# THE EFFECT OF EQUITY OWNERSHIP STRUCTURE, FINANCIAL LEVERAGE AND PROPRIETARY COSTS ON SHARE PRICE ANTICIPATION OF FUTURE EARNINGS: EVIDENCE FROM MENA EMERGING MARKETS

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## Abstract

The paper aims at examining whether the return-future earnings relationship vary with corporate financial leverage, ownership structure and proprietary costs for a sample of 240 firms in the context of Middle Eastern and North African emerging markets. Our results emphasized first a negative association between share price anticipation of future earnings and financial leverage level. We showed also that the return-future earnings relationship is positively related to the level of institutional ownership. Findings revealed in addition and inconsistent with our assumption that insider ownership influences positively the ability of stock return to predict future earnings. Finally, proprietary costs didn't seem to impact the return future earnings relationship in that only a positive effect on current earnings informativeness was observed.

**Keywords**: Ownership Structure; Financial Leverage; Proprietary Costs, Share Price Anticipation

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## 1 Introduction

A major motivation for market based accounting research (MBAR) is providing evidence on how earnings are perceived as value relevant by a wide range of users in making economic decisions. Of particular interest over the last two decades has been the issue of whether current stock returns reflect the market's expectations about future earnings (e.g., Collins et al.1994; Kothari and Sloan 1992; Warfield and Wild 1992). This topic received recently a great deal of attention because share price anticipation of future earnings implies the extent to which market participants are likely to incorporate relevant information about a firm's future prospects into corporate stock prices.

Within this framework several empirical researches (Gelb and Zarouin, 2002; Lundholm and Myers, 2002; Schleicker et al 2007; Luo et al, 2006; Hussainey and Walker, 2009) examined the cross-sectional variation in price informativeness regarding future earnings and identified a number of firm characteristics such as profitability, growth and the extent of forward looking information as the underlying factors accounting for such variation (Haw et al, 2012). The Collins et al (1994) future earnings response coefficient was employed as a standard technique in measuring such effect. Nevertheless, in our knowledge none of them have considered the effect of ownership structure, financial leverage and proprietary cost on the return future earnings relationship to the extent that Kothari (2001) argue that the most promising area of research in the earnings response coefficient literature is to relate time-series properties of earnings to economic determinants like competition, technology, innovation, risk, effectiveness of corporate governance, incentive compensation policies, etc. In addition, most of these studies were undertaken in the context of developed countries (US, UK) which present a specific institutional milieu in term of ownership structure, investor protection and capital markets development, where strong enforcement mechanisms exist and where the information environment is rich.

Meanwhile, a stream of research emphasized the importance of one country characteristics in shaping and sustaining a transparent information environment (e.g., Ball et al. 2000, 2003; Laporta et al. 2000; Bushman and Piotroski 2006; Haw et al, 2012; Hope 2003; Leuz et al. 2003; Roe, 2003). The quality of accounting earnings and the effectiveness of its use by financial market participants are suggested accordingly to depend on one country legal and institutional structures.

In this paper, we contribute to the literature on share price anticipation of future earnings by

introducing proprietary cost, financial leverage and equity ownership structure that early studies assume to be invariant across firms based on MENA emerging market data. Given that large institutional ownership provides shareholders' monitoring and mitigates potential managerial abuse, firms will be likely to disseminate value relevant information (Holderness, 2003). As such, we expect that earnings informativeness will be improved. However, for insider ownership, the credibility of accounting information comes from manager's willingness to forego the benefits of diversification by retaining some ownership in the firm. Accordingly, when insiders possess only minor interests in their firms, such ownership is positively related to earnings informativeness whereas the impact of insider equity ownership upon firm value will be negative if they own substantial stakes and become entrenched (Lee and Hwang, 2012). We also consider the effect of financial leverage on the ability of stock price to predict future earnings since Dhaliwal et al. (1991) argue that firms with higher debt ratio are less valued due to the lower value relevance of their contemporaneous earnings. Proprietary cost are introduced, in the other hand based on the assumption that firms with higher proprietary cost are likely to have a weaker association between current stock return and future earnings (Darrough and Stoughton, 1990). Adding these variables to the return–future earnings model specification provides an opportunity to examine the differential effects that equity ownership structure, financial leverage and proprietary cost impose on this association.

MENA emerging markets provides an interesting avenue for our research. As former British and French colonies (except for Turkey) MENA countries are often clustered into common low family and French civil law family. They have transplanted similar law and regulations and inherited their business milieu and accounting values from mother legal countries. Major institutions regarding the financial sector were established following the Western style, but they present some interesting features that make them a challenging fieldwork (TurkAriss, 2009). MENA security markets are still relatively small, illiquid, with a limited number of listed companies, and have a thin trading compared to the developed and even the emerging markets of Asia and Latin America. Capital markets in this region seem to be also segregated from the developed capital markets, and possibly from each other since they exhibit a low degree of cointegration (Smimou and Karabegovic, 2010).

This is may be due to a number of key respects, such as their relatively weak regulatory frameworks, the high concentration of ownership, the significant portion of listed companies' shares that are held by families and financial institutions and the limited role of market forces. These aspects, among others, are likely to shape not only corporate transparency but also the value relevance of their financial information.

For instance, we control for some institutional specificities of MENA countries by introducing the level of investor protection and the extent of capital market development in this region.

The structure of this paper is organized as follows. In section II we present a brief overview of MENA region. In section III we provide the literature review and hypotheses development. Section IV describes the research design. Empirical results and their discussion are provided in section V. Finally, concluding comments are provided in section VI.

## 2 MENA Emerging Countries Overview

MENA region is an economically diverse region that includes disparities among countries with regard economic development, differences in the business culture inheritance and the variability in sources of accounting standards (Ben Othman and Zeghal, 2010). MENA countries are mostly single –commodity (oil) economy dependent despite the continuous and huge effort to diverse the economies (Sourial, 2004).

Recently, along with their common trend toward modernization and integration into the global economy, MENA markets have come to the forefront and attracted significant interest from both international investors and policy makers. In fact, several MENA countries has been already embarking on economic reform programs since 1980s in order to comply with the structural adjustment programs of the international institutions such as the World Bank or the international Monetary Fund...etc. (Ben Othman and Zeghal, 2010). As a result, there has been a tremendous flow of funds into these emerging financial markets especially after the recent financial crisis in East Asia and in Argentine due to their significant growth potential: The stock markets of Egypt, Turkey, Jordan and Morocco became an important participant in the diversification of capital markets in the region (Neaime, 2006).

MENA countries can be categorized in two distinct groups with respect their institutional characteristics. The first are the most open economies to foreign investments and the least regulated markets including Israel, Egypt, Jordan, Morocco, Turkey and Tunisia.

Securities markets in these countries are considered as the main vector of state owned firms' privatization and trade liberalization. The second are the Gulf Cooperation Council's (GCC's) capital markets of Bahrain, Saudi Arabia, Kuwait, Qatar, Emirates Arabs United….which are relatively closed, highly regulated and have minimal contribution in their economies' growth (Sourial, 2004). Market capitalization of MENA region markets has risen from $244 billion in 2002 to more than $956 billion in 2008 (World Development Indicators: WDI 2008) which represents 47% of MENA's GDP and about 2, 7% of world market capitalization.

Notwithstanding the growing position of capital markets in the MENA emerging economies and the adoption of the privatization programs, stock markets in this region are characterized by the high concentration of ownership and the limited role of market forces. Indeed, according to Omran (2007) a significant proportion of corporate ownership in this region is held by the State, influential institutions and families. In other words, the insider system is the dominant characteristic of the corporations in the region. In this concern, Omran et al. (2008) explain that Egypt includes the largest presence of firms' government ownership at 34% compared to Jordan, Oman, Morocco and Tunisia while Jordan and Oman appear as the countries with the highest private ownership, having more than 80% of firm ownership in the hands of private institutions and individuals and Tunisia is considered as the country with the largest foreign participation in firm ownership at 18%. Moreover, as in many other regions, family-owned companies are the dominant characteristic of the MENA capital markets (Ben Othman and Zeghal, 2010). A single family may be among the top five shareholders and have controlling stakes in a number of companies whether directly or indirectly. For example, some petroleum firms operating in the Gulf Cooperation Council's (GCC's) capital markets such as Kuwait Petroleum or SABIC are held by royal family members (Ben Othman and Zeghal, 2010). Finally, a common characteristic of corporations from MENA countries is the significant portion of listed companies' shares that are held by financial institutions including insurance, investment and securities companies. Despite the current prudential regulations preventing banks from holding 'significant' shares in listed companies, commercial banks have become large shareholders in non-financial listed companies, sometimes ranking among the five largest shareholders (Miteva, 2007).

Overall ownership concentration and dominance-of control-oriented shareholders are the main characteristics of most publicly listed corporations in MENA region. In fact, controlling shareholders have strong incentives to closely monitor firm management and can have positive impact on corporate governance. However, their interests might conflict with the interest of minority shareholders. The conflict is evident when the controlling shareholders abuse the company's resources by extracting private benefits to the detriment of other shareholders (Sourial, 2004). These aspects are likely to have a negative impact not only on liquidity and trading but also on transparency and firm's reporting since when an owner effectively controls a firm, he also controls the production of the firm's accounting information and reporting policies which is likely to reduce the credibility of the accounting information.

# 3 Literature Review and Hypothesis Development

## 3.1 Share price anticipation of future earnings and financial leverage

Early market based accounting research focused on factors affecting the variation in the relationship between unexpected earnings and abnormal security returns. One lesser researched factor suggested in a series of papers as possibly affecting the earnings response coefficient (ERC) is firms' financial risk. The most used proxies were systematic or default risk while corporate financial leverage was rarely emphasized. The underlying logic in these studies is that risk plays a fundamental role in asset pricing and is likely to vary systematically within the settings examined by accounting researchers. As a result, the implications of ERC-based research for financial accounting depend on understanding the role of risk in returns-earnings relations and properly controlling for differences in risk across sample observations. On another side, companies with large debt exposure are more likely to have higher cash flow volatility which increases the probability of lower realization of future cash flows and consequently the probability of financial distress increases. From this point of view, financial distress causes indirect costs for companies to the extent that suppliers, customers and employees react by requiring favourable contracts relative to non-distressed firms. This implies lower expected revenues and higher expenses for such firms (Bartram, 2000; Smith and Stulz, 1985). Corporations with higher debt ratio will be hence less valued due to the lower value relevance of contemporaneous earning and the prediction of future performance by the current earning became more difficult.

In the same vein, according to Watts and Zimmerman (1986) there is considerable empirical evidence that firms with high financial leverage tend to choose income-accelerating methods since it is argued that the higher the debt-to-equity ratio, the closer the firm is to constraints in debt covenants and the greater the probability of incurring costs associated with a covenant violation. In such situation, managers will be likely to choose income-accelerating accounting methods in order to avoid the costs of technical default. These accelerations would in the future periods, reverse themselves and introduce noise in both the current period and some future earnings periods. In this regard, the debt-to-equity ratio could be acting as a surrogate for upward bias and/or noise in reported income which may be driving the observed negative relation between the ERC and debt-to-equity ratio (Dhaliwal and Reynold, 1994). For instance as financial leverage monotonically increases, the value of the firm falls in response, and earnings have less price information value.

Based on above, we hypothesize that:

H1. *Share price anticipation of future earnings is negatively associated with firm financial leverage level.*

On another side, there are both theoretical and empirical evidence indicating that different ownership structures are associated with different incentives to monitor managers and to limit their discretionary latitude as way to ensure the quality of financial information. Indeed, shareholding structure influence the level of information asymmetry between managers and outside investors, and this influences in turn managers' accounting choices and consequently the informativeness of accounting earnings (Wong and Fan, 2002; Donnelly and Lynch, 2002).

## 3.2 Share price anticipation of future earnings and institutional ownership

Institutional investors hold large block of shares in capitals of large companies. The magnitude of their ownership leads them to become the main actor in corporate governance structures (Lakhal, 2006). Indeed, agency theory assumes that institutional owners are able to reduce discretionary managerial power over corporate disclosure especially when managers hold high percentage in firm's equity (Healy et al. 1999). Institutional investors are likely to attenuate managers' non-value maximizing behavior, and as such, the opportunities for managers to capitalize on the latitude in accounting techniques are reduced.

Rajgopal et al. (1999) paper showed a strong and negative relationship between the absolute value of discretionary accruals and institutional ownership. This is consistent with the view that institutional owners are better informed, thus the perceived benefits of managing accruals are reduced and the informativeness of accounting earnings will be enhanced. Karamanou et al. (2005) argue in the other hand that the presence of institutional investors will deter managers to practice strategic behavior towards earning forecast disclosure. They expect thus that firms characterized by the presence of a large institutional ownership will disseminate relevant financial information.

We hypothesize that:

H2. *Share price anticipation of future earnings is stronger for firms with high institutional ownership.*

## 3.3 Share price anticipation of future earnings and insider ownership

According to Jensen and Meckling (1976), insider ownership is positively related to firm value. In fact, the higher is the percentage of equity held by managers, the more the deviation from the traditional goal of value maximization is low and the more the firm is profitable. In such situation, conflicts of interests are resolved and information asymmetry is almost inexistent so we expect a positive relationship

between increased managerial ownership and the level or the quality of corporate disclosure (Elouafa, 2007). However, several empirical studies did not detect such effect on firm value: In situations of high managerial ownership where managers obtain effective control of the firm, management ownership and firm value are negatively related because of entrenchment (Luo et al, 2006). Indeed, this theory suggests that actors develop strategies to retain their place in the organization and crowd out potential competitors. In doing so, they make their replacement costly for the organization where they belong, allowing them to increase their power and to obtain more latitude in determining corporate strategy. Thus managers are likely to extract higher wages and larger perquisites from shareholders (Alexandre and Paquerot, 2000). They are likely to exploit the latitude available in accepted accounting procedures to capitalize on available incentives, yielding accounting numbers not necessarily reflecting the economic substance of underlying transactions (Gul et al, 2002). For instance, the entrenchment effect of the insider ownership potentially affects firms' financial reporting.

Because the controlling owner oversees the accounting reporting policies and is perceived to have strong opportunistic incentives to hold up minority shareholders, the market expects that the owner will not report high-quality accounting information. This market perception will reduce the credibility of accounting earnings reports and consequently the informativeness of those earnings.

On this basis we formulate the following hypothesis:

H3. *Share price anticipation of future earnings is lower for firms with high insider ownership.*

## 3.4 Share price anticipation of future earnings and proprietary costs

Verrecchia (1983) and Darrough and Stoughton (1990) argue that firms' decisions to disclose information is influenced by concern that such disclosures can damage their competitive position in product markets. Luo et al (2006) define proprietary cost as "*the costs associated with strategic decision-making by a competitor using all available information, including firms' private information*". King and Wallin (1995) appraise that private information related to future earnings are valuable for financial market and business competitors. This is likely to weaken firm competitive position and restrain corporate disclosure. Moreover, Verrecchia (1983) considers that firms tend to decrease their disclosure if it produces proprietary cost and conversely, disclosure can result in minimum proprietary cost if the disclosure deters the opponent from taking an adverse action. Bamber and Cheon (1998) reported evidence supporting this point of view: they revealed that firms tend to disclose less precise information on behalf its

future earnings when proprietary costs are high (few competitors). Firms will balance then their desire to convey relevant information under a tradeoff between costs and benefits. For instance, whereas, higher precision of financial information increases the ability to accurately predict the future performance of the firm, Information of higher quality decreases the barriers to entry in the product market and thus has an adverse effect on the incumbent firm (Cohen, 2002).

Based on above, we state the following hypothesis:

*H4. Share price anticipation of earnings is weaker for firms with high proprietary cost.*

### 3.5 Control Variables

#### 3.5.1 Investor Protection

Investor protection institutions through contract enforcement and the security of property rights is seen as a basic element of countries' legal environment that is likely to influence investment opportunities and the development of financial markets (La Porta et al., 2000). Several studies revealed that investor protection mechanisms are likely to surrogate either directly or indirectly for the extent of political influence on countries' financial reporting environments that is likely to influence the informativeness and the quality of earnings. For example, Leuz et al. (2003), Bushman et al. (2004b) and Durnev and Kim (2005) find that firms in countries with strong investor protection have greater disclosure, higher transparency and lower degree of accruals manipulation. Conversely, countries with weaker investor protection make it possible for managers to behave opportunistically resulting in less informative earnings. Therefore, we expect richer information environment and more informative stock prices about future earnings to be associated with higher level of investor protection.

#### 3.5.2 Market Value

Financial markets are considered as one of the key factors in a country's economic development given their critical roles in the process of mobilizing savings, funding investment opportunities and optimal resources allocation among the different economic sectors and among firms within each sector (Ben Othman and Zeghal, 2008). It is argued that in developed capital markets, investors' demands are more sophisticated; they are exerting considerable pressures toward more corporate transparency and higher quality of financial information in order to make optimal choices when analyzing investment opportunities (Gray, McSweeney, and Shaw, 1984; Adhikari and Tondkar, 1992). Doupnik and Salter (1995) and Jaggi and low (2000) emphasized that a strong equity market is generally associated with better production and disclosure of relevant information. Holmstrom and Tirole (1993) assert in this regard that firms with a higher market capitalization enjoy more confidence from investors which will in turn impact positively the value relevance of their financial information.

## 4 Research Design

This section discusses research's model, our research design and helps explain where we obtained data.

### 4.1 Regression model

Our empirical model is derived from earlier studies and in particular Collins et al. (1994). In fact, they used the future earning response coefficient (FERC) to assess the value relevance of current and future earnings. This coefficient is determined by regressing current stock return on current and future earnings and stock returns plus control variables. This regression model is used as a standard technique for measuring the ability of stock returns to predict future performance in many recent research (e.g. Hussainey and Walker, 2009; Banghoj and Plenborg, 2008; Hanlon et al. 2007; Schleicker et al 2007; Gelb and Zarowin, 2002)

Collins et al (1994) apply the following specification:

$$R_t = b_0 + b_1 X_t + \sum_{k=1}^{N} b_{k+1} X_{t+k} + \sum_{k=1}^{N} b_{k+N+1} R_{t+k} + b_{2N+2} AG_t + b_{2N+3} EP_{t-1} + e_t, \qquad (1)$$

where $R_t$ - stock return for year t;

$R_{t+1}$, $R_{t+2}$, $R_{t+3}$ - stock returns for year t+1, t+2, t+3 respectively;

$X_t$, $\mathbf{X_{t+1}}$, $\mathbf{X_{t+2}}$, $\mathbf{X_{t+3}}$ - are defined as earnings change for year t, t+1, t+2, t+3 respectively;

$AG_t$ - the growth rate of total book value of assets for period $t$;

$EP_{t-1}$ - the period $t-1$'s earnings over price at the start of period $t$.

Three changes were made to the original model of Collins et al. (1994). First, we focus only on two years of future earnings growth variables in our regression model. This is done to preserve a maximum number of observations for our sample. Second, in calculating the current and future earnings growth variables we deflate earnings change by price and not by lagged earnings since it is argued that it will be

difficult to define earnings growth when lagged earnings are negative or zero (Hussainey and Walker, 2009). Finally, we exclude the earnings yield variable $EP_{t-1}$, from the regression model because we believe that this variable will be a poor control variable for high leveraged companies.

In fact, while this variable proxy for market expectations at the end of the period t-1 of next period earnings growth, it is argued that companies with large debt exposure are more likely to have higher cash flow volatility which increases the probability of lower realizations of expected future cash flows (Bartram, 2000; Smith and Stulz, 1985).

To test empirically all of our assumptions we will proceed as follow. The effect of firms' financial leverage level on share price anticipation of future earnings will be first checked by interacting all the independent variables in the regression model with "$LEV_t$" variable approximated by debt to equity ratio. The coefficient on $LEV_t*\sum X_{t+1}$ is expected to be negative. We test second the interaction between all the independent variables in the regression model with institutional ownership ($INS_t$). The coefficient on

$INS_t*\sum X_{t+1}$ is expected to be positive. The effect of insider ownership on earnings informativeness is subsequently checked by interacting all the independent variables in the regression model with insider ownership ($INSD_t$). The coefficient on $INSD_t*\sum X_{t+1}$ is expected to be negative. The supposed moderating effect of proprietary cost on share price anticipation of future earnings will be also verified by interacting it with all the independent variables in the regression model. In this case we expect that the coefficient on $PC_t*\sum X_{t+1}$ will be negative. Finally, as considerable number of studies on the returns-earnings relationship documented many determinants (past growth, risk, earnings persistence, firm size and the presence of an accounting loss) of the earnings response coefficient, we examine each of the hypotheses with some of these variables (Firm size and risk) included in the regressions. Consistent with Lundholm and Myers (2002), only one control variable is included in the model at a time due to the limited number of observations (degrees of freedom).

This produces our main regression models:

<u>M1:</u> $R_t= b_0 + b_1X_t + b_2X_{t+1} + b_3X_{t+2} + b_4R_{t+1} + b_5R_{t+2} + b_6AG_t + IP_t + MC_t +$ Country and Industry Dummies $+ e_t$

<u>M2:</u> $R_t=b_0+b_1X_t+ b_2X_{t+1} + b_3X_{t+2} + b_4R_{t+1}+ b_5R_{t+2}+ b_6AG_t+ b_7 LEV_t+b_8 LEV_t* X_{t+1}+b_9 LEV_t*X_{t+2}+ b_{10}LEV_t*R_{t+1}+ b_{11} LEV_t* R_{t+2}+b_{12}LEV_t*AG_t+ IP_t + MC_t +$ Country and Industry Dummies $+ e_t$

<u>M3:</u> $R_t=b_0+b_1X_t+ b_2X_{t+1} + b_3X_{t+2} + b_4R_{t+1}+ b_5R_{t+2}+ b_6AG_t+ b_7 INS_t+b_8 INS_t* X_{t+1}+b_9 INS_t*X_{t+2}+ b_{10}INS_t*R_{t+1}+ b_{11} INS_t* R_{t+2}+b_{12}INS_t*AG_t+ IP_t + MC_t +$ Country and Industry Dummies $+ e_t$

<u>M4:</u> $R_t=b_0+b_1X_t+ b_2X_{t+1} + b_3X_{t+2}+ b_4R_{t+1}+ b_5R_{t+2}+ b_6AG_t+ b_7 INSD_t+b_8 INSD_t* X_{t+1}+b_9 INSD_t*X_{t+2}+ b_{10}INSD_t*R_{t+1}+ b_{11} INSD_t* R_{t+2}+b_{12}INSD_t*AG_t+ IP_t + MC_t +$ Country and Industry Dummies $+ e_t$

<u>M5:</u> $R_t=b_0+b_1X_t+ b_2X_{t+1} + b_3X_{t+2}+ b_4R_{t+1}+ b_5R_{t+2}+ b_6AG_t+ b_7 PC_t+b_8 PC_t* X_{t+1}+b_9 PC_t*X_{t+2}+ b_{10}PC_t*R_{t+1}+ b_{11} PC_t* R_{t+2}+b_{12}PC_t*AG_t+ IP_t + MC_t +$ Country and Industry Dummies $+ e_t$

where : $R_t$ - stock return for year t is calculated as buy-and-hold returns for the 12-month period.

$X_t$ - is defined as earnings change per share in periods t deflated by share price at *t*–1 (earning is income before extraordinary items).

$X_{t+1}$ - defined as earnings change per share in periods t+1 deflated by the share price at year t

$X_{t+2}$ - defined as earnings change per share in periods t+2 deflated by the share price at year t+1

$R_{t+1}$ - stock return for year t+1 is calculated as buy-and-hold returns for the 12-month period

$R_{t+2}$ - stock return for year t+2 is calculated as buy-and-hold returns for the 12-month period

$AG_t$ - is the growth rate of total book value of assets for period t

$LEV_t$ - the level of financial leverage measured by debt to equity ratio due to data limitation.

$INS_t$ - defined as the percentage of total shares held by institutional investors

$INSD_t$ - defined as the percentage of total shares held by insider owners

$PC_t$ - proprietary cost is measured by net profit margin ratio of period t

Control variables:

$IP_t$ - Strength of Investor Protection Index (the average of the three indexes—Word Bank database) transformed into a dummy variable that takes 1 if firms belong to countries with the Investor Protection Index superior to 5 and 0 otherwise.

$MC_t$ - Market Capitalization to GDP ratio (Word Bank database) transformed into a dummy variable that takes 1 if firms belong to countries which market capitalization to GDP ratio exceed 50% and 0 otherwise.

### *4.2 Sample selection and data collection*

Our sample comprises companies domiciled in nine MENA emerging capital markets including Morocco,

Egypt, Jordan, Kuwait, Tunisia, Israel, Oman, Qatar, Turkey and UAE and are periodically listed from 2005 to 2008. Choosing this period of analysis was motivated by these main reasons. MENA emerging

countries witnessed a growing GDP per capita during the last decade which remained relatively notable and close over these three years before the international financial crisis. Foreign direct investment jumped also from 18, 36 billion$ in 2005 to more than 35 billion$ in 2008 before falling dramatically by nearly 30% during next years (2009 and 2010). Market capitalization exhibited finally a considerable growth reaching 118.5 % of GDP in 2005 and representing on average 85.5 % of MENA region GDP between 2005 and 2008 which is considered as the most important rise during this last decade (WDI, World Bank, 2012).

Financial information such as stock returns, earnings per share, institutional ownership, insider ownership, financial leverage and net profit margin ratio are gathered from *Capital IQ COMPUSTAT* electronic database. All of the earnings and return variables are winsorized at the 1st and 99th percentiles in order to mitigate the effect of extreme earnings observations. After a series of sample-filtering steps due to unavailability of many required information, the process yields a 240 firms (480 year-observation) related to our period of analysis (2005-2008).

Table 1 & 2 summarize the composition of the sample by country and by economic sector:

**Table 1.** The composition of the sample by country

| Country | Number of companies |
|---|---|
| Morocco | 10 |
| Egypt | 8 |
| Jordan | 28 |
| Kuwait | 16 |
| Israel | 72 |
| Oman | 18 |
| Qatar | 11 |
| Tunisia | 2 |
| Turkey | 57 |
| UAE | 18 |
| TOTAL | 240 |

**Table 2.** The composition of the sample by economic sector

| Sector | Number Of Companies |
|---|---|
| Energy | 15 |
| Materials | 41 |
| Industrials | 57 |
| Consumer discretionary | 37 |
| Consumer staples | 19 |
| Healthcare | 11 |
| Information technology | 39 |
| Telecommunication services | 13 |
| Utilities | 8 |
| TOTAL | 240 |

### 4.3 Descriptive statistics

Table 3 provides summary statistics for our sample. The mean current return is 0,126. The mean current earnings per share change (deflated by share price) is 0.016. The mean of future earnings change is respectively 0.042 for t+1 period and -0.001 for t+2 period suggesting a decline in future (period t+2) performance. Similarly we observe a reverse and a decline in the mean future returns with respect to t+2 periods compared to future returns period t+1 indicating potentially structural changes in the returns over the sample time period. This is may be due indeed to the low earnings change in t+1's period.

As also evidenced in table 3, the mean of firms' financial leverage as measured by debt to equity ratio is 0.662 and the standard deviation is 0.986 suggestive that our sample comprises high geared firms and that low dispersion exists among firms with regard to their financial leverage level. With respect to proprietary cost as measured by net profit margin ratio, the mean is 0.131 and the standard deviation is 0.271 which may indicates relatively high competition among firms in MENA region. Furthermore, institutional ownership is on average quite notable. In fact, the mean is about 21.83 and the standard deviation is 20.35 indicating that the size of institutional owners is quit diffused among our sample data firms. Finally, the amount of insider owners is on average lesser that the amount of institutional owners. The mean is 11.27 and the standard deviation is about 14.82 indicating that the presence of insider ownership is relatively small and quite dispersed among our sample firms.

Pair-wise Pearson correlations coefficients for the main variables are provided in Table 4 and P-values are given in parentheses. As documented in previous studies, the correlation between current Returns ($R_t$) and current earnings growth ($X_t$) is strong and significant suggesting that earnings are perceived as value relevant. Moreover, current returns are uncorrelated with future returns with respect period t+1 and t+2. However, future returns ($R_{t+1}$, $R_{t+2}$) are significantly correlated with future earnings change ($X_{t+1}$, $X_{t+2}$), consistent with Collins et al. (1994). These correlations indicate that future returns should not influence the results except through their role as a proxy for the measurement error in future earnings. In addition a weak and negative correlation between current return and future earnings ($X_{t+1}$) of period t+1 is noticed while there is a strong and positive association between the two variables regarding period t+2 which may provide evidence of prices leading earnings by two periods. Furthermore, significant and negative correlation is noticed between current earnings change ($X_t$) and future earnings ($X_{t+1}$) of period t+1 in one hand and future earnings change ($X_{t+2}$) of period t+2 in the other hand. This may indicate potential multicollinearity problems within our independent variables. We follow accordingly Freund et al (2003) procedure which suggests that the VIF should be only computed after first centering variables when examining interaction effects in a multiple regression. For instance, the mean VIF is about 1.22 and the computed VIF for each predictor variable is under 10. Univariate analysis showed besides that the coefficient on the correlation between financial leverage in one hand and proprietary cost, Future earnings change ($X_{t+1}$) and insider ownership in the other hand is significant indicating that presence of insider ownership is more important in highly geared companies whereas higher proprietary costs is likely to lessen institutional owners for high leveraged companies. Finally, a positive correlation is detected between firm asset growth in one side and financial leverage and proprietary cost variables in the other side indicating that more proprietary cost are induced for firms having higher asset growth rate.

**Table 3.** Summary descriptive statistics

| Variables | N | Mean | Min | Max | S.D |
|---|---|---|---|---|---|
| **Current returns ($R_t$)** | 480 | 0.126 | -0.726 | 2.32 | 0.496 |
| **Current earnings change ($X_t$)** | 480 | 0.0162 | -0.964 | 0.713 | 0.166 |
| **Future earnings change ($X_{t+1}$)** | 480 | 0.042 | -0.361 | 0.973 | 0.174 |
| **Future earnings change ($X_{t+2}$)** | 480 | -0.001 | -0.897 | 0.893 | 0.211 |
| **Future returns ($R_{t+1}$)** | 480 | 0.149 | -0.664 | 3.051 | 0.569 |
| **Future returns ($R_{t+2}$)** | 480 | -0.116 | -0.879 | 2.417 | 0.557 |
| **Asset Growth ($AG_t$)** | 480 | 0.265 | -0.292 | 2.651 | 0.469 |
| **Financial leverage ($LEV_t$)** | 480 | 0.662 | 0.00 | 5.789 | 0.986 |
| **Proprietary cost ($PC_t$)** | 480 | 0.131 | -0.575 | 1.809 | 0.271 |
| **Institutional ownership% ($INS_t$)** | 98 | 21.834 | 0.01 | 68.91 | 20.359 |
| **Insider ownership % ($INSD_t$)** | 98 | 11.272 | 0.01 | 76.48 | 14.820 |

This table reports the summary statistics for the sample firms. Current returns (Rt) t are buy-and-hold returns for the 12-month period for year. Current earnings (Xt) for year t are defined as earnings change per share deflated by the share price at the end of the financial year t–1. Xt+1, Xt+2 are respectively future earnings change for period t+1 and t+2. Rt+1, Rt+2 are respectively future returns for period t+1 and t+2. (AGt) is the growth rate of total book value of assets for period t. Financial leverage (LEVt) is defined as debt to equity ratio. Proprietary cost (PCt) is measured by net profit margin ratio. Institutional ownership (INSt) is defined as the percentage of total shares held by institutional investors. Insider ownership (INSDt) is defined as the percentage of total shares held by insiders.

## 5 Empirical Results

In this section we highlight empirical analysis that attempt to examine the interplay between levels of financial leverage, equity ownership and proprietary cost and the ability of stock prices to predict future earnings. Our main empirical results are based on pooled regressions for the sample period 2005-2008 and on a GLS (random effect) analysis in order to control for the presence of heteroskedasticity.

### 5.1 The effect of firms' financial leverage on share price anticipation of future earnings

Table 5 provides regression estimates for the benchmark version (model 1) of the return-future earnings model and the returns-future earnings regression estimates with financial leverage level term and control variables.

**Table 4**. Pearson correlation matrix for selected variables (p-values)

| | $R_t$ | $X_t$ | $X_{t+1}$ | $X_{t+2}$ | $R_{t+1}$ | $R_{t+2}$ | $AG_t$ | $LEV_t$ | $PC_t$ | $INS_t$ | INSDt |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $R_t$ | 1.00 | | | | | | | | | | |
| $X_t$ | **0.113**\*\* | 1.00 | | | | | | | | | |
| | (0.012) | | | | | | | | | | |
| $X_{t+1}$ | **-0.089**\* | **-0.244**\*\*\* | 1.00 | | | | | | | | |
| | (0.051) | (0.000) | | | | | | | | | |
| $X_{t+2}$ | **0.109**\*\* | 0.039 (0.385) | **-0.281**\*\*\* | 1.00 | | | | | | | |
| | (0.017) | | (0.000) | | | | | | | | |
| $R_{t+1}$ | -0.434 | -0.047 | **0.223**\*\*\* | -0.040 | 1.00 | | | | | | |
| | (0.178) | (0.296) | (0.000) | (0.376) | | | | | | | |
| $R_{t+2}$ | 0.064 | 0.034 | -0.026 | **0.231**\*\*\* | -0.019 | 1.00 | | | | | |
| | (0.159) | (0.454) | (0.562) | (0.000) | (0.674) | | | | | | |
| $AG_t$ | 0.059 | 0.056 | **-0.107**\*\* | -0.002 | -0.053 | **0.145**\*\*\* | 1.00 | | | | |
| | (0.191) | (0.215) | (0.019) | (0.956) | (0.242) | (0.001) | | | | | |
| $LEV_t$ | -0.001 | 0.018 | **0.135**\*\*\* | -0.023 | 0.024 | -0.012 | **0.128**\*\*\* | 1.00 | | | |
| | (0.985) | (0.689) | (0.003) | (0.604) | (0.588) | (0.778) | (0.004) | | | | |
| $PC_t$ | 0.059 | 0.032 | **0.160**\*\*\* | 0.001 | 0.016 | **0.168**\*\*\* | **0.170**\*\*\* | **-0.126**\*\*\* | 1.00 | | |
| | (0.196) | (0.482) | (0.000) | (0.845) | (0.717) | (0.000) | (0.000) | (0.005) | | | |
| $INS_t$ | -0.107 | -0.056 | -0.095 | -0.128 | -0.039 | -0.004 | -0.024 | **-0.191**\* | -0.083 | 1.00 | |
| | (0.295) | (0.582) | (0.349) | (0.206) | (0.703) | (0.967) | (0.815) | (0.058) | (0.432) | | |
| $INSD_t$ | 0.008 | 0.077 | 0.023 | 0.069 | 0.107 | 0.049 | 0.047 | **0.191**\* | -0.058 | **-0.284**\*\*\* | 1.00 |
| | (0.934) | (0.448) | (0.820) | (0.495) | (0.291) | (0.626) | (0.644) | (0.059) | (0.572) | (0.004) | |

This table reports the summary statistics for the sample firms. Current returns (Rt) t are buy-and-hold returns for the 12-month period for year. Current earnings (Xt) for year t are defined as earnings change per share deflated by the share price at the end of the financial year t−1. Xt+1, Xt+2 are respectively future earnings change for period t+1 and t+2. Rt+1, Rt+2 are respectively future returns for period t+1 and t+2. (AGt) is the growth rate of total book value of assets for period t. Financial leverage (LEVt) is defined as debt to equity ratio. Proprietary cost (PCt) is measured by net profit margin ratio. Institutional ownership (INSt) is defined as the percentage of total shares held by institutional investors. Insider ownership (INSDt) is defined as the percentage of total shares held by insiders. \*, \*\* and \*\*\* indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

As shown in table 5, the results from regression (M2) indicate that current returns is unrelated to the interaction term of current earnings and financial leverage level (LEVt*Xt). The coefficient on the interacted term is indeed positive. This finding is inconsistent with the Smith and Watts (1992) view suggesting that leverage can proxy for a firm's investment opportunity set and that mature firms with low growth opportunities generally have high leverage and are likely to have informative earnings. For instance, it is argued that for high geared companies, investors didn't perceive current accounting earnings as value relevant. This is may be due to investors' believe that managers are more likely to avoid costly debt covenant violation rather than to report earnings which are more informative about future cash flows.

On another side, we observe a significant and a negative impact of financial leverage on the ability of market participants to predict future earnings with respect period of t+1 in the presence of beta as controlling variable for corporate risk. Our results revealed also, when introducing firm size as a second control variable, a significant and negative association between current return and future earnings depending on the financial leverage level ($LEV_t*X_{t+1}$ ; $LEV_t*X_{t+2}$) for t+1 as well as t+2 periods. We argue accordingly that informativeness of current returns regarding future earnings is a decreasing function of corporate financial leverage. These findings corroborate thus our first hypothesis (H.1) whereby investors' ability to anticipate future performance is reduced since costs associated with high level of risk increase.

Finally, we observe a significant and negative association between current stock returns and future returns of period t+2 ($LEV_t*R_{t+2}$) in the presence of financial leverage. This finding indicate as stated by Collins et al (1994) that realized future earnings contain measurement error that future returns remove.

Overall, these results provide evidence that investors seem to question the credibility of accounting earnings when financial leverage level is high and may rely on other sources of information when assessing current stock prices.

**Table 5.** Regressions of current return on current and future earnings and interactions with financial leverage and controls for some determinants of earnings response coefficients

| Independent variables | Model 1 | | Model 2 (Beta) | | Model 3 (Size) | |
|---|---|---|---|---|---|---|
| **Intercept** | 0.251 | (0.027) | 0.263 | (0.299) | 0.156 | (0.533) |
| $X_t$ | **0.215\*** | **(0.10)** | 0.119 | (0.582) | **0.889\*\*** | **(0.015)** |
| $X_{t+1}$ | -0.130 | (0.341) | -0.015 | (0.939) | 0.302 | (0.342) |
| $X_{t+2}$ | **0.197\*** | **(0.066)** | **0.269\*** | **(0.088)** | **-0.427\*** | **(0.080)** |
| $R_{t+1}$ | -0.058 | (0.160) | -0.012 | (0.821) | **-0.212\*\*** | **(0.047)** |
| $R_{t+2}$ | 0.043 | (0.305) | **0.110\*\*** | **(0.042)** | **0.211\*\*** | **(0.049)** |
| $AG_t$ | 0.051 | (0.273) | 0.046 | (0.432) | 0.028 | (0. 601) |
| $LEV_t$ | | | -0.013 | (0.678) | 0.001 | (0.967) |
| $LEV_t*X_t$ | | | 0.056 | (0.627) | 0.120 | (0.286) |
| LEVt*Xt+1 | | | **-0.16\*** | **(0.053)** | **-0.243\*\*\*** | **(0. 005)** |
| LEVt*Xt+2 | | | -0.114 | (0.388) | **-0.241\*** | **(0. 078)** |
| LEVt*Rt+1 | | | -0.051 | (0.248) | **-0.094\*\*** | **(0. 038)** |
| LEVt* Rt+2 | | | **-0.122\*\*** | **(0.016)** | **-0.086\*** | **(0.093)** |
| LEVt*AGt | | | -0.022 | (0.451) | -0.004 | (0.870) |
| **Control** | | | 0.024 | (0.675) | 0.009 | (0.530) |
| **Control\*Xt** | | | 0.107 | (0.75) | **0.127\*** | **(0.052)** |
| **Control \*Xt+1** | | | 0.328 | (0.294) | 0.015 | (0.804) |
| **Control \*Xt+2** | | | 0.099 | (0.633) | **0.167\*\*** | **(0.001)** |
| **Control \*Rt+1** | | | -0.080 | (0.399) | **0.039\*** | **(0.065)** |
| **Control \*Rt+2** | | | **0.151\*** | **(0.061)** | -0.027 | (0.184) |
| **Control \*AGt** | | | 0.097 | (0.218) | **0.082\*\*\*** | **(0.000)** |
| | Wald chi2(31) = 99.80 (p-value): <0.001 | | Wald chi2 (38) = 112.13 (p-value): <0.01 | | Wald chi2 (38) = 148.58 (p-value): <0.01 | |

Current earnings ($X_t$) for year t are defined as earnings change per share deflated by the share price at the end of the financial year t–1. ($X_{t+1}$) is the future earnings change for period t+1. ($X_{t+2}$) is the future earnings change for period t+2. ($R_{t+1}$) is the future return measured as buy-and-hold returns for the 12-month for period t+1. $R_{t+2}$ is the future return measured as buy-and-hold returns for the 12-month for period t+2. ($AG_t$) is the growth rate of total book value of assets for period t. Financial leverage (LEVt) is measured by debt to equity ratio. Size is the natural log of net revenue. Beta is collected from Compustat Capital IQ for the year t. The model is estimated by feasible generalized least squares regression in order

to control for the potential presence of heteroskedasticity. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

### 5.2 The effect of institutional ownership on share price anticipation of future earnings

The results from table 6 model 3 confirm our second hypothesis (H2). In fact, we observe an insignificant association between current return and the interaction term of future earnings changes and institutional ownership for one year as well as two years ahead when controlling for systematic risk; beta market seems to be more important in valuing corporate securities and in anticipating future earnings growth. However, a positive and significant effect of institutional ownership level on share price anticipation of future earnings with respect period t+1 and t+2 is noticed when controlling for corporate size. This is consistent with Jiambalvo and Rajgopal (2001) who found that for firms with higher levels of institutional ownership relatively more future earnings information is impounded in stock prices in comparison to firms with lower institutional ownership. Accordingly, depending on corporate size, investors are likely to impound information about corporate future performance into stock prices when

institutional ownership exists since it is believed that firms with institutional owners are likely to engage in less opportunistic earnings management, improving hence the credibility of financial information and future earnings forecast. Moreover, results revealed an insignificant correlation between current earnings depending on institutional ownership $INS_t*X_t$ and current returns which is inconsistent with Porter's (1992), Jeong et al. (2002) and Jeon (2003) view that institutional owners are overly focused on short term earnings and that the higher is the level of institutional ownership, the larger is the earnings response coefficient. Finally, we observe a strong and positive relation between current returns $R_t$ and future returns of period t+1 depending on institutional ownership $INS_t*R_{t+1}$. This association may be related in part to the notable presence of institutional investors in our sample of MENA emerging markets (the mean is about 21.81 percent) who are likely to have access to privileged information and particularly companies' future investments growth when pricing firms' securities.

Overall, our results provide evidences on the informativeness of current returns with respect future earnings which is consistent with the active monitoring hypothesis of institutional owners.

**Table 6.** Regressions of current return on current and future earnings and interactions with institutional ownership and controls for the determinants of earnings response coefficients

| Independent variables | Model 1 | | Model 2 (Beta) | | Model 3 (Size) | |
|---|---|---|---|---|---|---|
| Intercept | 0.563 | (0.207) | -0.086 | (0.509) | 0.037 | (0.902) |
| $X_t$ | 0.005 | (0.896) | **0.81*** | **(0.066)** | **0.939*** | **(0.007)** |
| $X_{t+1}$ | **-0.676*** | **(0.000)** | **-1.053*** | **(0.000)** | **-0.621*** | **(0.000)** |
| $X_{t+2}$ | 0.309 | (0.116) | **0.985*** | **(0.000)** | 0.122 | (0.527) |
| $R_{t+1}$ | **0.207** | **(0.035)** | 0.107 | (0.328) | **0.360*** | **(0.006)** |
| $R_{t+2}$ | -0.044 | (0.648) | **-0.498*** | **(0.000)** | -0.011 | (0.927) |
| $AG_t$ | 0.051 | (0.647) | 0.025 | (0.416) | 0.047 | (0.490) |
| $INS_t$ | | | 0.000 | (0.934) | **-0.003*** | **(0.092)** |
| $INS_t*X_t$ | | | -0.001 | (0.620) | 0.004 | (0.425) |
| $INS_t*X_{t+1}$ | | | -0.014 | (0.160) | **0.043*** | **(0.065)** |
| $INS_t*X_{t+2}$ | | | -0.001 | (0.843) | **0.025**** | **(0.044)** |
| $INS_t*R_{t+1}$ | | | 0.003 | (0.152) | **0.026*** | **(0.000)** |
| $INS_t* R_{t+2}$ | | | -0.001 | (0.582) | **-0.012*** | **(0.051)** |
| $INS_t*AG_t$ | | | -0.008 | (0.207) | **-0.018*** | **(0.063)** |
| Control | | | 0.026 | (0.261) | 0.028 | (0.204) |
| Control*$X_t$ | | | **0.086*** | **(0.000)** | -0.001 | (0.462) |
| Control *$X_{t+1}$ | | | **-0.114*** | **(0.069)** | **-0.029*** | **(0.007)** |
| Control *$X_{t+2}$ | | | **0.151*** | **(0.001)** | 0.004 | (0.626) |
| Control *$R_{t+1}$ | | | **0.144*** | **(0.000)** | **0.022*** | **(0.000)** |
| Control *$R_{t+2}$ | | | -0.012 | (0.509) | **-0.004*** | **(0.097)** |
| Control *$AG_t$ | | | **-0.128*** | **(0.000)** | 0.001 | (0.862) |
| | **Wald chi2(27) = 61.35 (p-value) < 0.01** | | **Wald chi2 (34) = 88. 73 (p-value): <0.01** | | **Wald chi2 (34) = 72.94 (p-value): <0.01** | |

Current earnings ($X_t$) for year t are defined as earnings change per share deflated by the share price

at the end of the financial year t−1. ($X_{t+1}$) is the future earnings change for period t+1. ($X_{t+2}$) is the future

earnings change for period t+2. ($R_{t+1}$) is the future return measured as buy-and-hold returns for the 12-month for period t+1. ($R_{t+2}$) is the future return measured as buy-and-hold returns for the 12-month for period t+2. ($AG_t$) is the growth rate of total book value of assets for period t. $INS_t$ is the level of institutional ownership. Size is the natural log of net revenue. Beta is collected from Compustat Capital IQ for the year t. The model is estimated by feasible generalized least squares regression in order to control for the potential presence of heteroskedasticity. Country effects as well as industry effects are also taken into account by introducing dummies variables in the model. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

## 5.3 The effect of insider ownership on share price anticipation of future earnings

Table 7 reports main findings of H3 testing that predicts a weakening effect on the returns–future earnings relation due to the presence of insider ownership. Inconsistent with Luo et al. (2006), multivariate regression for Model 2 show an insignificant relationship between the interacted term of future earnings for both periods and insider ownership in one side and current stock returns in the other side.

However, for Model 3 results revealed a positive and a strong association between current returns and future earnings of period t+1 when interacted with the level of insider ownership. This suggests that investors take into account corporate size when assessing the quality of accounting earnings and when forecasting future earnings in the presence of insider ownership. In this direction, corporate size is considered as informative about insiders' likelihood to mitigate agency problems and to alienate their interests with outsiders by revealing value relevant earnings. These unexpected results may indicate hence that the stock price informativeness with respect future earnings is positively linked to the market perception of insiders holding more shares as carrying credibility. Additionally, results revealed an insignificant association between current earnings and returns in the presence of insider ownership. For instance, in line with Gabrielsen et al. (2002) and Fan and Wong (2002) who argue that outside investors may not trust the firm's reported earnings because the controlling owner may manipulate earnings for outright expropriation, a higher insider ownership in our sample firm seem to challenge stock price informativeness regarding current earnings.

Over all, consistent with extent agency theory literature, our results indicate that insider owners possess a signaling effect in that share price anticipation of future earnings were observed. Findings do not support however our third hypothesis H3.

**Table7.** Regressions of current return on current and future earnings and interactions with insider ownership and controls for the determinants of earnings response coefficients

| Independent variables | Model 1 | | Beta | | Size | |
|---|---|---|---|---|---|---|
| **Intercept** | 0.563 | (0.207) | -0.018 | (0.881) | 0.371 | (0.310) |
| **$X_t$** | 0.005 | (0.896) | 0.582 | (0.155) | **1.375*** | **(0.000)** |
| **$X_{t+1}$** | **-0.676*** | **(0.000)** | **-1.188*** | **(0.000)** | **-0.619*** | **(0.000)** |
| **$X_{t+2}$** | 0.309 | (0.116) | **1.085*** | **(0.000)** | 0.208 | (0.309) |
| **$R_{t+1}$** | **0.207** | **(0.035)** | 0.139 | (0.193) | **0.392*** | **(0.002)** |
| **$R_{t+2}$** | -0.044 | (0.648) | **-0.613*** | **(0.000)** | -0.079 | (0.498) |
| **$AG_t$** | 0.051 | (0.647) | 0.026 | (0.399) | 0.072 | (0.361) |
| **$INSd_t$** | | | -0.001 | (0.419) | 0.001 | (0.900) |
| **$INSd_t*X_t$** | | | -0.001 | (0.695) | -0.001 | (0.823) |
| **INSdt*Xt+1** | | | 0.018 | (0.298) | **0.097** | **(0.029)** |
| **INSdt*Xt+2** | | | -0.013 | (0.234) | -0.042 | (0.111) |
| **INSdt*Rt+1** | | | **-0.012*** | **(0.063)** | **-0.040** | **(0.019)** |
| **INSdt* Rt+2** | | | 0.006 | (0.242) | **0.022*** | **(0.092)** |
| **INSdt*AGt** | | | 0.001 | (0.776) | 0.025 | (0.117) |
| **Control** | | | 0.021 | (0.354) | 0.017 | (0.456) |
| **Control*$X_t$** | | | **0.103*** | **(0.000)** | -0.000 | (0.935) |
| **Control *$X_{t+1}$** | | | -0.082 | (0.162) | **-0.042*** | **(0.000)** |
| **Control *$X_{t+2}$** | | | **0.170*** | **(0.000)** | 0.001 | (0.914) |
| **Control *$R_{t+1}$** | | | **0.146*** | **(0.000)** | **0.022*** | **(0.000)** |
| **Control *$R_{t+2}$** | | | -0.020 | (0.291) | **-0.007** | **(0.011)** |
| **Control *$AG_t$** | | | **-0.151*** | **(0.000)** | -0.002 | (0.806) |
| | **Wald chi2(27) = 61.35 (p-value) < 0.01** | | **Wald chi2 (27) = 63.58 (p-value): <0.01** | | **Wald chi2 (34) = 63.69 (p-value): <0.01** | |

Current earnings ($X_t$) for year t are defined as earnings change per share deflated by the share price at the end of the financial year t–1. ($X_{t+1}$) is the future earnings change for period t+1. ($X_{t+2}$) is the future earnings change for period t+2. ($R_{t+1}$) is the future return measured as buy-and-hold returns for the 12-month for period t+1. ($R_{t+2}$) is the future return measured as buy-and-hold returns for the 12-month for period t+2. ($AG_t$) is the growth rate of total book value of assets for period t. $INSd_t$ is the level of insider ownership. Size is the natural log of net revenue. Beta is collected from Compustat Capital IQ for the year t. The model is estimated by feasible generalized least squares regression in order to control for the potential presence of heteroskedasticity. Country effects as well as industry effects are also taken into account by introducing dummies variables in the model. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

### 5.4 The effect of proprietary cost on share price anticipation of future earnings

Table 8 reports the results of H4 testing that predict a weaker return-future earnings relationship depending on firm proprietary cost level. Inconsistent with Luo et al. (2006) who argue that when proprietary costs are high, firms tend to restrain relevant information about future cash flows since it is likely to weaken its competitive position, findings revealed an insignificant relationship between the respective interacted terms ($PC_t*X_{t+1}$) and ($PC_t*X_{t+2}$) in one hand and current return in the other hand when controlling for market risk beta.

Indeed, only a weak and negative association between current return and future earnings change is noticed when interacted with the $PC_t$ variable for t+2 period and when controlling for corporate size. Results showed furthermore a significant and a positive association between current stock returns and current earnings in the presence of proprietary cost suggestive that investors perceive current earnings as informative. This is likely to provide evidence that when investors are informed about firm risk and agency problems, they exhibit a short term view in that they perceive current earnings as value relevant but are more uncertain about future earnings when proprietary costs exist. Accordingly, we provide partial evidence on the reduced informativeness of stock price with respect future earnings when information about corporate size and profitability is available. Firms restrain hence private and precise information about future cash flows since it is likely to weaken its competitive position. One interpretation of this result is that a low firms' net-profit margin (the mean is about 0.13) may indicate high competition within the product market which is not likely to attract future competition or to exhibit higher forewarning of potential entrants (Cohen, 2002).

Firm needs therefore to protect its future opportunities by not providing relevant financial information about its future prospects.

**Table 8.** Regressions of current return on current and future earnings and interactions with proprietary costs and controls for the determinants of earnings response coefficients

| Independent variables | Beta | | Size | |
|---|---|---|---|---|
| **Intercept** | 0.141 | (0.576) | 0.086 | (0.732) |
| $X_t$ | 0. 239 | (0.182) | **0.988***** | **(0.007)** |
| $X_{t+1}$ | -0.118 | (0.483) | 0.202 | (0.518) |
| $X_{t+2}$ | 0. 144 | (0.222) | **-0.537**** | **(0.030)** |
| $R_{t+1}$ | -0. 018 | (0.729) | -0.122 | (0.314) |
| $R_{t+2}$ | -0. 030 | (0.543) | 0.127 | (0.270) |
| $AG_t$ | 0. 085 | (0.166) | **0.100*** | **(0.057)** |
| $PC_t$ | **0. 388***** | **(0.001)** | 0.101 | (0.552) |
| $PC_t*X_t$ | **0. 693**** | **(0.034)** | **0.564*** | **(0.062)** |
| $PC_t*X_{t+1}$ | 0.551 | (0.352) | -0.307 | (0.610) |
| $PC_t*X_{t+2}$ | 0.573 | (0.240) | **-0.777*** | **(0.095)** |
| $PC_t*R_{t+1}$ | -0.058 | (0.731) | -0.076 | (0.665) |
| $PC_t* R_{t+2}$ | 0. 226 | (0.239) | 0.088 | (0.638) |
| $PC_t*AG_t$ | **-0.375**** | **(0.038)** | **-0.431**** | **(0.013)** |
| **Control** | 0.037 | (0.525) | 0.007 | (0.625) |
| **Control*$X_t$** | -0.197 | (0.579) | **-0.138**** | **(0.036)** |
| **Control *$X_{t+1}$** | 0.199 | (0.516) | -0.027 | (0.651) |
| **Control *$X_{t+2}$** | 0.042 | (0.835) | **0.136***** | **(0.003)** |
| **Control *$R_{t+1}$** | -0.113 | (0.231) | 0.016 | (0.449) |
| **Control *$R_{t+2}$** | **0.232*** | **(0.094)** | -0.028 | (0.154) |
| **Control *$AG_t$** | 0.043 | (0.573) | **0.097**** | **(0.012)** |
| | **Wald chi2 (38) = 125.19** | | **Wald chi2 (38) = 146.38** | |
| | **(p-value): <0.01** | | **(p-value): <0.01** | |

Current earnings ($X_t$) for year t are defined as earnings change per share deflated by the share price at the end of the financial year t–1. ($X_{t+1}$) is the future earnings change for period t+1. ($X_{t+2}$) is the future earnings change for period t+2. ($R_{t+1}$) is the future return measured as buy-and-hold returns for the 12-month for period t+1. ($R_{t+2}$) is the future return measured as buy-and-hold returns for the 12-month for period t+2. ($AG_t$) is the growth rate of total book value of assets for period t. Proprietary cost (PCt) is measured by net profit margin ratio. Size is the natural log of net revenue. Beta is collected from Capital IQ Compustat for the year t. The model is estimated by feasible generalized least squares regression in order to control for the potential presence of heteroskedasticity. Country effects as well as industry and year effects are also taken into account by introducing dummies variables in the model. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

## 6 Summary and Conclusion

This paper builds on early market based accounting literature that examines the returns earnings relationship and investigates the effect of some firms' attributes on share price anticipation of future earnings. We contribute to this work in two important ways. First, we focus on the interaction between financial leverage, equity ownership structure and proprietary cost and the ability of stock returns to anticipate future earnings.

Indeed, it is well known that the quality of financial information and in particular accounting earnings is not only a tradeoff between costs and benefits but depends also on some corporate governance mechanisms. Second, given these variables, we give some insight into the future returns-earnings relationship in the context of MENA emerging countries where related literature is relatively scarce.

Based on a sample of 240 firms (480 observations) during the period of 2005-2008 and using the modified future earnings response coefficient model of Collins et al. (1994), our results has corroborated our first, second and fourth hypotheses in that a significant association between current return and the interacted terms of financial leverage, institutional ownership, proprietary costs with future earnings growth in our regression models was noticed. Besides, unexpected results were observed regarding insider ownership and share price anticipation of future earnings. Finally, findings revealed that share price informativeness with respect current earnings is positively influenced by the presence of proprietary costs.

Our results are of interest to accounting standard setters in MENA emerging markets. While the objective of financial information is to improve the predictability of future earnings, our findings showed that share price anticipation of future earnings is strongly related to some firms' characteristics such as leverage and equity ownership structure.

The conclusions drawn from our study are constrained by several limitations. First, the sample firm was relatively limited due to the unavailability for MENA emerging markets of many required financial information (stock prices, earnings per share…). Second, empirical tests carried out in our study may suffer from omitted variable problems. In fact theoretical and empirical research suggests that the ability of investors to predict future earnings would be improved with firms' propensity to disclose voluntary disclosure (Hussainey and Walker, 2009; Lundholms and Myers, 2002) and corporate governance mechanisms (Bushman et al., 2004). For instance, many directions can be taken in future research.

We believe that it will be interesting to focus on the simultaneous effect of voluntary disclosure and corporate governance mechanisms on the return future earnings relationship. Extending also the time period explored might provide better insights in the comparison between MENA countries.

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