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Accruals quality, stock returns and asset pricing: Evidence from the UK

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ABSTRACT

The extent to which accruals quality (AQ) is relevant for asset pricing has been debated widely. Prior research in this area has focused almost exclusively on the US. Using UK data, we investigate whether AQ portfolios exhibit evidence of significant mispricing, and whether an AQ factor is useful in explaining the portfolios' returns. We also investigate whether AQ is a priced risk factor. Using a two stage cross-sectional regression, we show that an AQ measure explains the cross-section of stock returns. AQ also explains the time-series variation in returns for two sets of portfolios: 16 size-BM portfolios, and 20 industry portfolios. Consistent with some recent US evidence, however, we find no evidence that AQ is a priced risk factor for UK stocks.

1. Introduction

The impact of accruals quality (AQ) on future stock returns is a topical issue in the market-based accounting literature (Core, Guay, & Verdi, 2008; Francis, LaFond, Olsson, & Schipper, 2005; Kim & Qi, 2010; Mashruwala & Mashruwala, 2011; Ogneva, 2012). A key question is whether AQ, as a proxy for information risk, is a priced risk factor. To date, both analytical and empirical research has produced conflicting evidence on the relationship between AQ and stock returns. Some theoretical evidence suggests that information asymmetry affects stock returns. Easley and O'Hara (2004) develop a model in which differences in equilibrium asset prices are due to private information. Uninformed investors recognize their information disadvantage, and are reluctant to hold stocks on which there is abundant private information. This drives down prices and increases returns. By contrast, Hughes, Liu, and Liu (2007) suggest that information risk is either diversifiable, or subsumed by other risk factors. According to Lambert, Leuz, and Verrecchia (2007), information risk is fully diversifiable when the number of investors is large. Lambert, Leuz, and Verrecchia (2012) conclude that information precision influences the cost of capital, but information asymmetry does not.

Previous empirical studies are similarly inconclusive. Francis et al. (2005) report time-series regressions of returns on an AQ factor and the Fama and French (1993) factors. The AQ factor is incrementally informative, suggesting that AQ is a priced risk factor. Using portfolios based on AQ, Ecker, Francis, Kim, Olsson, and Schipper (2006) report that loadings on these portfolio returns are positively related to higher values of an earnings quality measure, lower earnings response coefficients, and greater dispersion and lower accuracy in analysts' earnings forecasts. However, Core et al. (2008) (henceforth, CGV) argue that the model used by Francis et al. (2005) is incomplete and misspecified. CGV perform conventional two-stage asset pricing tests (Fama & MacBeth, 1973), and find that the loadings on the AQ factor, although positive on average, do not explain the cross-sectional variation in returns. Accordingly, there is no evidence that AQ is a priced factor. Similarly Cohen (2008) and Liu and Wysocki (2007) find that after controlling for firm-specific characteristics, AQ is not related to systematic risk. Recent papers by Kim and Qi (2010), Mashruwala and Mashruwala (2011) and Ogneva (2012) reconcile the findings of Francis et al. (2005) and CGV by adding controls for stocks with low share prices, seasonality, and negative cash flow shocks, respectively. CGV's results are shown to be sensitive to the inclusion in the model of these controls.

Motivated by influential but contradictory analytical works, as well as the empirical evidence cited above, the main objectives of the present study are (i) to examine whether AQ portfolios exhibit evidence of mispricing; (ii) to investigate whether an AQ factor is useful in explaining the portfolios' returns, and (iii) to assess whether AQ is a priced risk factor, using UK data. Numerous empirical studies use AQ to explain portfolio returns (for example, Callen, Khan, & Lu, 2013; Ecker et al., 2006; Richardson, Sloan, Soliman, & Tuna, 2006). Although

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this issue has been investigated extensively using US data, as far as we are aware there has been no previous empirical investigation of the UK capital market, even though the latter is among the world's largest. The institutional background is similar in the UK and the US (Pope & Walker, 1999), but the US financial reporting regime is more conservative and less flexible. As a generalization, the use of UK GAAP tends to lead to the reporting of higher earnings. Alford, Jones, Leftwich, and Zmijewski (1993) suggest that earnings disclosure by UK firms is at least as informative and timely as in the case of the US. This study explores the relationship between an AQ measure proposed by Dechow, Sloan, and Sweeney (1995), and the cross-section of stock returns, using UK data. In particular, we investigate whether AQ portfolios exhibit evidence of mispricing, and whether an AQ factor is useful in explaining the portfolios' returns. We present new evidence on the key question as to whether AQ is a priced risk factor.

Using two-stage asset pricing tests, our main findings are that firms with low AQ have higher returns on average than firms with high AQ. An AQ factor is significant in pricing two sets of portfolios: 16 size-BM portfolios, and 20 industry portfolios. The highest AQ portfolios are under-priced, as the two highest AQ portfolios yield positive and significant abnormal returns. In line with results reported by Francis et al. (2005) and CGV, an AQ factor is significant in explaining the time-series variation in the portfolios' excess returns. Consistent with CGV, however, it appears that AQ is not a priced factor. Robustness tests, based on an alternative AQ measure proposed by DeFond and Park (2001), produce similar findings.

This paper offers two principal contributions to the market-based accounting literature. First, consistent with theories that demonstrate a role for information risk in asset pricing, we investigate the relationship between AQ and stock returns for a large sample of firms domiciled in the UK for the period July 1991 to June 2006. Examining a market as important as the UK is of interest in its own right. Using data from a jurisdiction other than the US minimizes biases that may arise due to data snooping (Lo & MacKinlay, 1990), and provides an out-of-sample assessment of previous empirical findings based on US data. Second, Fama and French (1993, 1996) show that risk factors constructed on the basis of market value of equity, and ratio of book value-to-market value, are incrementally useful in explaining the time-series variation of portfolio returns. We add an AQ factor to the Fama–French three-factor model, and examine the contribution of this factor to the explanation of the time-series variation of UK portfolio returns.

The rest of this paper is organized as follows. Section 2 reviews prior research and develops testable hypotheses concerning the link between AQ and stock returns. Section 3 describes the data and methodology. Section 4 reports tests for an empirical relationship between AQ and stock returns, and examines whether AQ is a priced risk factor. Finally, Section 5 summarizes and concludes.

2. Related literature

Accruals are an important element of financial reporting quality, with implications for equity valuation. Accruals represent the difference between reported earnings and cash flows emanating from differences in the timing of (i) the supply of goods and services, and the receipt of payment, and (ii) the acquisition of goods and services, and the outflow of payment. Previous studies report that accruals are relevant in forecasting future stock returns. An investment strategy based on this empirical regularity is capable of generating significant abnormal returns (Richardson et al., 2006; Sloan, 1996).

Extant theoretical models provide no consensus on whether AQ, a proxy for information risk, should be priced. One strand in this literature is based on the notion that accounting information relating to a firm's expected cash flows affects the firm's equilibrium asset price. Information asymmetry increases the firm's cost of capital. Further, information asymmetry between inside managers and outside investors reduces uninformed investors' bid prices (Iatridis, 2011). Easley and O'Hara (2004) demonstrate analytically that differences in returns may reflect private information. Stocks of companies for which there is more private information and less public information command a risk premium. Accounting information may reduce the cost of capital, by mitigating the risk faced by uninformed investors arising from information asymmetry.[1] Consequently investors expect higher returns from a firm with high information asymmetry. This approach suggests that a range of factors, such as market microstructure, accounting practice and legal rules, may influence asset returns. On the contrary, Hughes et al. (2007) argue that the pricing effect demonstrated by Easley and O'Hara is driven mainly by under-diversification, and would tend to disappear in large economies. Lambert et al. (2012) demonstrate analytically that the level of information precision,[2] rather than information asymmetry, affects equilibrium prices in perfectly competitive capital markets. The precision of the information available to each investor is the key determinant of the expected return.

Empirical research on the pricing of AQ similarly produces conflicting results. From an asset pricing perspective, Francis et al. (2005) report that firms with low AQ tend to have higher realized returns, higher costs of debt, higher betas and higher P/E ratios than firms with high AQ. Time-series regressions of each firm's realized returns on the AQ risk factor, with controls for other risk factors (market, firm size and book value-to-market value) suggest that an AQ factor is useful in explaining the time-series variation in excess returns. Ecker et al. (2006) construct portfolios based on AQ, and show that the portfolio returns (e-loadings) are positively related to an earnings quality measure and the dispersion in analysts' earnings forecasts, and negatively related to earnings response coefficients and the accuracy of analysts' earnings forecasts. The e-loadings are lower and more stable for older firms, for which there is likely to be more information. The e-loadings are higher during years containing restatement announcements, lawsuit filings, or bankruptcies, when earnings quality is likely to be poor. Callen et al. (2013) find that poor accounting quality is a source of market friction that contributes to delay in stock price adjustment. The portion of delay due to poor accounting quality commands a premium. This suggests that poor accounting quality is costly, because it hinders timely price adjustment and increases the cost of capital. All of these studies suggest that AQ is a priced risk factor.

Several recent studies, by contrast, find no evidence of any relationship between AQ and stock returns (Cohen, 2008; Core et al., 2008; Liu & Wysocki, 2007; Mohanram & Rajgopal, 2009). CGV suggest that the time-series regressions used by Francis et al. (2005) are incompletely specified, and inadequate for the purpose of establishing a new pricing factor related to AQ. In conventional two-stage asset pricing tests based on the methodology of Fama and MacBeth (1973), CGV report that the loadings on the AQ factor do not explain the cross-sectional variation in returns. Accordingly, there is no evidence that AQ is a priced factor. Recent research attributes CGV's results to effects emanating from stocks with low share prices, seasonality effects, or negative cash flow shocks. Kim and Qi (2010) obtain a significant AQ risk factor after the exclusion of low-priced stocks. The AQ risk premium is associated with fundamental risk related to macroeconomic conditions and the firms' economic activities. Mashruwala and Mashruwala (2011) analyze seasonal effects on the pricing of AQ. High AQ stocks generate positive and significant abnormal returns in the month of January only. This finding is attributed to the pricing effects of tax-loss selling at the start of the year. Ogneva (2012) hypothesizes that CGV's results reflect a tendency for low AQ firms to experience negative future cash flow shocks, producing negative returns that offset the (otherwise) higher expected returns. There is a significant negative association between AQ and

[1] Amihud and Mendelson (1986), Admati (1985) and Dow and Gorton (1995) provide theoretical support for the notion that the exploitation of private information by informed traders produces a cost of capital effect due to asymmetric information.

[2] Lambert et al. (2007) define information precision as the quality of information on a firm's expected cash flows made available to investors.