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## RESEARCH ARTICLE

# THE PRICING EFFECT OF EARNINGS QUALITY: EVIDENCE FROM TUNISIA

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### Abstract

The purpose of this paper is to examine the interplay between earnings quality, information risk and stock return. Our study is motivated by the recent influential thought and conflicting empirical results on whether earnings quality is a priced factor in capital markets. Total accruals quality is used to depict earnings quality in this study that employs a sample of data drawn from the Tunisian market in 1999–2007. Asset-pricing methodology is then applied to study the effect of accruals quality on expected returns. The results provide consistent evidence that accruals quality is a priced risk factor. In fact, the average positive coefficients indicate that poor accruals quality increases expected returns.

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## Introduction

Managers of firms have incentives to disclose useful information to capital markets in order to attract capital investments in their firms. With these invested funds, managers then finance the risky projects that the firms undertake in order to increase shareholder value. Investors on the other hand, are only willing to invest capital in the firm if the expected return from the investment matches the risk involved in that security. To assess the expected return and riskiness of potential investment targets, investors need information about the expected future cash flows and the risks associated with those cash flows. In fact, investors draw upon reliable information about firms to rationally price their securities as a result of supply and demand in the marketplace. The prices adjust so that they reflect the expected future cash flows generated by the security, discounted to the present moment by the cost of capital. In other words, the security prices adjust so that the expected returns equal the risk adjusted cost of capital, which can be decomposed into risk-free rate and risk premium. It seems intuitively appealing that since information is critical for investors, they would penalize firms for providing information which is of poor quality. In neoclassical finance theory however, it is widely accepted that risk premiums are completely determined by exposure to systematic risk or, more precisely, the product of betas and risk premiums on systematic risk factors. So even with diversified portfolios, investors must keep market risk in their portfolios as they are compensated with greater expected returns for holding it. But no one must hold idiosyncratic risk, as there is no market compensation for doing so (Easley and al. (2002)). As information risk is not perceived to be a systematic risk factor, the quality of accounting earnings should not have any effect on expected returns. Instead, according to this theory, information risk and other firm-specific risks are seen as idiosyncratic, meaning that in economies with multiple securities they, can be diversified away.

As distinct from neoclassical finance theory, there is a growing branch of analytical literature suggesting that there is a role for various information factors that determine the expected rate of return. Hence, papers arise from incomplete information, estimation risk, and market microstructure literatures. The theoretical models dissent from each other both in terms of whether they suggest that information risk can be diversified, and if it cannot, what is the

source of this risk. The main idea of these literatures is that the assumption of mean-variance matrix of asset payoffs adopted in neoclassical asset-pricing theories (such as the CAPM) may not hold. This enables that investors will be differentially informed about the asset payoffs, leading to a cost of capital effect if markets are not efficient and diversification in the economy is incomplete. While the literature seems to lack a consensus about the extent to which securities markets are efficient, some papers argue that information risk premium exists even if the assumption of inefficient markets is relaxed. This literature argues that a premium on information risk represents a rational investor response to the existence of the causing effect of that risk in an efficient market (e.g. Amihud and Mendelson (1986)).

Previous theoretical and empirical research provides mixed evidence on the relationship between accruals quality and expected stock returns. Thus, the challenge for accounting research still remains valid to demonstrate whether and how firms' accounting information manifests in their cost of capital, despite the forces of diversification.

This paper examines the relationship between accruals quality and stock return for Tunisian firms that are listed on the stock market during the period of July 2000– June 2007. We estimate accruals quality factors and add them to the Fama–French three-factor model, in order to investigate their usefulness in explaining the component of the time-series variation of Tunisian portfolio returns. These are unexplained by the original Fama–French factors. We report empirical consistent evidence that accruals quality is a priced risk factor.

The remainder of this paper is organized as follows. The next section reviews the relevant prior literature, and develops our research questions. The third section describes respectively the sample and the research design. Section four presents and interprets the empirical results. Section five concludes the study.

## **2- Earnings quality, information risk and returns: literature review**

This study builds on extant research concerning the link between earnings quality and expected returns. This relation has been examined both analytically and empirically in prior literature.

### **2-1- Theoretical literature**

Whether information risk is diversifiable is an open question in theoretical literature. In a classic CAPM setting, information risk is diversifiable and should have no effect on expected returns (Sharpe, (1964)). Beta captures all the risk, and expectations on beta are assumed to be exogenously given. As such, the quality of accounting information is not an issue.

When relaxing these assumptions, however, information risk might become a concern. The theoretical literature proposes several factors why information risk indeed should be priced by investors. For example, when relaxing the assumption of homogenous beliefs among investors, Merton (1987) shows that a firm's cost of equity capital decreases when the uninformed investors receive more information about the firm. Diamond and Verrecchia (1991) also demonstrate how higher information risk can increase the cost of capital through liquidity risk. Easley and O'Hara (2004) argue that the cost of capital effect is mainly due to the asymmetry in the distribution of information among investors. Lambert and al. (2011), on the other hand, argue that it is not information asymmetry that gives rise to the effect on cost of capital, but rather the average level of information precision.

Epstein and Schneider (2008) develop an incomplete information equilibrium model, in which uncertain information affects asset prices in the cross-section. Epstein and Schneider (2008) however, show that investors require compensation for low future information quality, and if the signal about future information quality is ambiguous, then the information risk becomes systematic. Further, they demonstrate that investors require a higher risk premium for poorer information quality, especially when the underlying fundamentals are volatile

In Easley and O'Hara's (2004) model, information risk is shown to arise from information asymmetry between the informed and the uninformed investors. Easley and O'Hara (2004) show that private information increases the risk to uninformed investors of holding the stock because the informed investors are better able to shift their portfolio weights to incorporate new information. Private information thus induces a form of risk which the uninformed investors cannot diversify, and in equilibrium they require compensation for bearing this risk, causing cross-sectional differences in firms' required returns.

Another often cited paper is Leuz and Verrecchia (2005), which argues that poor information quality, leads to misaligned capital investments, which rational investors are able to price by discounting firms' expected cash flows at a higher rate of return. Higher quality information on the other hand, improves the coordination between firms and investors with respect to capital investment decisions. This effect results in an increase in expected cash flows without an appropriate increase in the firm's covariance with the market, which has a negative effect on firm's cost of capital, even if information quality is uncorrelated across firms. Leuz and Verrecchia (2005) show that even in an economy with many firms and a systematic component to the pay-off from investment, a portion of this risk is non-diversifiable.

The previously discussed theoretical models rely on financial information determinants such as the bid-ask spreads and volatility. However, two analytical papers establishing a connection between information quality, cost of capital and stock returns are specifically based on the quality on accounting information. These are Yee (2006)

and Lambert and al. (2007), both are based on a setting in which investors rely on noisy reported earnings for information about risky firms. The model developed by Yee (2006) shows that earnings quality risk magnifies fundamental risk. Further, increasing fundamental risk magnifies the influence of earnings quality risk on the cost of capital, but at the extreme in the complete absence of fundamental risk, earnings quality risk is unrelated to expected returns because the underlying business contains no risk to begin with. Moreover, Yee (2006) maintains that only the systematic portion of earnings quality risk affects expected returns, while nonsystematic risk can be completely diversified away. On the other hand, Lambert and al. (2007) show that the quality of accounting information influences a firm's cost of capital both directly by affecting investors' perceptions about the covariance of a firm's future cash flows with those of the market, and indirectly by affecting real decisions influencing the distributions of those future cash flows. Consistent with Yee (2006), Lambert and al. (2007) suggest that this effect cannot be diversified even if the number of securities in the economy becomes large. They show that earnings quality affects investors' assessment of the covariance of a firm's cash flows with those of the market and this effect is nondiversifiable. They point out that earnings quality is not a separate information risk factor, and the earnings quality effect on expected returns occurs because earnings quality is one determinant of the unobservable forward-looking beta.

## 2-2- Empirical studies

Drawing upon the conflicting theoretical evidence described above, it is not surprising that empirical research has also provided mixed results on whether information risk is priced.

Prior empirical evidence is less clear-cut. Most of these studies use earnings quality as a proxy for information uncertainty, where low earnings quality is a measure of high information uncertainty, and vice versa.

Particularly, the most influential paper in the earnings quality and cost of capital literature is Francis and al. (2005), which suggests based on their time series regressions of contemporaneous stock returns, that firms with low accruals quality have higher cost of capital than do firms with high accruals quality. Based on these results Francis and al. (2005) conclude that information risk as proxied by accruals quality is a priced risk factor. More specifically, they measure significant positive coefficient estimates for the accruals quality factor mimicking portfolio from one- and three-factor asset-pricing regressions, and find that adding this factor into asset-pricing models contributes significant incremental explanatory power over the other proposed risk factors. Thus, Francis and al. (2005) argue that an asset-pricing model without an information quality factor is not fully specified.

Aboody and al. (2005) examine whether privately informed traders can earn greater profits by trading stocks with higher exposure to the asymmetric information risk factor. They use four alternative earnings quality metrics to identify firms for which privately informed trading is likely to be more pronounced, and thus, subject uninformed traders to greater asymmetric information risk. Studying the Jensen's alphas on regressions of earnings quality hedge portfolio returns on the Fama and French (1993) risk factor returns, Aboody and al. (2005) document alpha estimates ranging between 0.99% and 1.18% per month depending on the earnings quality metric, suggesting an economically strong pricing effect. However, as these estimates are weak in terms of statistical significance, the authors also conduct supporting analysis and find that the highest quintile portfolios earn significant abnormal returns whereas the other quintile portfolios do not.

Gray and al. (2009) conduct, among other things, time series asset-pricing regressions using Australian data in 1998-2006. The authors suggest that there are a number of institutional and regulatory differences compared to the US, which are hypothesized to affect the relation between accruals quality and cost of capital. Their results suggest that total accruals quality is priced by the Australian equity market.

Using factor mimicking portfolio tests, papers cited above find a positive loading on the return of a portfolio based on earnings quality. However, this conclusion is disputed. In fact, Core and al. (2008) argue that, to be able to conclude that this factor is priced, one has to be able to show that the loading on the earnings quality factor can explain cross-sectional returns. Core and al. (2008) argue that the time series regressions by Francis and al. (2005) do not specifically test the hypothesis that accruals quality is a priced risk factor. Rather, they suggest that the average positive coefficient only indicates that on average, the firms in the time series regressions have positive exposure to the accruals quality factor. Consequently, employing two-stage cross-sectional regression technique, Core and al. (2008) examine whether accruals quality is associated with future realized returns and find that although positive on average, accruals quality is not statistically significant. They also find similar results from the regressions where earnings quality is proxied by the decile rank of Dechow and Dichev (2002) accruals quality metric. Finally, Core and al. (2008) conduct a time series asset-pricing test to examine whether an accruals quality factor mimicking portfolio strategy earns positive abnormal returns. They find that the hedge portfolio strategy earns significant positive excess returns in the 1985-2003 sub-period. Accordingly, they dismiss the idea that earnings quality is a priced risk factor.

Other papers employ the same technique as Core and al. (2008), but report conflicting results. For example, Ogneva (2012) argues that Core and al. (2008) were unable to find an association between accruals quality and realized returns because they apply a measure of accruals quality that is negatively correlated with feature cash flow shocks. She proposes that the negative returns might offset the higher expected returns required for firms with poor

earnings quality. Failing to control the cash flow shocks, it is hard to find an association between earnings quality and realized returns. Consistent with her hypothesis, Ogneva (2008) finds a significant negative association between realized returns and accruals quality after controlling for these adverse cash flow shocks, either by including proxies for future cash flow shocks as control variables in her cross-sectional asset-pricing regressions or by using an accruals quality metric that is less correlated with characteristics likely associated with these future cash flow shocks.

Similarly, Kim and Qi (2010) find evidence that accruals quality factor is significantly priced after controlling for low-priced stocks in similar regressions as conducted by Core and al.(2008). Kim and Qi (2010) argue that the results of Core and al. (2008) are mostly driven by low-priced returns that are biased due to unsystematic factors such as noise trading, sentiment trading, and market-microstructure induced effects. Consequently, in their two stage cross-sectional regression tests, they assign a dummy variable for returns of stocks priced less than 5\$. Furthermore, Kim and Qi (2010) show that accruals quality and its pricing effects are related to firms' fundamental risk. They find that the innate component of accruals quality risk premium reacts systematically to business cycles and macroeconomic conditions, whereas the discretionary component is independent of these conditions. In addition, they find consistent with Ogneva (2008) that firms with poorer accruals quality are more exposed to macroeconomic shocks.

To summarize, the theoretical research seems to suggest that information uncertainty should be perceived by investors as a risk factor. The empirical research however provides mixed evidence. Overall, this suggests a need for more empirical evidence. Thus, in this paper we examined whether firm-specific information risk is priced. We specifically test if earnings quality should be included in asset-pricing models as an additional risk factor in Tunisia stock exchange.

### **3-Sample selection and research design**

In this section, we begin by presenting data and the sample selection process. Then, we discuss the implications relating to the measurement of earnings quality and then develop the chosen proxy. Finally, research design and construction of the risk factors are presented

#### **3-1-Data and constitution of the sample**

For the empirical tests conducted in this study, For the ends of our empirical study, we constituted a panel of 20 Tunisian listed firms. This number is limited because of the exclusion of firms of financial sector because of specificity of their financial information. We will observe these firms over the period from July 2000 to June 2007. The data were collected from the financial statements published by the Council of Financial Market. The returns data are collected from the Tunisian stock exchange.

I match the financial statements data with returns data assuming a three-month delay before the reported figures are available to the market participants. For example, for a firm whose fiscal year ends on December in year  $t$ , I collect monthly returns from July of year  $t+1$  to Jun of year  $t+2$ . The six -month delay is deemed appropriate for the Tunisian investors to react to the information communicated in financial statements. In fact, in Tunisia listed firms are required to file their financial statements no later than three months from the end of the fiscal period However, some reports are revealed only in May or June.

#### **3-2 Development of earnings quality**

Since the objective of this study is to examine whether earnings quality is priced, the fundamental part of this task is to develop a metric which is able to capture the quality in a firm's reported earnings. The challenge, naturally lies in the fact that quality as such is an intangible subject and cannot be readily observed or measured.

A major part of the academic debate on the interplay between financial reporting quality and expected stock returns centers on the quality of accruals. This is because of the great importance of accruals in arriving at a summarized and most followed single measure of firm performance. Indeed, as argued by Healy (1996), financial statements and accounting earnings in particular are the most important single source of information to investors. Investors rely mainly on reliable information about firms in their security pricing decisions. In particular, accounting information has a fundamental role in evaluating the performance of firms and eliminating information asymmetry.

Accounting-based earnings rely on the assumption that the function of earnings is the effective allocation of cash flows to reporting periods via the accruals process. Accruals shift or adjust the recognition of cash flows over time, so that the adjusted number (earnings) better measures firm performance.

Accrual earnings are considered to be a superior measure of firm performance than cash flows because they mitigate the timing and mismatching problems inherent in measuring cash flows over short intervals (Dechow 1994). Accruals enable accounting earnings to more accurately represent the economic implications of underlying transactions and events.

However, despite being heavily regulated and to a large extent harmonized around the world, financial reporting standards allow flexibility in reporting of several items affecting earnings, meaning that accrual accounting is always subject to managerial discretion (Dechow and Dichev 2002).

Although there is no commonly agreed-upon earnings quality construct, it seems that the accruals quality metric originally developed by Dechow and Dichev (2002) has gained most popularity in the empirical earnings quality literature (e.g. Francis and al.(2004, 2005); Aboody and al.(2005); Ecker and al.(2006); Core and al.(2008); Ogneva (2012); Kim and Qi (2010); Kravet and Shevlin (2010)).

While the literature knows multiple alternative proxies for the quality of accounting information, the accruals quality metric of Dechow and Dichev (2002) is both theoretically appealing and does not rely on stock market variables in measuring earnings quality, thus ensuring that possible implied associations between earnings quality and realized returns do not arise merely as a result of a mechanical connection between the dependent and the independent variables. In addition, Francis and al. (2004) report that accruals quality has larger effects on cost of capital than several other earnings attributes.

Using its popularity in the existing literature as a tie-breaker, I apply the Dechow and Dichev (2002) accruals quality construct to depict earnings quality. Accruals quality tells investors about the extent to which working capital accruals map into operating past, present, and future cash flow realizations.

Thus according to Francis and al. (2004) and Ashbaugh and al.(2004), the accruals quality of a firm (AQ) is appreciated by the standard deviations of residuals which is released from the following regression:

$$TCA_{it} = \varphi_0 + \varphi_1 CFO_{it-1} + \varphi_2 CFO_{it} + \varphi_3 CFO_{it+1} + \mu_{it}$$

where

$$TCA_{it} = \Delta CA_{it} - \Delta CL_{it} - \Delta CASH_{it} + \Delta STDEBT_{it} : \text{total current accruals in year } t$$

$$CFO_{it} = NIBE_{it} - TA_{it} : \text{cash flow from operations in year } t$$

$$TA_{it} = \Delta CA_{it} - \Delta CL_{it} - \Delta CASH_{it} + \Delta STDEBT_{it} - DEPN_{it} : \text{firm } i\text{'s total accruals in year } t$$

and

$NIBE_{it}$ : firm  $i$ 's net income before extraordinary items in year  $t$

$\Delta CA_{it}$ : firm  $i$ 's change in current assets between year  $t-1$  and year  $t$

$\Delta CL_{it}$ : firm  $i$ 's change in current liabilities between year  $t-1$  and year  $t$

$\Delta CASH_{it}$ : firm  $i$ 's change in cash between year  $t-1$  and year  $t$

$\Delta STDEBT_{it}$ : firm  $i$ 's change in debt in current liabilities between year  $t-1$  and year  $t$

$DEPN_{it}$ : firm  $i$ 's depreciation and amortization expense.

All variables of the model are scaled by the average of total assets for the year  $t$ .

### 3-3-Research design and constructing the risk factors

The methodology used in this study relies on asset-pricing regressions of firm-specific excess returns on the accruals quality risk factor returns. In the asset-pricing tests, I control the effect of the three other widely-accepted risk factors that are likely to affect returns.

#### 3-3-1 Accruals quality risk factor returns

In order to construct the accruals quality risk factor, I sort all firms with available data on accruals quality into 5 decile portfolios at the beginning of each month based on their most recent available values of Accruals quality. I assume that the most recent value of accruals quality is available to the public six months after the firm's fiscal year-end. This means that, for example to calculate accruals quality factor for July 2000, firms are ranked into decile portfolios based on their value of accruals quality from fiscal year-ends between January 1999 and December 1999. Firms with lowest accruals quality values (best accruals quality) are assigned to portfolio 1 and correspondingly, firms with highest accruals quality values (worst accruals quality) are placed in portfolio 5. Accruals quality factor is then calculated as the difference between the equal-weighted mean excess returns of the top 2 decile portfolios and the bottom 2 decile portfolios. We follow Francis and al.(2005) to form the accruals quality-sorted portfolios. That is, at the end of each calendar month, firms are assigned into one of five decile portfolios according to their most recently available accruals quality values, which are assumed to be available to the public six months after their fiscal year-end month. This means that, for example to calculate accruals quality factor for July 2000, firms are ranked into decile portfolios based on their value of accruals quality from fiscal year-ends between January 1999 and December 1999. Monthly portfolio returns are then computed with equal weights.

Thus, portfolios are rebalanced every month. Firms with lowest accruals quality values (best accruals quality) are assigned to portfolio 1 and correspondingly, firms with highest accruals quality values (worst accruals quality) are placed in portfolio 5.

As in Francis and al.(2005), we construct the accruals quality risk factor, which equals the difference between the monthly excess returns of the top two AQ (Q4 and Q5) quintiles and the bottom two AQ quintiles (Q1 and Q2). We call this risk factor AQfactor and it represents premium on the systematic component of accruals quality risk. A similar portfolio formation technique has been used in Core and al.(2008) and Kim and Qi (2010). The portfolio formation technique, which in effect rebalances the AQ decile sorted portfolios every month, allows differences in a firm's fiscal year-end as well as over-time changes in accruals quality. Consequently, AQfactor is also rebalanced monthly.

### 3.3.2 Other risk factors

I also employ three additional widely-accepted risk factors in the asset-pricing tests to control for other firm fundamentals that are likely affecting expected returns. excess market portfolio return ( $R_m - R_f$ ); the difference between the excess return on a portfolio of small stocks and the excess return on a portfolio of big stocks (SMB, small minus big); the difference between the excess return on a portfolio of high-book-to-market stocks and the excess return on a portfolio of low-book-to-market stocks (HML, high minus low).

➤ Constructing the size and value sorted portfolios

The firm specific risk is diversified by grouping the stocks of companies into portfolios. This leads to estimating more accurate betas and therefore. We construct portfolios which are sorted on size and value for my analysis rather than using individual stocks. We will further discuss the way in which the portfolios are constructed.

In each year of the sample period, the stocks are split into two groups big (B) and small (S) based on whether their market capitalization (stock price\*number of shares outstanding) at the end of June of every year in the sample period is above or below the median for the stocks of the companies included. The stocks are after split into three BE/ME groups – low (L) consisting of the bottom 30%, medium (M) with middle 40% and high (H) with top 30% of the value of BE/ME for the stocks in the sample.

The next step is to construct six portfolios – S/L, S/M, S/H, B/L, B/M, and B/H which are formed from the intersection of the two size and three BE/ME groups. For example the portfolio S/L consists of stocks that are in the small size group and the low BE/ME group, while B/H consists of stocks that are in the big size group and high BE/ME group. Monthly equally weighted returns series for all the portfolios are calculated from July of year t to June of year t+1. The process of dividing stocks into six portfolios is carried out every year in June. By this time of the year, the accounting information to calculate BE/ME for the previous year is publicly available by the annual reports published at the end of the financial year.

➤ Factor portfolios

The Fama and French model uses three explanatory variables for explaining the cross section of stock returns. The first is the excess market return factor that is the market index return minus the risk-free return. The risk-free rate selected is the monthly average rate of the money market for one month:

$$RF = (1 + \text{monthly average rate})^{1/12} - 1.$$

The second is the risk factor in returns relating to size – small minus big (SMB). The simple average of the monthly returns of the three big size portfolios (B/L, B/M, B/H) is subtracted from the average of the three small size portfolios (S/L, S/M, S/H) to get the monthly return of the SMB factor  $[(S/L+S/M+S/H)/3 - (B/L+B/M+B/H)/3]$ . This factor is free from BE/ME effects as it has about the same weighted-average BE/ME.

The third factor is related to value – high minus low (HML). Each month, the difference between the simple average of the returns on the two high BE/ME portfolios (S/H and B/H) and the two low BE/ME portfolios (S/L and B/L) is calculated  $[(S/H+B/H)/2 - (S/L+B/L)/2]$ . It is free of size effects.

## 4-Methodology and empirical results

In order to examine whether that earnings quality is priced in the capital market, the asset-pricing tests are conducted. In fact, our research investigates the ability of accruals quality factor to explain returns by examining its contribution to the three factor asset pricing model of Fama and French. This analysis provide evidence on whether AQfactor proxies for either or both the size factor or the book-to-market factor, both of which have been shown to be incrementally relevant for asset pricing.

We begin by estimating the Fama-French (1993) three-factor model that is as follows:

$$R_i - R_f = a_i + b_i(R_m - R_f) + s_iSMB + h_iHML + \varepsilon_i$$

where  $R_i$  is the return on asset i;  $R_f$  is the return on the risk-free asset;  $R_m$  is the return on the overall market; the size factor SMB is the return on a zero-investment portfolio that is long on small stocks and short on big stocks; HML is the return on a zero-investment portfolio that is long on high-B/M stocks and short on low-B/M stocks;  $b_i$ ,  $s_i$ , and  $h_i$  are factor loadings; and  $\varepsilon_i$  is a mean-zero regression disturbance.

Table 1 reports results of the three factor model.

**Table 1**

	Coef.	t-stat
$R_m - R_f$	0.3565419	2.22 **
SMB	0.0038933	3.84 ***
HML	0.0019097	3.59 ***
Adjusted R-squared	21,40%	

**Table1** shows that each factor makes a clear contribution to excess returns. We find that the market risk premium ( $R_m - R_f$ ), have significant positive loadings and that the market factor explains by far the largest fraction of common variation in stock returns for the size and value sorted portfolios.

The average coefficient estimate of the size factor (SMB) and the book-to-market factor (HML) are significantly positive. This association with returns may well be expected, since Fama and French (1993) introduced these additional risk factors because of their ability to explain risk over and above market beta.

This study shows that there was a size effect on the Tunisian stock market : the small firm portfolios' returns were higher than those of big firm portfolios. The positive relation between book-to-market ratio and stock excess returns imply that underpriced firms will eventually be considered as risky and will have higher expected returns. The model explains on average 21.4% of the variation in firms' returns.

Our analysis consists then to include AQfactor as an additional independent variable. this test allow us to assess the degree to which accruals quality overlaps with and adds to market risk premium and others risk factor in explaining returns.

$$R_{i,m} - R_{f,m} = \alpha_i + \beta(R_{M,m} + R_{f,m}) + s_i \text{SMB}_m + h_i \text{HML}_m + \lambda_i \text{AQfactor}_m + \varepsilon_{i,m}$$

The remaining Table 2 show the results of regressions which include AQfactor as an additional independent variable:

**Table 2**

	Coef.	t-stat
$R_m - R_f$	0.29979	2.00 **
SMB	0.0034046	3.59 ***
HML	0.001577	2.96 **
AQ <sub>factor</sub>	0.193502	2.23 **
Adjusted R-squared	27,18%	

The addition of the AQfactor increases the model's average adjusted Rsquared to 27.18%, that is indicate a nontrivial increase in the explanatory power.

Table 2 show that the average estimated coefficient on the AQ\_factor is positive and statistically significant. Francis and al (2005) find similar results and argue that such findings "suggest that accruals quality plays a statistically and economically meaningful role in determining the cost of equity capital" (p. 315). Furthermore, results reveal a change in the estimates of b, s and h. That is, the loadings on the other variables change when the accruals quality factor is added to the asset-pricing model. Such coefficient changes indicate that an asset-pricing model without an information quality factor is not fully specified.

We interpret the results as showing that accruals quality affects market perceptions of equity risk. Tunisian investors price securities in a manner that reflects their awareness of accruals quality.

The empirical results in this paper complement and support the recent theoretical research predicting a positive association between information uncertainty and risk. It is also in line with previous empirical studies showing that earnings quality is a nondiversifiable risk factor which is priced by the capital markets (Francis and al. (2005), Core and al.(2008)).

## 5-Conclusion

Whether accounting quality in general, and earnings quality in particular, affects the expected returns is an important subject for researchers and practitioners. While the intuition of many people is that information matters for the capital markets, there is no well-accepted theory that proves that information risk is not diversifiable. In the last year, the theoretical evidence literatures are mixed as regards to whether information risk is a priced risk factor and should be added as an explanatory variable in asset-pricing tests. On the other hand, a variety of empirical work presents almost unanimous findings that accounting quality matters for expected returns. Accordingly, it seems important that theoretical and empirical researchers come to more agreement on these important issues before they are considered closed.

The results of our research reveal that accruals quality loads as a separate factor of the three-factor asset-pricing model. This factor loading is significant and distinct from the market risk premium, SMB and HML factors of Fama and French (1993). The results provide consistent evidence that accruals quality is priced by the market. In fact, investors are not indifferent to the information risk. Rather, they appropriately accord greater weight to the earnings quality in their determinations of the cost of capital. Our evidence supports that capital market consequences of differences in earnings quality arise because accruals quality proxies for information risk, a risk factor that cannot diversified away in equilibrium. Reporting quality seemingly matters to capital-market participants and has important economic consequences for firms' cost of capital. These findings are likely to be of

interest to regulators, standard setters, managers and investors who are interested in the quality of financial reporting in general.

Nevertheless, it would be interesting for future research to decompose the accruals quality metric into its innate and discretionary components in order to analyze their pricing effects separately.

Further, we believe that it is important for researchers to examine the interplay between earnings quality and other potential causes of information risk. For example auditor, market liquidity, concentration of ownership, proprietary costs and voluntary disclosures are all subjects that, alongside earnings quality, may affect total perceived information risk of firms.

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