97.82	333.15
CF	-0.76	1.71	39.99	-142.04	91.63
SAL	-1.73	-2.86	27.39	-75.39	97.32
EQ	18.07	0.00	51.56	0.00	350.00
DBT	22.40	-6.99	111.22	-100.00	498.93
M-CAR	-2.50	-2.88	67.17	-151.72	208.95
M-BHAR	11.05	-12.31	106.76	-116.37	580.71
C-CAR	-9.78	-7.65	74.40	-161.16	219.47
C-BHAR	4.06	-17.85	111.35	-111.90	592.97

* Excluding Jordan

Table (3) Continued

Panel C : All Countries (Excluding Egypt) One - Year Period (56 observations)					
	Mean	**Median**	**Std. Dev.**	**Minimum**	**Maximum**
INV	-0.17	-1.37	26.78	-77.46	80.94
CF	-6.84	1.83	63.52	-245.81	158.75
SAL	4.35	4.12	25.45	-59.59	111.49
EQ	3.15	0.00	10.89	-23.67	50.00
DBT	13.28	0.00	93.00	-100.00	470.00
M-CAR	1.45	-1.42	36.75	-73.50	131.95
M-BHAR	3.95	-3.09	46.57	-56.52	210.93
C-CAR	-1.33	-7.37	31.77	-74.18	104.31
C-BHAR	1.63	-7.14	42.45	-57.33	210.93

Table (3) Continued

Panel D : All Countries* (Excluding Egypt) Two - Year Period (16 observations)					
	Mean	**Median**	**Std. Dev.**	**Minimum**	**Maximum**
INV	6.56	3.27	37.61	-63.84	84.91
CF	22.39	23.53	43.81	-58.35	91.63
SAL	16.06	15.11	19.98	-18.94	57.43
EQ	14.88	0.00	22.31	0.00	71.43
DBT	33.81	0.00	139.95	-100.00	498.93
M-CAR	4.46	-10.07	65.28	-78.85	154.59
M-BHAR	23.87	-12.31	122.50	-81.69	431.99
C-CAR	2.89	-9.69	63.59	-76.10	153.10
C-BHAR	22.16	-13.91	119.93	-69.41	417.27

* Excluding Jordan

Table (4)
Egypt : One -Year Period

The table shows the results from multivariate cross-sectional regression analyses of the determinant of investment expenditure for Egyptian firms over a one-year period. INV is the growth rate in investment expenditure, CF is the growth rate in cash flow plus depreciation, SAL is the growth rate in sales, EQ is the growth rate in equity, DBT is the growth rate in debt, M-CAR is the cumulative abnormal return calculated using the market-adjusted model, M-BHAR is the buy-and-hold abnormal return calculated using the market-adjusted model, C-CAR is the cumulative abnormal return calculated using the CAPM, and C-BHAR is the buy-and-hold abnormal return calculated using the CAPM, SIZE is a dummy variable that takes the value one if the firm size is above the median size of the sample firms and zero other wise, IND is a dummy variable that takes the value one if the firm belongs to the manufacturing sector and zero otherwise, and OWN is a dummy variable that takes the value one if the firm is controlled by the private sector and zero otherwise.

	Dependent Variable : INV													
Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Constant	13.30 (1.31)	13.43 (1.30)	13.34 (1.30)	12.56 (1.19)	13.34 (1.30)	13.15 (1.27)	13.16 (1.25)	13.18 (1.26)	12.13 (1.13)	13.18 (1.26)	-23.46 (-0.75)	-25.51 (-0.81)	-23.64 (-0.76)	-24.16 (-0.77)
CF	0.08 (0.41)	0.08 (0.41)	0.08 (0.40)	0.08 (0.41)	0.08 (0.41)	0.08 (0.45)	0.09 (0.45)	0.08 (0.44)	0.08 (0.45)	0.08 (0.45)	0.15 (0.77)	0.14 (0.76)	-0.13 (-0.33)	0.14 (0.75)
SAL	1.97 (3.67) *	1.97 (3.65) *	1.98 (3.67) *	1.98 (3.67) *	1.97 (3.66) *	1.83 (3.46) *	1.83 (3.44) *	1.84 (3.45) *	1.84 (3.46) *	1.83 (3.44) *	1.72 (3.24) *	1.73 (3.26) *	1.74 (3.25) *	1.73 (3.25) *
M-CAR		0.02 (0.10)					0.01 (0.01)				0.03 (0.17)			
M-BHAR			0.04 (0.35)					0.04 (0.33)				0.06 (0.49)		
C-CAR				-0.06 (-0.30)					-0.07 (-0.38)				-0.04 (-0.18)	
C-BHAR					0.01 (0.05)					0.01 (0.05)				0.03 (0.24)
EQ						0.02 (0.04)	0.02 (0.04)	0.02 (0.04)	0.03 (0.08)	0.02 (0.04)	-0.14 (-0.37)	-0.14 (-0.36)	-0.13 (-0.33)	-0.14 (-0.37)
DBT						0.47 (2.51) **	0.47 (2.50) **	0.47 (2.50) **	0.47 (2.51) **	0.47 (2.50) **	0.46 (2.46) **	0.46 (2.46) **	0.47 (2.47) **	0.46 (2.46) **
SIZE											18.58 (0.87)	17.57 (0.82)	19.82 (0.92)	18.28 (0.85)
IND											-4.62 (-0.17)	-2.27 (-0.08)	-5.47 (-0.20)	-3.86 (-0.14)
* **OWN**											48.30 (2.13) **	48.94 (2.16) **	47.40 (2.08) **	48.55 (2.14) **
N	114	114	114	114	114	114	114	114	114	114	114	114	114	114
Adj. R2 (%	10.55	9.74	9.83	9.81	9.74	13.89	13.10	13.18	13.21	13.10	14.37	14.54	14.37	14.39
F - Ratio	7.66 *	5.07 *	5.11 *	5.10 *	5.06 *	5.56 *	4.41 *	4.43 *	4.44 *	4.41 *	3.37 *	3.40 *	3.37 *	3.37 *

* Significant at the 1% level, ** Significant at the 5% level, and *** Significant at the 10%level.
Figures between parentheses are *t* statistics.

Table (5)
Egypt : Two -Year Period

The table shows the results from multivariate cross-sectional regression analyses of the determinant of investment expenditure for Egyptian firms over a two-year period. INV is the growth rate in investment expenditure, CF is the growth rate in cash flow plus depreciation, SAL is the growth rate in sales, EQ is the growth rate in equity, DBT is the growth rate in debt, M-CAR is the cumulative abnormal return calculated using the market-adjusted model, M-BHAR is the buy-and-hold abnormal return calculated using the market-adjusted model, C-CAR is the cumulative abnormal return calculated using the CAPM, and C-BHAR is the buy-and-hold abnormal return calculated using the CAPM, SIZE is a dummy variable that takes the value one if the firm size is above the median size of the sample firms and zero other wise, IND is a dummy variable that takes the value one if the firm belongs to the manufacturing sector and zero otherwise, and OWN is a dummy variable that takes the value one if the firm is controlled by the private sector and zero otherwise.

	Dependent Variable : INV													
Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Constant	7.88 (0.60)	7.87 (0.59)	6.51 (0.49)	7.69 (0.58)	7.40 (0.56)	0.88 (0.06)	0.45 (0.03)	-1.82 (-0.13)	0.93 (0.07)	-0.70 (0.05)	-17.43 (-0.42)	-31.28 (-0.74)	-14.10 (-0.34)	-26.55 (-0.63)
CF	0.42 (1.14)	0.42 (1.13)	0.43 (1.17)	0.43 (1.14)	0.41 (2.86)	0.34 (0.92)	0.34 (0.92)	0.35 (0.95)	0.33 (0.88)	0.31 (0.85)	0.38 (1.01)	0.34 (0.92)	0.34 (0.90)	0.31 (0.82)
SAL	1.51 (3.10) *	1.50 (2.85) *	1.42 (2.88) *	1.55 (2.95) *	1.43 (2.88) *	1.33 (2.67) **	1.24 (2.27) **	1.23 (2.45) **	1.26 (2.26) **	1.21 (2.37) **	1.06 (1.91) ***	1.15 (2.26) **	1.10 (1.92) ***	1.13 (2.18) **
M-CAR		0.01 (1.13)					0.08 (0.42)				0.25 (1.10)			
M-BHAR			0.12 (0.96)					0.15 (1.21)				0.20 (1.47)		
C-CAR				-0.04 (-0.25)					0.05 (0.27)				0.17 (0.85)	
C-BHAR					0.08 (0.71)					0.13 (1.08)				0.17 (1.30)
EQ						0.02 (0.09)	0.18 (0.42)	0.06 (0.26)	0.01 (0.05)	0.03 (0.14)	0.02 (0.11)	0.11 (0.47)	0.00 (0.00)	0.07 (0.29)
DBT						0.24 (1.89) ***	0.25 (1.92) ***	0.26 (2.02) ***	0.25 (1.87) ***	0.26 (2.05) **	0.26 (2.02) ***	0.25 (1.97) ***	0.26 (2.00) ***	0.26 (2.04) **
SIZE											-28.04 (-0.97)	-26.73 (-0.99)	-23.58 (-0.83)	-24.61 (-0.92)
IND											-6.00 (-0.16)	10.42 (0.26)	-8.44 (-0.23)	6.03 (0.15)
OWN											59.18 (2.13) **	52.59 (2.02) ***	56.02 (2.02) ***	52.16 (2.00) ***
N	44	44	44	44	44	44	44	44	44	44	44	44	44	44
Adj. R^2 (%)	22.43	20.50	22.28	20.62	21.47	25.32	23.71	26.19	23.50	25.63	26.72	28.59	25.72	27.69
F - Ratio	7.22 *	4.69 *	5.11 *	4.72 *	4.92 *	4.64 *	3.67 *	4.05 *	3.64 *	3.96 *	2.96 *	3.15 *	2.86 *	3.06 *

* Significant at the 1% level, ** Significant at the 5% level, and *** Significant at the 10%level.
Figures between parentheses are *t* statistics.

Table (6)
Egypt : Three -Year Period

The table shows the results from multivariate cross-sectional regression analyses of the determinant of investment expenditure for Egyptian firms over a three-year period. INV is the growth rate in investment expenditure, CF is the growth rate in cash flow plus depreciation, SAL is the growth rate in sales, EQ is the growth rate in equity, DBT is the growth rate in debt, M-CAR is the cumulative abnormal return calculated using the market-adjusted model, M-BHAR is the buy-and-hold abnormal return calculated using the market-adjusted model, C-CAR is the cumulative abnormal return calculated using CAPM, and C-BHAR is the buy-and-hold abnormal return calculated using the CAPM, SIZE is a dummy variable that takes the value one if the firm size is above the median size of the sample firms and zero other wise, and OWN is a dummy variable that takes the value one if the firm is controlled by the private sector and zero otherwise.

	Dependent Variable : INV													
Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Constant	137.26 (2.70) **	139.82 (2.71) **	151.03 (2.71) **	142.13 (2.68) **	150.89 (2.62) **	95.53 (1.76) ***	98.39 (1.78) ***	110.82 (1.87) ***	101.39 (1.80) ***	112.63 (1.85) ***	5.81 (0.06)	14.18 (0.13)	8.12 (0.08)	16.78 (0.16)
CF	1.25 (0.83)	1.25 (0.818)	1.29 (0.85)	1.22 (0.79)	1.26 (0.82)	1.15 (0.77)	1.14 (0.76)	1.15 (0.77)	1.09 (0.72)	1.12 (0.74)	1.48 (0.85)	1.64 (0.95)	1.36 (0.78)	1.60 (0.93)
SAL	3.84 (2.81) *	3.70 (2.65) **	3.72 (2.67) **	3.72 (2.62) **	3.72 (2.65) **	3.01 (2.25) **	2.92 (2.14) **	2.89 (2.12)	2.88 (2.08) **	2.86 (2.09) **	2.73 (2.00) ***	2.71 (1.97) ***	2.58 (1.88) ***	2.66 (1.93) ***
M-CAR		0.38 (0.66)					0.30 (0.55)				0.58 (0.85)			
M-BHAR			0.18 (0.64)					0.18 (0.68)				0.19 (0.66)		
C-CAR				0.23 (0.42)					0.24 (0.48)				0.61 (0.98)	
C-BHAR					0.14 (0.53)					0.16 (0.65)				0.20 0.73
EQ						0.13 (0.87)	0.11 (0.08)	0.01 (0.01)	0.06 (0.04)	-0.01 (-0.01)	-0.40 (-0.27)	-0.47 (-0.31)	-0.56 (-0.38)	-0.53 (-0.35)
DBT						0.43 (2.31) **	0.42 (2.24) **	0.43 (2.29) **	0.43 (2.28) **	0.44 (2.31) **	0.33 (1.73) ***	0.36 (1.86) ***	0.34 (1.80) ***	0.36 (1.88) ***
SIZE											12.51 (0.10)	37.46 (0.32)	12.16 (0.10)	36.77 (0.32)
OWN											178.41 (1.76) ***	165.58 (1.82) ***	192.47 (1.85) ***	166.09 (1.96) ***
N	29	29	29	29	29	29	29	29	29	29	29	29	29	29
Adj. R^2 (%)	28.86	27.28	27.20	26.54	26.85	37.00	35.11	35.56	34.91	35..46	38.11	27.26	38.75	39.55
F - Ratio	6.68 *	4.50 **	4.49 **	4.37 **	4.43 *	5.11 *	4.03 *	4.09 *	4.00 *	4.08 *	3.46 **	3.38 *	3.53 *	3.61 *

* Significant at the 1% level, ** Significant at the 5% level, and *** Significant at the 10%level.
Figures between parentheses are *t* statistics.

Table (7)
All Countries (Including Egypt) : One -Year Period

The table shows the results from multivariate panel-data regression analyses of the determinant of investment expenditure for all firms (including Egyptian firms) over a one-year period. INV is the growth rate in investment expenditure, CF is the growth rate in cash flow plus depreciation, SAL is the growth rate in sales, EQ is the growth rate in equity, DBT is the growth rate in debt, M-CAR is the cumulative abnormal return calculated using the market-adjusted model, M-BHAR is the buy-and-hold abnormal return calculated using the market-adjusted model, C-CAR is the cumulative abnormal return calculated using CAPM, and C-BHAR is the buy-and-hold abnormal return calculated using the CAPM, SIZE is a dummy variable that takes the value one if the firm size is above the median size of the sample firms and zero other wise, and IND is a dummy variable that takes the value one if the firm belongs to the manufacturing sector and zero otherwise.

	Dependent Variable : INV													
Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
CF	0.01 (0.10)	0.01 (0.10)	0.01 (0.10)	0.01 (0.10)	0.01 (0.10)	-0.01 (-0.10)	-0.01 (-0.10)	-0.01 (-0.10)	-0.01 (-0.10)	-0.01 (-0.10)	-0.01 (-0.09)	-0.01 (-0.09)	-0.01 (-0.09)	-0.01 (-0.09)
SAL	1.34 (3.73) *	1.34 (3.72) *	1.34 (3.73) *	1.34 (3.73) *	1.34 (3.72) *	1.36 (3.84) *	1.36 (3.82) *	1.37 (3.84) *	1.37 (3.83) *	1.36 (3.83) *	1.36 (3.80) *	1.37 (3.81) *	1.37 (3.81) *	1.36 (3.80) *
M-CAR		0.01 (0.10)					0.02 (0.11)				0.01 (0.15)			
M-BHAR			0.03 (0.32)					0.04 (0.39)				0.03 (0.33)		
C-CAR				-0.04 (-0.25)					-0.03 (-0.22)				-0.04 (-0.28)	
C-BHAR					0.01 (0.06)					0.01 (0.14)				0.01 (0.08)
EQ						0.06 (0.19)	0.06 (0.18)	0.05 (0.18)	0.07 (0.21)	0.06 (0.18)	0.05 (0.17)	0.53 (0.17)	0.07 (0.20)	0.05 (0.17)
DBT						0.26 (2.51) **	0.26 (2.50) **	0.26 (2.51) **	0.25 (2.49) **	0.26 (2.50) **	0.26 (2.50) **	0.26 (2.50) **	0.26 (2.49) **	0.26 (2.50) **
SIZE											4.75 (0.33)	4.19 (0.29)	5.60 (0.39)	4.68 (0.32)
IND											-2.48 (-0.13)	-2.00 (-0.11)	-2.26 (-0.12)	-2.34 (-0.13)
N	170	170	170	170	170	170	170	170	170	170	170	170	170	170
Adj. R^2 (%)	6.15	5.57	5.63	5.60	5.57	8.58	8.02	8.10	8.04	8.02	6.92	6.99	6.93	6.92
F - Ratio	17.07 *	8.49 *	8.54 *	8.52 *	8.48 *	7.96 *	5.93 *	5.97 *	5.94 *	5.94 *	3.93 *	3.95 *	3.94 *	3.93 *

* Significant at the 1% level, ** Significant at the 5% level, and *** Significant at the 10%level.
Figures between parentheses are *t* statistics.

Table (8)
All Countries (Including Egypt) : Two -Year Period

The table shows the results from multivariate panel-data regression analyses of the determinant of investment expenditure for all firms (including Egyptian firms) over a two-year period. INV is the growth rate in investment expenditure, CF is the growth rate in cash flow plus depreciation, SAL is the growth rate in sales, EQ is the growth rate in equity, DBT is the growth rate in debt, M-CAR is the cumulative abnormal return calculated using the market-adjusted model, M-BHAR is the buy-and-hold abnormal return calculated using the market-adjusted model, C-CAR is the cumulative abnormal return calculated using CAPM, and C-BHAR is the buy-and-hold abnormal return calculated using the CAPM, SIZE is a dummy variable that takes the value one if the firm size is above the median size of the sample firms and zero other wise, IND is a dummy variable that takes the value one if the firm belongs to the manufacturing sector and zero otherwise.

	Dependent Variable : INV													
Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
CF	0.35 (1.29)	0.35 (1.28)	0.35 (1.28)	0.36 (1.30)	0.34 (0.22)	0.34 (1.29)	0.35 (1.29)	0.34 (1.27)	0.34 (1.27)	0.33 (1.22)	0.36 (1.26)	0.34 (1.22)	0.35 (1.23)	0.33 (1.16)
SAL	1.33 (3.23) *	1.33 (3.04) *	1.28 (0.06) *	1.37 (3.11) *	1.28 (3.04) *	1.28 (3.13) *	1.24 (2.83) *	1.21 (2.91) *	1.26 (2.83) *	1.20 (2.87) *	1.24 (2.70) *	1.22 (2.78)	1.26 (2.71)	1.21 (2.73)
M-CAR		-0.01 (-0.05)					0.04 (0.26)				0.07 (0.38)			
M-BHAR			0.06 (0.66)					0.09 (0.91)				0.11 (1.04)		
C-CAR				-0.04 (-0.29)					0.16 (0.11)				0.03 (0.19)	
C-BHAR					0.05 (0.48)					0.07 (0.81)				0.09 (0.92)
EQ						-0.01 (-0.07)	-0.02 (0.08)	-0.01 (-0.03)	-0.16 (-0.08)	-0.02 (-0.09)	-0.02 (-0.09)	0.00 (-0.01)	-0.02 (-0.10)	-0.01 (-0.07)
DBT						0.18 (2.12) **	0.19 (2.11) **	0.19 (2.20) **	0.19 (2.08) **	0.19 (2.20) **	0.19 (2.04) **	0.19 (2.14) **	0.19 (2.01) **	0.20 (2.14) **
SIZE											-8.39 (-0.40)	-12.40 (-0.60)	-6.79 (-0.33)	-11.07 (-0.54)
IND											-1.26 (-0.04)	2.12 (0.07)	-1.42 (-0.05)	1.92 (0.07)
N	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Adj. R^2 (%)	15.90	14.41	15.09	14.54	14.77	19.73	18.27	19.46	18.17	19.19	15.21	16.79	15.02	0.16
F - Ratio	16.22 *	7.96 *	8.24 *	8.02 *	8.11 *	7.17 *	5.30 *	5.56 *	5.28 *	5.50 *	3.43 *	3.65 *	3.41 *	3.60 *

* Significant at the 1% level, ** Significant at the 5% level, and *** Significant at the 10%level.
Figures between parentheses are *t* statistics.

Table (9)
All Countries (Excluding Egypt) : One -Year Period

The table shows the results from multivariate panel-data regression analyses of the determinant of investment expenditure for all firms (excluding Egyptian firms) over a one-year period. INV is the growth rate in investment expenditure, CF is the growth rate in cash flow plus depreciation, SAL is the growth rate in sales, EQ is the growth rate in equity, DBT is the growth rate in debt, M-CAR is the cumulative abnormal return calculated using the market-adjusted model, M-BHAR is the buy-and-hold abnormal return calculated using the market-adjusted model, C-CAR is the cumulative abnormal return calculated using CAPM, and C-BHAR is the buy-and-hold abnormal return calculated using the CAPM, SIZE is a dummy variable that takes the value one if the firm size is above the median size of the sample firms and zero other wise and IND is a dummy variable that takes the value one if the firm belongs to the manufacturing sector and zero otherwise.

	Dependent Variable : INV													
Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
CF	0.00 (-0.03)	0.00 (-0.05)	0.00 (-0.06)	0.00 (-0.03)	0.00 (-0.04)	-0.03 (-0.47)	-0.03 (-0.48)	-0.03 (-0.50)	-0.03 (-0.47)	-0.03 (-0.48)	-0.01 (-0.17)	-0.01 (-0.19)	-0.01 (-0.11)	-0.01 (-0.13)
SAL	0.45 (2.77) *	0.45 (2.75) *	0.45 (2.75) *	0.45 (2.75) *	0.45 (2.75) *	0.49 (2.99) *	0.48 2.943 *	0.48 (2.93) *	0.49 (2.95) *	0.48 (2.95) *	0.47 (2.76) *	0.47 (2.76) *	0.46 (2.75) *	0.47 (2.75) *
M-CAR		-0.04 (-0.43)					-0.05 (-0.53)				-0.02 (-0.16)			
M-BHAR			-0.03 (-0.42)					-0.04 (-0.57)				-0.02 (-0.23)		
C-CAR				-0.02 (-0.14)					-0.02 (-0.16)				0.03 (0.23)	
C-BHAR					-0.01 (-0.17)					-0.02 (-0.26)				0.01 (0.07)
EQ						0.37 (1.18)	0.41 (12.56)	0.42 (1.28)	0.38 (1.17)	0.40 (1.19)	0.38 (1.07)	0.39 (1.09)	0.36 (1.00)	0.37 (1.02)
DBT						0.07 (2.01) **	0.07 (1.94) ***	0.07 (1.93) ***	0.07 (1.95) ***	0.07 (1.94) ***	0.07 (1.87) ***	0.07 (1.87) ***	0.07 (1.90) ***	0.07 (1.88) ***
SIZE											2.96 (0.42)	3.00 (0.43)	2.97 (0.42)	2.98 (0.42)
IND											-7.06 (-0.75)	-6.83 (-0.74)	-8.57 (-0.91)	-7.92 (-0.86)
N	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Adj. R^2 (%)	17.49	16.12	16.10	15.84	15.86	22.80	21.62	21.69	21.20	21.27	19.44	19.50	19.49	19.41
F - Ratio	16.66 *	8.29 *	8.28 *	8.18 *	8.18 *	7.74 *	5.79 *	5.81 *	5.70 *	5.71 *	3.88 *	3.88 *	3.89 *	3.87 *

* Significant at the 1% level, ** Significant at the 5% level, and *** Significant at the 10%level.
Figures between parentheses are *t* statistics.

Table (10)

Comparison of Differences in Investment Expenditure

The table shows the results of sub-sample comparisons of investment expenditure using the parametric T-test and the non-parametric Mann-Whitney test. The Egyptian firms are classified according to size, industry and ownership, while the entire sample (including and excluding Egyptian firms) is classified according to size and industry only. The T-test compares the means of the two samples by constructing confidence intervals or bounds for each mean and for the difference between the means. The Mann-Whitney test compares the medians of each pair of samples by combining them, sorting the data from smallest to the largest, and then comparing the average ranks of the two samples in the combined data. In particular, we provide the number of relevant observations in each sub-sample, the corresponding mean and median values of investment expenditure, and both the T statistics and average ranks along with their corresponding p-values. The null hypothesis for the parametric (non-parametric) test is that the mean (median) of sample one equals the mean (median) of sample two, versus the alternative hypothesis that the mean (median) of sample one is not equal to the mean (median) of sample two. Av-Rank is the average rank.

Panel A : Egypt

	Size					Industry					Ownership				
	Number of Observations of Small Firms (Large Firms)	Mean of Small Firms (Median)	Mean of Large Firms (Median)	T statistic for Difference in Means	Mann-Whitney Test for Difference in Medians Av- Rank	Number of Observations of Manufacturing Firms (Non- Manufacturing firms)	Mean of Manufacturing Firms (Median)	Mean of Non-Manufacturing Firms (Median)	T statistic for Difference in Means	Mann-Whitney Test for Difference in Medians Av- Rank	Number of Observations of Public Firms (Private Firms)	Mean of Public Firms (Median)	Mean of Private Firms (Median)	T statistic for Difference in Means	Mann-Whitney Test for Difference in Medians Av- Rank
One Year	51 (63)	5.76 (-21.05)	10.22 (-20.51)	-0.21	56.6 - 58.2	95 (19)	9.39 (-21.33)	2.40 (-11.11)	0.24	57.6 - 57.1	39 (75)	-23.17 (-30.10)	24.55 (-9.01)	-2.16**	51.3 - 60.7***
Two Years	22 (22)	-10.48 (-32.48)	-6.22 (-45.40)	-0.15	22.0 - 23.0	37 (7)	-1.77 (-26.88)	-43.13 (-57.49)	1.08	23.8 - 15.6	17 (27)	-38.74 (-57.49)	10.78 (-22.99)	-1.76***	17.9 - 25.4**
Three Years	15 (14)	84.05 (-3.10)	61.35 (-36.23)	0.20	16.9 - 12.9						12 (17)	-31.67 (-36.23)	147.04 (27.76)	-1.9**	11.8 - 17.2**

** Significant at the 5% level, and *** Significant at the 10%level.

Table (10) Continued

	Size					Industry				
Panel B : All Countries (Including Egypt)										
	Number of Observations of Small Firms (Large Firms)	Mean of Small Firms (Median)	Mean of Large Firms (Median)	T statistic for Difference in Means	Mann-Whitney Test for Difference in Medians Av-Rank	Number of Observations of Manufacturing Firms (Non-Manufacturing Firms)	Mean of Manufacturing Firms (Median)	Mean of Non-Manufacturing Firms (Median)	T statistic for Difference in Means	Mann-Whitney Test for Difference in Medians Av-Rank
One Year	77 (93)	2.72 (-7.30)	7.73 (-4.71)	-0.34	84.1 - 86.7	135 (35)	6.00 (-7.33)	3.38 (-2.18)	0.15	84.5 - 89.2
Two Years	30 (30)	-6.25 (-24.70)	-2.50 (-13.87)	-0.18	29.5 - 31.5	48 (12)	0.52 (-20.34)	-23.95 (-46.82)	0.93	31.8 - 25.5
Panel C : All Countries (Excluding Egypt)										
	Size					**Industry**				
	Number of Observations of Small Firms (Large Firms)	Mean of Small Firms (Median)	Mean of Large Firms (Median)	T statistic for Difference in Means	Mann-Whitney Test for Difference in Medians Av-Rank	Number of Observations of Manufacturing Firms (Non-Manufacturing Firms)	Mean of Manufacturing Firms (Median)	Mean of Non-Manufacturing Firms (Median)	T statistic for Difference in Means	Mann-Whitney Test for Difference in Medians Av-Rank
One Year	26 (30)	-3.25 (-1.37)	2.50 (-0.90)	-0.8	27.4 - 29.5	40 (16)	-2.06 (-1.73)	4.54 (-0.75)	-0.83	27.9 - 29.9

Table (11)
Payout-Related Statistics

The table shows several payout ratios along with their relationships to different specifications. We report the mean (median) payout ratios of our sample firms in Panel A. The cash-flow coefficients are provided in Panel B for all firms, high-dividend paying firms (sample 1), and low-dividend paying firms (sample 2). In Panels C and D, we provide the results obtained from the parametric *t* test and the non-parametric Mann-Whitney test along with the mean (median) values of debt to equity ratio and cash to current liabilities ratios, respectively. In particular, we provide the number of relevant observations in each sub-sample, and both *t* statistics and average ranks along with their significance levels. We report the results for the parametric (non-parametric) test under null hypothesis that the mean (median) values of debt equity ratio and cash to current liabilities ratio of sample one equals the mean (median) values of sample two, versus the alternative hypothesis that the mean (median) values of debt equity ratio and cash to current liabilities ratio of sample one is not equal to the mean (median) values of sample two.

Panel A : Firms' Payout Ratios (Dividends as a % of Net Profits)

Egypt		All Countries (Including Egypt)		All Countries (Excluding Egypt)	
Mean	Median	Mean	Median	Mean	Median
64	68	66	69	72	79

Panel B : Cash Flow Coefficient

	Egypt		All Countries (Including Egypt)		All Countries (Excluding Egypt)	
	Coefficient	*t* - statistic	Coefficient	*t* - statistic	Coefficient	*t* - statistic
All Firms	0.08	0.45	-0.01	-0.10	-0.03	-0.48
High-Dividend Paying Firms	0.40	0.06	0.06	0.15	0.26	0.97
Low-Dividend Paying Firms	0.07	0.29	-0.04	-0.22	0.05	0.44

Table (11) Continued

anel C : Comparison of Differences in Leverage[+] between High- and Low- Dividend Paying Firms				
	High Payout Ratio Firms	Low Payout Ratio Firms	*t* -statistic	Mann Whitney Test for
	Mean (Median)	Mean (Median)	for Differences in Means	Differnces in Medians Average Rank
Egypt	0.363 (0.147)	0.421 (0.149)	-0.508	57.8 - 52.0
All Countries Including Egypt	0.274 (0.107)	0.403 (0.187)	-1.534***	72.8 - 82.1 ***
All Countries Excluding Egypt	0.117 (0.026)	0.263 (0.187)	-2.033**	18.8 - 26.6 **
Panel D : Comparison of Differences in Liquidity[++] between High- and Low- Dividend Paying Firms				
	High Payout Ratio Firms	Low Payout Ratio Firms	*t* -statistic	Mann Whitney Test for
	Mean (Median)	Mean (Median)	for Differences in Means	Differnces in Medians Average Rank
Egypt	0.345 (0.175)	0.252 (0.104)	1.431***	59.1 - 50.6 ***
All Countries Including Egypt	0.361 (0.175)	0.296 (0.108)	0.854	73.0 - 63.6 ***
All Countries Excluding Egypt	0.269 (0.176)	0.207 (0.117)	0.629	15.7 - 11.9

** Significant at the 5% level and*** Significant at the 10% level.
+ Leverage is proxied by the debt to equity ratio.
++ Liquidity is proxied by the ratio of cash to current liabilities.

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