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Mandatory IFRS Adoption and Financial Statement Comparability

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Abstract: This study examines whether mandatory adoption of International Financial Reporting Standards (IFRS) leads to capital market benefits through enhanced financial statement comparability. UK domestic standards are considered very similar to IFRS (Bae et al. 2008), suggesting any capital market benefits observed for UK-domiciled firms are more likely attributable to improvements in comparability (i.e., better precision of *across*-firm information) than to changes in information quality specific to the firm (i.e., core information quality). If IFRS adoption improves financial statement comparability, we predict this should reduce insiders' ability to benefit from private information. Consistent with these expectations, we find that abnormal returns to insider purchases—used to proxy for private information—are reduced following IFRS adoption. Similar results obtain across numerous subsamples and proxies used to isolate IFRS effects attributable to comparability. Together, the findings are consistent with mandatory IFRS adoption improving comparability and thus leading to capital market benefits by reducing insiders' ability to exploit private information.

JEL Descriptors: G1, G3, M4

Key Terms: IFRS, comparability, private information, insider trading

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1. Introduction

This paper examines whether mandatory adoption of International Financial Reporting Standards (IFRS) leads to capital market benefits through enhanced comparability. That is, we investigate whether IFRS adoption alters the information environment even within countries that *ex ante* have domestic standards similar to IFRS. While prior research documents that adoption of international accounting standards is associated with higher quality accounting (e.g., Ashbaugh and Pincus 2001; Barth et al. 2008), much of this improvement appears to occur for firms domiciled in countries having domestic standards that differ significantly from international standards. This limits prior literature's ability to disentangle whether IFRS-related improvements in information quality result from changes in the precision of information specific to the firm (i.e., core information quality) versus changes in the precision of *across*-firm reporting signals (i.e., comparability).¹ We extend this literature by documenting that adoption of IFRS leads to capital market benefits even in a setting having few *ex ante* differences between domestic standards and IFRS. That is, we provide evidence consistent with mandatory IFRS adoption leading to capital market benefits through improved comparability.

To isolate the effects attributable to changes in comparability, we examine firms domiciled in the UK over 2003 through 2006. Several institutional features make this a unique setting to examine the effects of IFRS adoption on comparability. First, the capital markets in which the UK competes absorbed an exogenous reporting shift with the mandatory adoption of

¹ Throughout the paper, we use the term "information environment" to represent any reporting signal that is useful to market participants in assessing firm performance. Verrecchia (1990) notes that "information quality" involves the distributional characteristics of an uncertain event (e.g., its variance). We focus on two separate sources of information quality: "core information quality," defined as reporting signals *specific* to the firm that are sourced internally (e.g., the firm *i*'s earnings announcements) or externally (e.g., analyst earnings forecasts for firm *i*); and "comparability," defined as the degree of precision in *across*-firm reporting signals (e.g., firm *i*'s and firm *j*'s earnings).

IFRS within the European Union (EU) effective for fiscal years beginning January 1, 2005. Second, the domestic accounting standards of the UK are arguably quite similar to IFRS (e.g., Bae et al. 2008), suggesting that information quality benefits from IFRS adoption are less likely attributable to changes in core information quality. Finally, the UK equity market is deeper relative to other markets experiencing IFRS adoption, providing both more precision in measuring our primary proxies as well as increased statistical power.

We use as our dependent variable the change in abnormal returns following insiders' equity market purchases of their own firms' shares, which captures private information possessed by firm insiders.² Because UK domestic standards are similar to IFRS, we assume that any change in private information benefits for insiders of these firms is driven primarily by changes in financial statement comparability (i.e., *across*-firm reporting signals). That is, we expect that mandatory IFRS adoption will improve the public information set (and by extension, reduce the private information set) by allowing all users to better infer firm performance and valuation through enhanced comparability of financial statements across a larger and transnational set of firms that report within the same accounting standards.

Empirical results are consistent with IFRS adoption leading to capital market benefits associated with improvements in comparability. After controlling for other determinants of returns to insider purchases, we find that insider purchases of UK firms' shares exhibit statistically and economically lower abnormal returns subsequent to IFRS adoption, relative to those prior to adoption. These results are robust to multiple return measurement windows (i.e., five-day, one-month, three-month, and six-month), and alternative definitions of abnormal returns (e.g., using alternative risk adjustments).

² Insiders' purchases tend to be more informative than insiders' sales (e.g., Lakonishok and Lee, 2001; Jeng, Metrick, and Zeckhauser, 2003) in part because of asymmetric litigation risk (e.g., Skinner, 1994).

To further validate that these effects are most likely attributable to changes in comparability versus changes in core information quality, we perform two additional sets of analyses. First, we examine whether our effects are consistent for firms experiencing the greatest increases in comparability using three alternative measures based on: DeFond et al. (2011); DeFranco et al. (2011); and intra-industry information transfers adapted from Yip and Young (2012) and Wang (2011). Results confirm that firms experiencing the greatest increases in comparability exhibit greater reductions in abnormal returns to insider purchases following IFRS adoption relative to those experiencing smaller increases in comparability. Second, we control for variation in core information quality that can remain even within our UK sample, and thus potentially confound our inferences with respect to comparability. Specifically, we assess the impact of IFRS within sub-samples of UK firms that are likely to have the highest levels of core information quality before IFRS: those with low changes in accruals, low reconciling items between UK standards and IFRS, low closely held shares, or high analyst following. We find that IFRS adoption reduces the abnormal returns to insider purchases for firms within each of these subsamples. If these firms are the least likely to exhibit IFRS-related improvements in core information quality, then this evidence is consistent with IFRS affecting a change in firms' information environments relating to comparability.

Overall, the results are consistent with mandatory IFRS adoption leading to capital market benefits of reduced returns to insider trades due to improved comparability. These findings contribute to prior literature that investigates anticipated (e.g., Armstrong et al. 2010) and actual (e.g., Daske et al. 2008) effects of IFRS adoption by documenting that IFRS adoption also leads to capital market benefits through enhanced comparability, consistent with a primary regulatory motivation (see Regulation EC No 1606/2002 of the European Parliament). In

addition, we complement recent studies examining comparability in the context of mandatory IFRS adoption (DeFond et al. 2011; Yip and Young 2012) by documenting that the benefits to IFRS adoption can accrue even to firms having domestic standards similar to IFRS, where core information quality is less likely to have changed. We also provide further evidence on the association between insider trading profits and properties of financial reporting (e.g., Beneish and Vargus 2002).

Section 2 discusses the prior literature and hypothesis development. Section 3 presents the research design. Section 4 presents the sample selection, descriptive data, and empirical results. Section 5 presents analyses of alternative measures of comparability and firms partitions. Section 6 presents sensitivity analyses. Section 7 concludes.

2. Hypothesis Development and Background

Hypothesis development

The widespread adoption of IFRS and its related convergence initiatives have led to numerous studies examining its implications. Prior literature documents that investors positively anticipated IFRS adoption in Europe (Armstrong et al. 2010). Prior papers further document a general reduction in information asymmetry for firms voluntarily adopting IFRS with corresponding commitment to high quality implementation (Daske et al. 2009), as well as for firms adopting IFRS by mandate within settings of high enforcement regimes (e.g., Daske et al. 2008; Li 2010). This prior research indicates that IFRS adoption, when coupled with enforcement or commitment, leads to changes in the information for the markets in which these firms operate. It further suggests that these changes may derive from improvements in core information quality, since there is a large effect where pre-IFRS domestic standards differ substantially from IFRS (e.g., Daske et al. 2008).

Prior research also examines the IFRS adoption effect, if any, upon changes attributable to improvements in financial reporting comparability. Comparability is typically defined as the quality of information enabling users to identify similarities in and differences between two sets of economic phenomena (FASB 2008). Horton et al. (2012) provides evidence that analyst forecast accuracy improves after mandatory IFRS adoption for analysts covering firms that report under multiple standards before IFRS adoption. Similarly, Tan et al. (2011) documents that analyst coverage is increasing in the extent to which IFRS adoption eliminates differences in standards between the firm's country and that of the analyst. Relatedly, DeFond et al. (2011) finds evidence of increased foreign mutual fund ownership flows following mandatory IFRS adoption for firms domiciled in countries with both increases in uniformity and greater enforcement, inferring that IFRS adoption leads to improved comparability.³

We extend this literature by examining whether informational benefits accrue to firms domiciled in a country (the UK) that exhibits few *ex ante* differences between domestic GAAP and IFRS. In this setting, it is less likely that IFRS adoption would provide benefits relating to core information quality (i.e., changing the distributional properties of reporting signals specific to the firm) for firms domiciled within this country, because the nature of this information should not change substantially before versus after IFRS adoption. However, benefits may accrue due to improvements in comparability (i.e., more precision from across-firm reporting signals) that arise from changes in core information quality for *non*-UK firms. Specifically, IFRS adoption can reduce the ability to exploit private information for firms already reporting under high

³ More recent work by Barth et al. (2011) documents that adoption of IFRS by non-US firms leads to financial reporting information that is more comparable with that of US firms.

quality pre-IFRS standards, if the information environment for other (competitor) firms improves upon IFRS adoption. In other words, the relative level of information (i.e., that relating to the covariance between a firm's and all other firms' future cash flows) may change, if the information for peer firms changes upon IFRS adoption, which can likely occur for competitor firms in countries with domestic standards that differ significantly from IFRS.

Accordingly, if IFRS adoption improves comparability, then we predict that the informativeness of insider trades will decrease following IFRS adoption even in a setting in which the precision of core information for these firms is not substantially changing *per se*. Insiders' information advantage derives from access to firm-specific information about decisions that may affect firm performance, and from a sophisticated understanding of how firm performance is correlated with (and is potentially affected by) the performance of other firms (e.g., Wu and Zhang 2010). Thus, comparability improvements should improve investors' ability to understand a firm's relative performance and concurrently diminish insiders' informational advantage, after more firms provide financial information under a common reporting system. Therefore, we expect that comparability improvements will reduce some (but not likely all) of insiders' information advantage.⁴

UK setting and insider trading

To examine whether IFRS adoption leads to comparability improvements, we choose firms domiciled in the UK for several reasons. First, the capital markets in which the UK operates absorbed an exogenous reporting shift with mandatory IFRS adoption in the EU effective 2005. Prior literature reveals that while the associated reconciliations from UK

⁴ Consistent with a partial reduction in insiders' information advantage, untabulated descriptive evidence reveals that insider purchasing activity is not significantly reduced pre- versus post IFRS (although the returns to such trades are significantly reduced).

standards to IFRS exhibit some information content, these reactions vary across UK firms (e.g., Christensen et al. 2007; Christensen et al. 2009; Horton and Serafeim 2010). Second, prior research suggests that domestic accounting standards in the UK are similar to IFRS. In particular, Bae et al. (2008) systematically review the accounting standards comprising IFRS, and conclude that these standards do not differ substantially from those in the UK (see their Table 1). Thus, while some differences may exist between UK standards and IFRS, UK standards appear the closest to IFRS relative to other countries adopting IFRS. Third, restricting the analysis to a single country mitigates variation in institutional characteristics that can confound inferences drawn from other studies that rely on cross-country samples. Finally, the UK requires timely disclosures regarding the timing and amounts of equity traded by insiders, which is our primary proxy for possession of private information. The insider trade reporting requirements are less strict in other EU countries, particularly prior to IFRS adoption. Accordingly, the UK setting appears unique in offering a developed capital market with domestic standards similar to IFRS, which improves our ability to isolate effects of IFRS adoption that are

most likely attributable to comparability.^{5, 6}

⁵ Recent research (Fidrmuc et al. 2011) finds that insider purchases are more informative in countries with stronger governance and enforcement institutions, consistent with our use of the UK as a setting. While we note that this can bias against our findings (to the extent that potential improvements to reporting, such as IFRS adoption, lead to increased returns to insider trades), this effect is unclear, as enforcement quality typically affects the informativeness of insider sales (versus purchases). Further, other countries with smaller capital markets but domestic standards similar to IFRS and strong enforcement (e.g., Singapore and Ireland) may exhibit stronger benefits from increased comparability relative to the UK. Thus, as an already highly developed capital market, the UK provides a possible lower bound on the economic benefits of improved comparability.

⁶ Consistent with foreign peer firms being used to evaluate UK firms, we find among our sample firm-years having analyst coverage in IBES that 50% are covered by at least one analyst covering at least one (European) foreign peer. Further, recent research provides evidence of an increase in relative performance evaluation using foreign peers around mandatory IFRS adoption in Europe (e.g., Wu and Zhang 2011; Ozkan et al. 2012).

Our primary proxy for private information is insiders' trade returns to purchases of their own firm equity.⁷ Empirical evidence regarding UK insider trading informativeness (e.g., Fidrmuc et al. 2006) and the regulatory framework surrounding insider trading in the UK suggest that returns to insider purchases provide a useful measure of information asymmetry between insiders and outsiders. Assessing whether IFRS adoption affects the informativeness of insiders' trades requires that insider trade laws remain constant across the IFRS-transition period. Prior to IFRS adoption, insider trading in the UK was regulated by domestic rules (e.g., 1985 Companies Act). In July 2005, the UK implemented EU directives (e.g., the Market Abuse Directive) that harmonized insider trading law across EU member states. However, compliance with these EU directives did not change the UK insider trading enforcement environment, because the UK retained its stricter domestic provisions. Thus, the UK regulatory framework surrounding insider trading remained constant during the IFRS transition period.

The UK relies on a similar notion of illegal insider trading to that of the US (Engle 2010). Specifically, inside information is defined as

information of a precise nature which has not been made public, relating, directly or indirectly, to one or more issuers of financial instruments or to one or more financial instruments and which, if it were made public, would be likely to have a significant effect on the prices of those financial instruments or on the price of related derivative financial instruments. (Market Abuse Directive 2006/6/EC)

EU regulation fundamentally considers insider trading to be an abuse of the market rather than a breach of fiduciary duty to the company. Insiders are defined as any person who "by virtue of

⁷ We define insiders as executive and non-executive members of the board of directors (see complete definition in the Glossary of the FSA's Handbook: <u>http://fsahandbook.info/FSA/glossary-html/handbook/Glossary/</u> D?definition=G296).

his membership of the administrative, management or supervisory bodies of the issuer [...] possesses inside information"; thus, both corporate directors and officers are considered insiders.

Disclosure rules regarding equity transactions executed by insiders require that these trades be revealed within five days of execution, as per the UK Model Code and the EU Market Abuse Directive prior to and after 2005, respectively. These requirements remain constant both under UK domestic insider trading regulation, as well as rules applicable under the more recent EU directives. Consistent with this requirement for timely disclosure, Fidrmuc et al. (2006) reports that 85% of the observations in their sample of UK directors' and officers' transactions between 1991 and 1998 are reported within a day of their execution.

Finally, regulation over insider trading in the UK is enforced by the Financial Services Authority, which can impose civil sanctions on persons engaging in insider trading. The extent to which corporate directors and officers can engage in illegal trading in the UK appears to be limited. For instance, UK insiders are precluded from trading during the two months prior to earnings announcements (Pope et al. 1990), and that rule appears to be strictly enforced, as insider trading is virtually non-existent during that window (Hillier and Marshall 1998, 2002).

3. Research Design

We choose to examine insider purchases of shares to directly examine a users' ability to exploit private information (Kyle 1985). The focus on purchases better isolates informative trading relative to sales. Prior research (both in the US and UK) documents that insiders' purchase transactions have a stronger association with subsequent stock returns than insiders' sales transactions (Lakonishok and Lee 2001; Fidrmuc et al. 2006). This empirical regularity is commonly attributed to an asymmetry in litigation risk associated with trading on privately

known bad news versus good news and a greater proportion of sales being driven by liquidity or portfolio rebalancing needs.⁸

To assess the informativeness of insider purchases surrounding IFRS adoption, we estimate the following regression:

$$BHRET_{jt} = \alpha_0 + \alpha_1 BUYSIZE_{jt} + \alpha_2 BM_{jt} + \alpha_3 SIZE_{jt} + \alpha_4 RD_{jt} + \alpha_5 CLOSEHELD_{jt} + \alpha_6 RETLAG_{jt} + \alpha_7 VOLATILITY_{jt} + \alpha_8 IFRS_{jt} + Industry f.e. + \varepsilon_{jt}$$
(1)

where:

BHRET	is the cumulative abnormal buy-and-hold return for firm j (aggregated
	alternatively over one-month, three-month, or six-month windows), starting
	one day following insider purchases executed during fiscal year t minus the
	same window return to the Datastream Total UK Index;9

- BUYSIZE is the total number of shares purchased by insiders of firm *j* during year *t* divided by the number of shares outstanding at the end of year *t*;
- *BM* is firm *j*'s book-to-market ratio, measured at the end of fiscal year *t*-1 preceding the insider trades;
- SIZE is the log of firm j's market capitalization (in \$ thousands) at the end of fiscal year t-I preceding the insider trades;

RD is an indicator variable equaling 1 if firm *j* reports research and development expenses for fiscal year *t*-*1* preceding the insider trades, and 0 otherwise;

CLOSEHELD is the percentage of firm *j*'s common shares that are closely held at the end of year *t*-*1* preceding the insider trades;

⁸ Untabulated results indicate that abnormal returns to insider sales are slightly negative prior to IFRS, and that these returns are not economically significant subsequent to IFRS adoption. We do not draw inferences from insiders' sales transactions because of confounding issues (e.g., litigation, liquidity trading) noted above.

⁹ The Datastream Total UK Index captures 99.7% of UK market capitalization as of December 31, 2008.

- *RETLAG* is the market-adjusted cumulative return for firm *j* for year *t*-1 preceding the insider trades;
- *VOLATILITY* the standard deviation of the residuals from a regression of firm *j*'s daily stock returns on the UK value-weighted market returns over year *t*-*1* preceding the insider trades; and
- *IFRS* an indicator variable equal to one for trades for firm *j* occurring under IFRS, and zero otherwise.

The dependent variable is *BHRET*, which is the market-adjusted return measured across one-month, three-month, and six-month windows, all beginning on the day following the insider purchase transaction. We choose longer return windows to better capture private information likely having longer-term value implications, consistent with prior insider trading research (e.g., Seyhun 1998; Huddart and Ke 2007). Finally, we aggregate all insider trades in a fiscal year, weighting the trades by the relative shares transacted, to derive a firm-level cumulative abnormal return to total insider trades.¹⁰

Equation (1) includes control variables for previously documented determinants of profitability to insider trading. *BUYSIZE* measures firm-level insider purchasing intensity during a fiscal year; the predicted coefficient is positive, as insiders are likely to maximize their trading profits by engaging in larger purchases when anticipating good news of a larger magnitude. We include *SIZE*, predicting a negative coefficient as prior research documents that more profitable trades occur for smaller firms (Lakonishok and Lee 2001). We include the book-to-market ratio (*BM*) and past returns (*RETLAG*); as insiders have been shown to exhibit contrarian trading behavior and also to purchase undervalued firm stock (Rozeff and Zaman 1998; Piotroski and

¹⁰ By aggregating trades to the firm level, we reduce the potential for over-fitting data due to multiple trades by insiders occurring during the year.

Roulstone 2005), the predicted coefficient is positive for *BM*, and negative for *RETLAG*. *BM*, *SIZE*, and *RETLAG* also control for risk factors not captured by the market-level adjustment of the dependent variable.¹¹

We also control for accounting- and governance-based proxies for information asymmetry between firm insiders and outsiders. As insider purchases precede larger positive abnormal returns in firms with R&D activities (Aboody and Lev 2000), we predict a positive coefficient for *RD*. As firms with a greater proportion of shares held by insiders are likely to have more opaque information environments, we predict a positive coefficient for *CLOSEHELD*. Finally, as insiders can better exploit their private information in stocks that exhibit greater volatility (Huddart and Ke 2007), we predict a positive coefficient for *VOLATILITY*.¹²

Our variable of interest is *IFRS*, which we set equal to one for trades occurring during the IFRS reporting regime, and zero otherwise (i.e., if the firm reports under UK domestic standards). Note that IFRS is not strictly a time-indicator variable: it varies on the firm's mandatory adoption of IFRS, which can occur effective 2005 or 2006, depending on the firm's fiscal year end (see related sensitivity analyses in Section 6). If IFRS improves comparability of information across firms, both within the UK and across all other countries adopting IFRS, then we predict that *BHRET* will be negatively associated with *IFRS*. That is, we expect that IFRS adoption will reduce insiders' informational advantage by improving comparability, and thus reduce insiders' ability to profit from their purchases.

4. Sample Selection, Descriptive Statistics, and Empirical Results

¹¹ Equation (1) includes controls for risk such as book-to-market, size, and volatility. We conduct untabulated sensitivity analyses estimating the dependent variable, *BHRET*, to control for market value of equity, book-to-market, and industry. Results are qualitatively similar.

¹² All tabulated results use continuous independent variables winsorized at one percent for each tail to mitigate the impact of outliers. However, this choice has no effect on inferences relating to our experimental variable.

Sample selection and descriptive statistics

Table 1 Panel A provides a description of our sample selection. We begin with all firms listed on UK stock exchanges during 2003–2006. We choose this sample period to allow for a balanced set of years before (2003 and 2004) versus after (2005 and 2006) mandatory IFRS adoption. We end the sample period at 2006 to minimize the effects of the financial crisis (which could disproportionately affect our UK sample, owing to its substantial financial services industry) and associated stock market declines (which could directly affect our market-based measures—see Figure 1).¹³ We obtain insider trading data from Directors Deals, a UK-based company that collects information across countries on disclosed equity transactions made by directors and officers in the shares of their own companies. While coverage in most countries does not start until 2008 or later, the Director Deals database includes data on UK transactions since 1999. The database includes transaction and reporting dates, insider name and position in the firm, type of transaction (purchase, sale, option exercise, etc.), shares traded and transaction price. We eliminate firms that do not adopt IFRS by 2006,¹⁴ that do not have any fiscal year with insider purchases (per Directors Deals database), that lack sufficient financial and market data for the analyses, and that do not have observations in both the pre- and post-IFRS periods. This leads to a final sample of 663 firms, with 2,616 firm-year observations. We obtain financial data from Worldscope, market data from Datastream, and analyst data from IBES.

Panel B compares our sample firms to the full population of UK firms. The sample firms are larger and more profitable than the UK population, which is likely driven by the requirement

¹³ We note that Figure 1 reveals positive UK stock market performance throughout our 2003–2006 sample period. This should bias against finding reduced returns to insider purchases following mandatory IFRS adoption effective 2005. In addition, untabulated descriptive statistics reveal that several risk measures (beta, return volatility, and synchronicity), calculated annually for our sample UK firms, do not appear to change over our sample period. This suggests that changes in risk are not driving our findings.

¹⁴ These latter firms primarily include those listed on the Alternative Investment Market (AIM), which tend to be smaller. These firms were required to adopt IFRS effective 2007. We analyze this subsample in Section 6.

that larger firms adopt IFRS by 2006. Panel C presents the industry composition based on the Fama-French 12-industry classification, with service industries (e.g., financial services, wholesale and retail) being the most represented.¹⁵

Table 2 provides descriptive statistics. In Panel A, we present statistics at the insider trade level. There are, on average, 1.667 (1.404) insiders purchasing (selling) stock per firm-year in our sample. In absolute value, the average amount purchased by insiders (£198,835) is significantly smaller than the average amount sold (£1,450,529). The difference is less pronounced when transactions are scaled by shares outstanding (0.10% for purchases compared to 0.34% for sales), which suggests that purchases tend to occur in relatively smaller firms. In Panel B, we present statistics for the firm level observations used in the multivariate analyses. Consistent with prior research, insider purchases appear more informative than sales across all measurement windows. For example, the mean three-month return following insider purchases is 3.00%, versus 0.00% for comparable insider sales. Hence, the univariate statistics support our focus on insider purchases.

Empirical results

Table 3 presents abnormal returns to insider purchases. Panel A presents univariate results, comparing *BHRET* for purchases occurring in the pre- versus post-IFRS period. Returns are reported over a one-month window in columns (1) and (2); three-month window in columns (3) and (4); and six-month window in columns (5) and (6). Consistent with expectations, abnormal returns in the pre-IFRS period are higher relative to those in the post-IFRS period. Specifically, mean abnormal returns decrease after IFRS adoption from 2.08% to 0.68% for the

¹⁵ Results are robust to excluding financial services firms, which are subject to other regulatory provisions.

one-month return window, 4.01% to 1.23% for the three-month window, and 6.75% to 2.09% for the six-month window. These differences are all significant at the 1% level.¹⁶

Panel B of Table 3 presents results from the multivariate analysis of *BHRET*. Focusing on the one-month window, column (1) presents results including only the control variables. As predicted, *BHRET* is increasing in the relative size of the purchase (coefficient for *BUYSIZE* = 2.426, *t*-stat = 5.53) and in stock return volatility (coefficient for *VOLATILITY* = 0.723, *t*-stat = 2.19). *BHRET* is also decreasing in the size of the firm (coefficient for *SIZE* = -0.002, *t*-stat = -1.80). The remaining variables are insignificant. Column (2) presents results regarding our variable of interest, *IFRS*. Consistent with expectations, the coefficient is negative and significant (-0.012, *t*-stat = -4.64).

Results are similar using a three-month return window in columns (3) and (4), or a sixmonth return window in columns (5) and (6). The coefficients for the control variables are as predicted, including the coefficients for both book-to-market (*BM*) and lagged return (*RETLAG*). The coefficient for *IFRS* is also significantly negative in both the three-month window (-0.026, *t*-stat = -5.98) and the six-month window (-0.042, *t*-stat = -5.67) estimations.

If the UK setting isolates firms for which comparability is the primary characteristic affected by mandatory IFRS adoption, the reduction in abnormal returns to insider purchases is consistent with improvements to financial statement comparability reducing insiders' private information.¹⁷

¹⁶ Median values are zero because there are a significant number of firm-years with no insider purchases, in spite of the sample selection criteria. However, results are unchanged when excluding firm-years with no insider purchases, suggesting results are not driven by a reduction in insider purchasing around IFRS adoption.

¹⁷ We further note that this reduction in insiders' private information appears permanent in nature. Specifically, various (untabulated) replications of the Table 3 analyses using a sample period extended to 2010 continue to document reduced abnormal returns to insider purchases post-IFRS adoption.

5. Alternative measures of comparability and firm partitions

Alternative measures of comparability

We next examine whether our results correspond to recent research examining alternative measures of comparability. We focus on three alternative measures based on DeFond et al. (2011), DeFranco et al. (2011), and on intra-industry information transfers.

We first employ an industry-level measure of the change in financial statement comparability using a proxy developed by DeFond et al. (2011). This proxy is a ratio, representing the increase in the pool of peer firms using the same set of standards, calculated for each 2-digit SIC industry group in our sample. The numerator of this ratio for our study is the number of UK firms plus the number of firms in other European Union countries (which report under IFRS by 2005), while the denominator is the number of UK firms reporting under UK domestic standards in 2003 and 2004. We designate firms as experiencing a low (high) increase in comparability if their industry is in the bottom (top) tercile of the percentage increase in comparable peers. We expect a larger reduction in insiders' information advantage for UK firms in industries with the largest increase in comparability.

Our second proxy for financial statement comparability is based on DeFranco et al. (2011). Consistent with Lang et al. (2010) and Yip and Young (2012), we estimate a cross-country version of their accounting comparability measure and label it *ACOMP*. Conceptually, *ACOMP* measures how closely similar economic events (stock returns) map into the financial statements (earnings) of two firms. To implement this measure, we first estimate a firm-year specific earnings/returns association by running the following equation for each firm *i* over years *t-3* to *t*, using all EU firms with available data from WorldScope and Datastream:

$$NI_{it} = \beta_{0i} + \beta_{1i}RET_{it} + \rho_{it} \tag{2}$$

where *NI* is net income of firm *i* for fiscal year *t* scaled by beginning of the year market capitalization, and *RET* is the cumulative stock return for firm *i* over fiscal year *t*. The estimated coefficients $\hat{\beta}_{0i}$ and $\hat{\beta}_{1i}$ from (2) constitute *i*'s accounting function. Similarly, we estimate $\hat{\beta}_{0j}$ and $\hat{\beta}_{1j}$ for all firms *j*. Finally, we compute firm *i*'s expected earnings using the accounting functions of firms *i* and *j* as follows:

$$E(NI)_{iit} = \hat{\boldsymbol{\beta}}_{0i} + \hat{\boldsymbol{\beta}}_{1i}RET_{it}$$
(3)

$$E(NI)_{ijt} = \hat{\boldsymbol{\beta}}_{0j} + \hat{\boldsymbol{\beta}}_{1j}RET_{it}$$
(4)

That is, $E(NI)_{iit}$ and $E(NI)_{ijt}$ are the expected earnings of firm *i* for a given return *RET*_{it} using firm *i*'s and firm *j*'s accounting function, respectively. Accounting comparability between firms *i* and *j* in year *t* is then defined as follows:

$$ACOMP_{ijt} = -\frac{1}{4} \sum_{t=3}^{t} \left| E(NI)_{iit} - E(NI)_{ijt} \right|$$
(5)

Consistent with Lang et al. (2010), we estimate $ACOMP_{ijt}$ for all firm *i-j* pairs where *i* and *j* are in the same two-digit SIC industry group but in different countries. The average $ACOMP_{ijt}$ is then used as the firm-year specific accounting comparability $ACOMP_{it}$. A higher $ACOMP_{ijt}$ indicates that firm *i* exhibits higher accounting comparability with its foreign peers. We designate a firm as experiencing a low increase in comparability if its change from pre- to post-IFRS average $ACOMP_{it}$ is in the bottom tercile. Similarly, we designate a firm as experiencing a high increase in comparability if its change from pre- to post-IFRS average $ACOMP_{it}$ is in the bottom tercile.

Our third proxy for financial statement comparability is based on intra-industry information transfers around earnings announcements. Concurrent work by Yip and Young (2012) and Wang (2011) suggests that IFRS enhances financial statement comparability in terms of transnational information transfer. We construct an industry-level proxy for increased

comparability around IFRS adoption in the EU using the following four steps. First, for each earnings announcement date t of an EU firm i for fiscal years 2003 to 2006, we retrieve domestic market-adjusted returns for a three-day window around t for all EU firms in the same two-digit SIC group as i, provided they are not from the same country as i. Second, we compute the absolute value of the equally-weighted average return across all foreign industry peers of i around i's earnings announcement t and label it *ABS_PEER_EARET*_{it}. Third, we estimate the following regression separately for each two-digit SIC group with sufficient data available:

$$ABS_PEER_EARET_{it} = \alpha_0 + \alpha_1 IFRS + \beta_0 \Delta EPS_{it} + \beta_1 \Delta EPS_{it} * IFRS + \varepsilon_{it}$$
(6)

The unit of observation is a firm-earnings announcement date, and ΔEPS_{it} is firm *i*'s change in earnings per share from the previous fiscal year. Fourth, we consider industries to have experienced improved financial statement comparability if (i) the estimation *F*-test is statistically significant and (ii) β_I is significantly positive (with a one-tailed *p*-value below 0.10).

Results examining abnormal returns to insider purchases across sample partitions derived from these three comparability proxies are reported in Table 4. Panel A presents descriptive statistics for the DeFond et al. (2011) and DeFranco et al. (2011) measures. All differences across the low increase in comparability and high increase in comparability groupings are significant, suggesting significant variation in these variables. Further, untabulated statistics reveal significantly larger values for the DeFond et al. and DeFranco et al. measures post-IFRS.¹⁸

Panel B presents the multivariate analyses. We focus first on columns (1) and (2), which present returns to insider purchases over three-month return windows using the DeFond et al. (2011) proxy. We find that the coefficient on *IFRS* for firms having a high increase in

¹⁸ The univariate statistics for the DeFranco et al. (2011) measure appear to suggest that comparability decreases (e.g., the mean value of -0.063 in Panel A) in the bottom tercile. However, this measure likely contains noise in our setting: the Ret=f(E) function is estimated at the firm-level using rolling windows of four years, leading the post-IFRS measures to be estimated using a mix of pre- and post-IFRS observations.

comparability is significantly negative (-0.032, *t*-stat = -4.10). This coefficient is also marginally more negative than the coefficient on *IFRS* for firms having a low increase in comparability (*F*-test = 2.96, *p*-value < 0.10). Columns (3) and (4) present results using the DeFranco et al. (2011) proxy. Similar to the above, we find that the coefficient on *IFRS* for firms having a high increase in comparability is significantly negative (-0.045, *t*-stat = -5.08), and that this coefficient is more negative relative to firms that observe a low increase in comparability (*F*-test = 5.18, *p*-value < 0.05). Columns (5) and (6) present results using the intra-industry information transfer proxy. Again, we find that the coefficient on *IFRS* for firms having a high increase in comparability is significantly negative (-0.063, *t*-stat = -5.57), and more negative relative to firms with a low increase in comparability (*F*-test = 13.75, *p*-value < 0.01). Untabulated results using one- and six-month return windows are qualitatively similar. Overall, the table shows that the decrease in profitability of insider purchases is greater among firms having larger increases in financial statement comparability due to IFRS adoption.

Firm partitions

We now examine several firm partitions to better identify subsamples of UK firms where we posit that IFRS adoption is less likely to affect core information quality. This allows us to better isolate potential changes attributable to comparability (i.e., changes attributable to *across*firm information). Accordingly, we partition firms into those having high versus low *ex ante* core information quality. That is, even in a country setting such as the UK, in which firms' financial reports have high *average* information quality, there is likely firm-level variation. This variation can arise due to the nature of the firms' operations (i.e., how well the accounting system captures the related economic phenomena), or due to the implementation of the reporting

system by the firm. Thus, we seek to identify sub-samples of UK firms likely to have high core information quality. For this latter sample, we assume that observed changes in abnormal returns upon IFRS adoption are more likely attributable to changes in comparability versus changes in core information quality.¹⁹

To proxy for *ex ante* core information quality, we employ four measures: change in accruals, reconciling items from UK standards to IFRS, closely held shares, and analyst following.²⁰ We choose these measures to capture, respectively, the internal reporting environment, the reporting transition to IFRS, the ownership/governance structure of the firm, and the external reporting environment. We assume that insiders of firms having low change in accruals (e.g., Beneish and Vargus 2002), low levels of reconciling items, low levels of closely held shares, or high analyst following are likely to have fewer opportunities to trade on their private information. Accordingly, we designate as *ex ante* high information quality those firms having: the lowest tercile of change in accruals; below median reconciling items; lowest tercile of closely held shares; or highest tercile of analyst following. Conversely, we designate as ex ante low information quality those firms having: the highest tercile of change in accruals; above median reconciling items; highest tercile of closely held shares; or lowest tercile of analyst following. We measure accruals as the absolute difference between cash flow from operations and net income, scaled by total assets. We measure reconciling items using data from Horton and Serafeim (2010).²¹ If core information quality is high for firms having low change in

¹⁹ We further partition our sample by isolating firms with <u>both</u> (i) a high increase in comparability <u>and</u> (ii) high core information quality prior to IFRS. For example, we look at changes in insider purchase profitability for firms in the top tercile of change in comparability according to the DeFond et al. (2011) measure (i.e., high increase in comparability) and with high analyst following (i.e., *ex ante* high core information quality). Untabulated results continue to reveal significant decreases in abnormal returns for these subsamples of firms.

²⁰ Results are similar using size or market index membership. We use analyst following, as prior research argues this is a stronger proxy for the external information environment (Brennan and Subrahmanyam 1995).

²¹ This data consists of the magnitude and major line items reported by UK firms in their required reconciliations from UK domestic GAAP to IFRS used to provide comparative amounts. We designate firms as having low

accruals, low reconciling items, low closely held shares, or high analyst following, we assume that any observed change in abnormal returns to insider purchases is more likely due to changes in comparability.

Table 5 presents results to these sample partitions. Panel A presents descriptive statistics, revealing significant differences for all four proxies across subsamples designated as "low information quality" versus "high information quality," as expected. Panel B present the multivariate results. Across all regressions, the dependent variable is *BHRET*, the abnormal buy-and-hold return to insider purchases. We present results measuring abnormal returns for the three-month window; (untabulated) inferences using one-month and six-month windows are similar. Columns (1) and (2) present results using change in accruals; columns (3) and (4) use reconciling items; columns (5) and (6) use closely held shares; and columns (7) and (8) use analyst following.

We first focus on column (1) for firms reporting high change in accruals (i.e., firms expected to have *ex ante* low information quality). Among the control variables, abnormal returns to insider purchases are increasing in the size of the purchase (coefficient on *BUYSIZE* = 4.328, *t*-stat = 3.08) and volatility (coefficient on *VOLATILITY* = 1.455, *t*-stat = 1.77), and decreasing in lagged returns (coefficient on *RETLAG* = -0.014, *t*-stat = -1.49). The coefficient on *IFRS* is also significantly negative (-0.028, *t*-stat = -3.59); consistent *either* with benefits arising from improved comparability, or with improvements in core information quality (as this subsample of UK firms has *ex ante* low information quality).

However, our primary interest lies in column (2), which presents results for firms reporting low change in accruals (i.e., firms expected to have *ex ante* high information quality).

⁽high) reconciling items if the absolute magnitude of their total balance sheet reconciliation scaled by market capitalization is below (above) our sample median. We thank Horton and Serafeim for generously sharing their reconciliation data.

Results among the control variables are similar. Of note, the coefficient on *IFRS* remains significantly negative (-0.034, *t*-stat = -3.52). This suggests that even for firms with very high information quality (i.e., those having low change in accruals), abnormal returns to insider purchases are reduced following mandatory IFRS adoption.

Results across the remaining partitions are similar. Columns (3) and (4) present results partitioning the sample using reconciling items; in column (4), for the subsample with low reconciling items (i.e., high information quality), the coefficient on *IFRS* is significantly negative (-0.041. *t*-stat = -4.92). Columns (5) and (6) present results using closely held shares to partition the sample; in column (6), for firms with low closely held shares, the coefficient on *IFRS* is again negative (-0.014. *t*-stat = -1.87). Finally, columns (7) and (8) present results partitioning firms using analyst following; in column (8), for firms with high analyst following, the coefficient on *IFRS* is negative and significant (-0.016. *t*-stat = -2.15). If these proxies isolate UK firms unlikely to experience improvements in core information quality from IFRS adoption, the results remain consistent with improvements in financial statement comparability.

6. Sensitivity analyses

In this section, we assess the robustness of our results using several sensitivity analyses. First, we examine an alternative proxy for private information: analyst recommendation upgrades. Second, we investigate alternative specifications to mitigate concerns that our findings are confounded by time-effects unrelated to IFRS adoption. Next, we investigate an alternative measurement window: short-windows surrounding insider trades. Finally, we explore an alternative sample: AIM firms.

Alternative proxy for private information: analyst recommendation upgrades

We now examine a second proxy to capture private information: abnormal returns to analyst recommendation upgrades. Sell-side analysts act as information intermediaries, who aggregate and analyze firm, industry, and market-level data. This analysis leads to investment recommendations that are disseminated to analysts' clients. Following prior research (e.g., Healy and Palepu 2001), we consider sell-side analysts to represent an alternative group of informed market participants; however, we expect this group to be a noisier proxy for private information relative to insider purchases, as analysts are unlikely privy to the level of private information insiders possess. Similar to insiders, if IFRS improves comparability, this should reduce analysts' private information benefits. Thus, we predict that analysts' information advantage will be reduced after IFRS adoption.²²

We re-estimate Equation (1), replacing the dependent variable of *BHRET* with *BHRET_ARU*, the buy-and-hold return to analyst recommendation upgrades (i.e., "upgrades"). To identify upgrades, we compare a given analyst recommendation to the previous one issued by the same analyst for the same firm. We define as upgrades those recommendations that either: (i) are both more favorable than the previous issued recommendation, and have at least a "Hold" recommendation; or (ii) are first-time recommendations that are designated as a "Buy" or "Strong Buy." *BHRET ARU* is calculated similar to *BHRET*.²³

²² We note three issues surrounding the use of analysts to proxy for users having private information. First, both UK and EU regulations preclude selective disclosure of material information by companies to analysts. Second, consistent with our use of returns to insider *purchases* to proxy for private information benefits, we investigate changes in the profitability of analyst recommendation *upgrades*. However, it is unclear *ex ante* whether favorable analyst recommendations are more likely driven by "inside" information than unfavorable recommendations (e.g., McNichols and O'Brien 1997; Mayew 2008). Finally, we note that improved comparability may allow analysts to provide more informative recommendations, biasing against reduced returns to analyst recommendation upgrades following IFRS adoption.

²³ Specifically, we calculate the return measured across one-month, three-month, and six-month windows, for each analyst upgrade, beginning on the day following the upgrade. For each return, we then subtract the stock market return for the Datastream Total UK Index, calculated over the same window to arrive at an upgrade-specific

We include all the equation (1) independent variables in our analysis of recommendation upgrades (except for *BUYSIZE*) with the same predicted signs. The inclusion of these variables is motivated by analysts being informed agents whose recommendation upgrades are more likely to be profitable in stocks (i) that are undervalued and (ii) whose information environment is less transparent. Our variable of interest remains *IFRS*, as previously defined. We predict a negative coefficient if IFRS adoption reduces analysts' informational advantage by improving comparability.

Untabulated univariate results reveal reduced abnormal returns to analyst recommendation upgrades of 1.28% to 0.60% in the one-month return window, 2.94% to 0.83% in the three-month window, and 5.33% to 1.50% in the six-month window (all significant at the 5% level). Table 6 presents the multivariate results. Focusing on the three-month window in column (2), the coefficient on *IFRS* is significantly negative (-0.020, *t*-stat = -3.48), as predicted. Results are similar using a one-month window in column (1), and six-month window in column (3). Columns (4) and (5) then present results using the DeFond et al. (2011) comparability measure. While we observe reduced returns to analyst recommendation upgrades for firms exhibiting high increases in comparability (coefficient on *IFRS* = -0.025, *t*-stat = -2.68), we fail to find that this difference is more negative relative to firms exhibiting low increases in comparability (*F*-test = 1.02). Similarly, using the DeFrance et al. (2011) measure in Columns (6) and (7), we find reduced returns both for firms exhibiting low increases in comparability (coefficient on *IFRS* = -0.016, *t*-stat = -1.64) and high increases in comparability

abnormal return. Finally, we aggregate all analyst recommendation returns for a given fiscal year, weighting the recommendations by the relative magnitude of the upgrade, to derive a firm-level cumulative abnormal return to total upgrades. To weight the recommendation upgrades, we use a scale ranging from 1 ("Strong Buy") to 5 ("Strong Sell"). Thus, an upgrade from 3 ("Hold") to 2 ("Buy") receives a weight of one, whereas an upgrade from 4 ("Sell") to 2 ("Buy") receives a weight of two. Results are robust to alternative algorithms to aggregate the analyst upgrades.

(coefficient on IFRS = -0.023, *t*-stat = -2.13). However, we again fail to find that firms with high increases in comparability have relatively more negative returns (*F*-value = 0.16). Similarly, untabulated results indicate that IFRS adoption is associated with a significant decrease in the incidence of analyst recommendation upgrades, although the decrease is not more pronounced in firms experiencing a greater increase in comparability. Overall, the above results using analyst purchase recommendations as an alternative proxy for private information are consistent with (albeit weaker than) our primary results.

Confounding Effects Related to Time

Recall that our primary experimental variable is *IFRS*, which is an indicator that equals one for firms reporting under IFRS. It is possible that *IFRS* could be confounded by time-effects unrelated to IFRS adoption, raising challenges to the inferences. To mitigate concerns that contemporaneous events could affect our results (e.g., Christensen et al. 2011), we first note that results (untabulated) are robust to the following: including year indicator variables in addition to our experimental indicator variable of *IFRS*; including random year indicator variables in addition to our experimental indicator variable of *IFRS*; and including an indicator variable for observations post-2005 in addition to our experimental indicator variables absorbs confounding non-IFRS effects occurring within our sample period, this provides additional robustness for our inferences. Second, we exploit the staggered adoption of IFRS among mandatory adopters in the UK that arises from differences in fiscal year ends. This naturally partitions firms into subsets that adopt IFRS at different points in calendar time. We find that the decrease in abnormal returns to insider purchases coincides with IFRS adoption. Finally, we exclude 2005, the first year of IFRS

adoption, to eliminate effects that may be attributable to this transition year, such as firms providing greater levels of disclosure or higher scrutiny by investors and regulators. All results are robust to excluding this year.

Short-window returns to insider purchases

We repeat the primary results using a shorter measurement window to define the dependent variable. The primary analyses use longer windows (e.g., three-month), consistent with prior research (e.g., Seyhun 1998; Huddart and Ke 2007). We now define the dependent variable as the market-adjusted returns to insider purchases over the five-day period beginning one day after the trade occurs. Untabulated results are consistent with the primary analyses that rely on the longer measurement windows. Following Table 3, we find that abnormal returns to insider purchases decrease following IFRS adoption (coefficient on *IFRS* = -0.004, *t*-stat = -2.87). We also find some evidence that these returns are reduced more for those firms exhibiting the greatest increase in comparability, although this difference is statistically insignificant at conventional levels. Overall, the results are consistent with the primary findings, although weaker in cross-sectional partitions.

UK firms listed on the AIM

We now examine UK firms listed on the AIM, which is an exchange for smaller growing firms. Of note, AIM-listed firms are required to adopt IFRS effective fiscal 2007, thus delaying IFRS adoption by up to two years relative to UK firms listed on the main exchange. However, since UK standards are similar to IFRS, this leads to an expectation that the benefits of improved comparability should accrue even to UK firms not immediately adopting IFRS, as these benefits

arise primarily from adoption by *non-UK* firms (i.e., competitors). Of course, several institutional characteristics of AIM firms can attenuate these expectations: AIM firms tend to have weak performance and governance (Gerakos et al. 2011), are more likely to be locally focused in their operations, and have an unclear benchmark for evaluating abnormal returns (owing to their smaller size and generally higher riskiness). Consistent with these qualifications, results for the AIM firms are sensitive to their chosen risk adjustment. Using the AIM sample to replicate Table 3, we find a negative coefficient on *IFRS*, though it is significant only for the three-month return (-0.033, *t*-stat = -4.20) and six-month return (-0.064, *t*-stat = -4.90). Turning to the replication of Table 4, we fail to find evidence of relatively reduced abnormal returns to insider purchases for firms experiencing greater increases in comparability using the DeFond et al. (2011), DeFranco et al. (2001) or Yip and Young (2012) measures. Overall, the results using the AIM firms are consistent, but weaker, as compared to those results using UK firms listed on the main exchange.

7. Conclusion

This paper investigates whether mandatory IFRS adoption leads to capital market benefits through enhanced financial statement comparability. To isolate the effects of comparability, we use firms domiciled in the UK as our setting. Prior academic and practitioner research suggest that UK domestic standards are similar to those under IFRS. Thus, any effects of changing to IFRS for UK firms are less likely to reflect changes in the precision of reporting signals specific to these firms (i.e., "core information quality"), and are more likely to reflect changes in comparability (i.e., changes in core information quality for non-UK firms, or *across*firm reporting signals). We use as the dependent variable abnormal returns to insider purchases of stock, where insiders represent sophisticated users likely to possess private information. If IFRS reduces private information by enhancing the comparability of financial statements, we predict that abnormal returns to insider purchases will be reduced following mandatory IFRS adoption in the UK. Empirical results are consistent with these expectations, with abnormal returns to insider purchases decreasing following IFRS adoption across short (five-day) and long (one-, three-, and six-month) window return settings.

We further examine alternative partitions of firms to better isolate those most likely affected by changes in comparability versus core information quality upon mandatory IFRS adoption. To identify firms that experienced greater increases in comparability, we use three alternative measures based on: DeFond et al. (2011); DeFranco et al. (2011); and intra-industry information transfers adapted from Yip and Young (2012) and Wang (2011). We find that the reduction in abnormal returns to insider purchases is greater for firms having larger versus smaller increases in comparability. In addition, we use four proxies to identify firms having *ex ante* high quality core information: firms having low change in accruals, low reconciling items between UK standards and IFRS, low closely held shares, or high analyst following. Within each group, we continue to find lower abnormal returns to insider purchases subsequent to mandatory IFRS adoption, again consistent with improvements to comparability.

We infer that these results are consistent with mandatory IFRS adoption reflecting capital market benefits attributable to improved comparability. These results build on the substantial literature investigating the effects of IFRS adoption, particularly that examining comparability (e.g., DeFond et al. 2011, and Yip and Young 2012), by documenting that benefits to IFRS adoption are not limited to countries exhibiting large differences between domestic standards and IFRS, or to firms exhibiting low information quality. Rather, improvements can also accrue in

settings in which information quality is already high, and incumbent domestic standards are already similar to IFRS. These insights are likely of interest to continuing deliberations surrounding further IFRS adoption, including within the US and other countries. We note that while the UK provides unique advantages as an empirical setting, it likely also represents a lower bound in terms of potential capital market benefits from improved comparability, due to the relatively developed features of its reporting and capital markets. Future research may provide evidence of greater capital market benefits in other empirical settings.

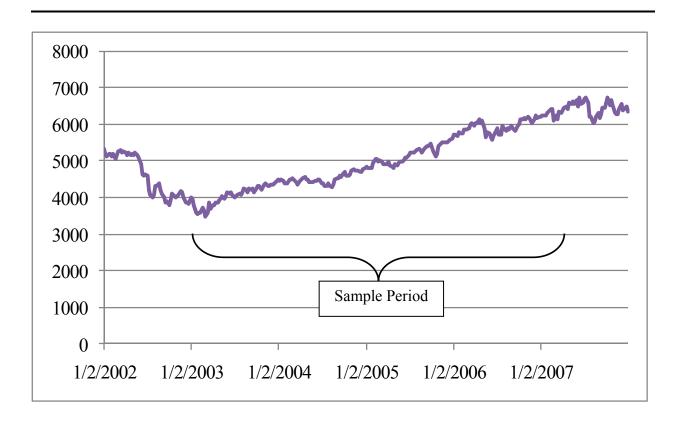
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Figure 1 Performance of UK FTSE 100 Index, 2002–2007



Notes:

This figure presents the weekly UK FTSE index closing values over the period January 1, 2002

through December 31, 2007.

TABLE 1 Sample selection

Panel A. Sample selection

		Unique Firms	Firm Years
All fir	ms listed on UK stock exchanges	2,988	9,832
Less:	firms that did not adopt IFRS by 2006	(1,796)	(5,647)
	firms without insider purchases	(404)	(1,164)
	firms lacking necessary financial or market data	(45)	(287)
	firms without pre- and post-2005 data	(80)	(118)
Final	Sample	663	2,616

Panel B. Comparison of sample firms to all UK firms

Variable	All UK Firms (<i>N</i> = 8,949)		Sample $(N = 2,$		Difference		
	Mean	Median	Mean	Median	Mean	Median	
Sales	1,068.380	18.705	2,744.870	249.046	< 0.001	< 0.001	
Net Income	47.565	0.487	130.895	8.171	< 0.001	< 0.001	
ROE	-1.644	0.012	-0.022	0.029	0.030	< 0.001	
Total Assets	3,952.810	53.620	11,721.460	335.803	< 0.001	< 0.001	
% firms with year-end of							
December	39.6%		44.7%		< 0.001		
non-December	60.4%		55.3%		< 0.001		

Panel C. Industry composition

Fama-French 12-Industry Classification	Firms	Firm-Years	% of Sample
01 – Consumer non-durables	45	179	6.84
02 – Consumer durables	12	48	1.83
03 – Manufacturing	50	197	7.53
04 – Energy	18	70	2.68
05 – Chemicals and allied products	18	71	2.71
06 – Business equipment	77	303	11.58
07 – Telecommunications	14	54	2.06
08 – Utilities	10	40	1.53
09 – Wholesale, retail	79	311	11.89
10 – Healthcare	32	126	4.82
11 – Finance	152	602	23.01
12 – Others	156	615	23.51
Total	663	2,616	100.00

Notes:

This table presents our sample selection and descriptive data. Panel A presents the sample selection. We begin with all firms listed on UK stock exchanges. We then exclude firms that did not adopt IFRS by 2006, with no insider purchases per the Directors Deal database, lacking necessary financial and market data, and not having data for both the pre-IFRS and post-IFRS periods. Panel B compares the sample firms to all firms listed on UK stock exchanges. Panel C presents the industry composition.

Variable	Mean	Std	1Q	Median	3Q
# insiders purchasing	1.667	1.900	0.000	1.000	2.000
# insiders selling	1.404	2.245	0.000	0.000	2.000
£ purchases (000s)	198.835	1,628.353	0.000	19.603	81.743
£ sales (000s)	1,450.529	10,474.060	0.000	0.000	566.312
Shares purchased /					
shares outstanding	0.100	0.800	0.000	0.005	0.051
(written as 100.000%)					
Shares sold /					
shares outstanding	0.340	1.416	0.000	0.000	0.131
(written as 100.000%)					

Panel A. Trade level descriptive statistics

Panel B. Firm level descriptive statistics (N = 2,616)

Variable	Mean	Std	1Q	Median	3Q
Dependent Variables:					
BHRET (1 month)	0.016	0.037	-0.001	0.000	0.013
BHRET (3 month)	0.030	0.068	-0.004	0.000	0.032
BHRET (6 month)	0.051	0.192	0.000	0.000	0.098
BHRET SELL (1 month)	0.001	0.041	0.001	0.000	0.000
BHRET SELL (3 month)	0.000	0.079	0.004	0.000	0.000
BHRET_SELL (6 month)	-0.007	0.123	-0.000	0.000	0.000
Independent Variables:					
BŪYSIZE	0.026	0.220	0.005	0.011	0.019
BM	1.622	2.589	0.546	1.058	1.877
SIZE	16.596	2.080	15.167	16.472	17.935
RD	0.304	0.460	0.000	0.000	1.000
CLOSEHELD	25.200	21.457	7.431	21.289	38.694
RETLAG	0.136	0.515	-0.137	0.062	0.308
VOLATILITY	0.066	0.006	0.063	0.064	0.067
IFRS	0.357	0.479	0.000	0.000	1.000

Notes:

This table presents the descriptive statistics. Panel A presents trade level data. Panel B presents data for firm-level variables used in our analyses; all variables are defined in Table 3.

TABLE 3Abnormal returns to insider purchases

Buy-Hold Return:	1-Mo	onth	3-M 0	onth	6-Month						
-	(1)	(2)	(3)	(4)	(5)	(6)					
Panel A. Univariate analysis (dependent variable is <i>BHRET</i>)											
-	Mean	Median	Mean	Median	Mean	Median					
Pre-IFRS ($N = 1,681$)	0.0208	0.0000	0.0401	0.0000	0.0675	0.0000					
Post-IFRS ($N = 935$)	0.0068	0.0000	0.0123	0.0000	0.0209	0.0000					
Difference (<i>p</i> -value)	< 0.001	0.012	< 0.001	< 0.001	< 0.001	< 0.001					
Panel B. Multivariate anal	lysis (dependent	t variable is <i>BH</i>	IRET)								
Intercept (?)	-0.053 (-1.79) *	-0.042 (-1.42)	-0.097 (-1.95) *	-0.074 (-1.48)	-0.190 (-2.39) **	-0.153 (-1.92) *					
$BUYSIZE_{jt}(+)$	2.426 (5.53) ***	2.422 (5.52) ***	2.604 (3.41) ***	2.594 (3.39) ***	3.848 (2.75) ***	3.832 (2.74) ***					
$BM_{jt}(+)$	-0.000 (-0.44)	-0.000 (-0.62)	0.001 (1.00)	0.001 (0.86)	0.004 (1.67) **	0.004 (1.60) *					
$SIZE_{jt}(-)$	-0.002 (-1.80) **	-0.001 (-1.44) *	-0.003 (-1.60) *	-0.002 (-1.21)	-0.005 (-1.77) **	-0.003 (-1.39) *					
$RD_{jt}(+)$	0.002 (0.44)	0.002 (0.45)	-0.003 (-0.32)	-0.003 (-0.30)	0.006 (0.45)	0.006 (0.47)					
$CLOSEHELD_{jt}(+)$	0.001 (0.04)	0.001 (0.16)	-0.001 (-0.61)	-0.001 (-0.48)	-0.001 (-0.04)	0.001 (0.08)					
$RETLAG_{jt}$ (-)	-0.003 (-0.96)	-0.004 (-1.40)	-0.008 (-1.65) **	-0.011 (-2.20) **	-0.012 (-1.60) *	-0.016 (-2.20) **					
$VOLATILITY_{jt}(+)$	0.723 (2.19) **	0.525 (1.58) *	1.200 (2.13) **	0.777 (1.37) *	2.406 (2.65) ***	1.728 (1.89) **					
$IFRS_{jt}(-)$		-0.012 (-4.64) ***		-0.026 (-5.98) ***		-0.042 (-5.67) ***					
Fixed Effects	Industry	Industry	Industry	Industry	Industry	Industry					
N Adjusted- R^2	2,616 0.079	2,616 0.086	2,616 0.054	2,616 0.064	2,616 0.063	2,616 0.074					

Notes:

This table presents abnormal returns to insider purchases. The sample includes UK firms that adopted IFRS in accordance with the 2002 EU directive. The sample period is 2003–2006; accordingly, the

experimental variable is *IFRS*, an indicator variable equal to one for observations reporting under IFRS, and zero otherwise (i.e., for observations reporting under UK domestic standards). UK firms adopted IFRS either 2005 or 2006, depending on the firm's fiscal year end. Panel A presents univariate results comparing abnormal returns across the pre- versus post-IFRS periods. Panel B presents multivariate results.

Across both panels, the dependent variable is *BHRET*, the abnormal buy-and-hold returns to insider equity purchases. Returns are calculated for three measurement windows: one-month; three-month; and six-month. To calculate abnormal buy-and-hold returns, we: (1) measure the stock return to each insider purchase starting from the day following the insider trade until the end of the indicated window (i.e., onemonth, three-month, or six-month); (2) subtract the stock return to the UK value-weighted index for the same window; and (3) aggregate all firm *j* insider trades for fiscal year *t*, weighting the trades by the relative shares transacted, to derive a firm-year cumulative abnormal return to total insider purchases.

Standards errors are clustered by firm. Untabulated industry fixed-effects are by 2-digit SIC code. ***, **, and * indicate significance for one-tailed tests at the 1%, 5%, and 10% levels, respectively.

The independent variables are:

- $BUYSIZE_{jt}$ the total number of shares purchased by insiders of firm j during year t divided by thenumber of shares outstanding at the end of year t;
- BM_{jt} firm *j*'s book-to-market ratio, measured at the end of fiscal year *t*-*1* preceding the insider trades;

- $SIZE_{jt}$ the log of firm *j*'s market capitalization (in \$ thousands) at the end of fiscal year *t*-1 preceding the insider trades;
- RD_{jt} indicator variable equaling 1 if firm *j* reports research and development expenses for fiscal year *t*-1 preceding the insider trades, and 0 otherwise;
- $CLOSEHELD_{jt}$ the percentage of firm *j*'s common shares that are closely held at the end of year *t*-1 preceding the insider trades;
- *RETLAG_{jt}* the market-adjusted cumulative return for firm j for year t-l preceding the insider trades;
- $VOLATILITY_{jt}$ the standard deviation of the residuals from a regression of firm *j*'s daily stock returns on the UK value-weighted market returns over year *t*-1 preceding the insider trades; and
- *IFRS_{jt}* an indicator variable equaling 1 if firm *j* reports under IFRS in year *t*, and 0 otherwise.

TABLE 4

Abnormal returns to insider purchases: alternative measures of comparability

Variable		Mean			Median	
	Low	High		Low	High	
	Increase in	Increase in		Increase in	Increase in	
<u> </u>	Comparability	Comparabili		Comparability	Comparability	/ Diff
DeFond et al. (2011)	1.302	2.431	< 0.01	1.235	2.191	< 0.01
DeFranco et al. (2011)	-0.063	0.136	< 0.01	-0.022	0.100	< 0.01
Panel B. Multivariate ar	nalyses					
Comparability Measure:	DeFond et	al. (2011)	DeFranco	et al. (2011)	Yip and Your / Wang (2	•
Increase in Comparability:	Low	High	Low	High	Low	High
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	-0.023	-0.050	-0.007	-0.012	-0.035	-0.073
Ĩ	(-0.27)	(-0.55)	(-0.12)	(-0.12)	(-0.66)	(-0.64)
$BUYSIZE_{it}(+)$	1.811	4.303	3.490	4.581	1.931	4.415
Ji ()	(2.01) **	(1.68) **	(3.19) ***	(2.88) ***	(2.59) ***	(2.22) **
$BM_{jt}(+)$	0.197	-0.154	0.012	0.220	-0.012	0.280
	(1.11)	(-1.12)	(0.11)	(1.14)	(-0.12)	(1.23)
$SIZE_{it}$ (-)	-0.002	-0.005	-0.002	-0.001	-0.004	0.002
λ.μ.()	(-0.73)	(-1.66) **	(-0.98)	(-0.35)	(-1.89) **	(0.57)
$R\&D_{it}(+)$	0.006	0.000	-0.026	-0.008	0.002	-0.009
$\operatorname{Rec}_{fl}(Y)$	(0.34)	(0.02)	(-1.63)	(-0.49)	(0.22)	(-0.59)
$CLOSEHELD_{it}(+)$	0.000	-0.000	-0.000	-0.000	-0.000	0.000
$CLOSLILLD_{jt}(+)$	(0.29)	(-0.53)	(-1.10)	(-1.09)	(-0.94)	(0.41)
$RETLAG_{it}$ (–)	-0.004	-0.017	-0.012	-0.015	-0.008	-0.019
$\operatorname{Im}(f)$	(-0.63)	(-1.69) **	(-1.06)	(-2.05) **	(-1.33)	(-2.10) **
$VOLATILITY_{it}(+)$	-0.216	1.345	1.202	-0.054	0.513	1.123
\mathcal{O} Definition $\mathcal{O}_{jt}(\mathcal{O})$	(-0.24)	(1.43)	(2.12) **	(-0.05)	(0.81)	(1.02)
$IFRS_{it}$ (–)	-0.014	-0.032	-0.016	-0.045	-0.018	-0.063
$\prod_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i$	(-1.85) **	(-4.10) ***	(-2.23) **	(-5.08) ***	(-3.75) ***	(-5.57) **
Fixed Effects	Industry	Industry	Industry	Industry	Industry	Industry
F-test of coefficients:						
IFRS _{LOW} > IFRS _{HIGH}	2.9	6 *	5.1	8 **	13.75 *	***
N Inon	868	878	832	832	2,103	513
Adjusted- R^2	0.062	0.082	0.128	0.108	0.058	0.110

Notes:

This table presents abnormal returns to insider purchases for two groups of firms: those experiencing low versus high increases in comparability. The sample includes UK firms that adopted IFRS in accordance with the 2005 EU directive. The sample period is 2003–2006; the experimental variable is *IFRS*, an indicator variable equal to one for observations reporting under IFRS, and zero otherwise (i.e., for observations reporting under UK domestic standards). UK firms adopted IFRS either 2005 or 2006, depending on the firm's fiscal year end.

To operationalize comparability, we use three measures. First, in columns (1) and (2), we use the ratio proposed in DeFond et al. (2011). This represents the increase in the pool of peer firms using the same set of standards, calculated for each 2-digit SIC industry group in our sample. The numerator is the number of UK firms plus the number of firms in other E.U. countries, which report under IFRS by 2006. The denominator is the number of UK firms reporting under UK domestic standards in 2003 and 2004. We designate firms as experiencing a low (high) increase in comparability if their industry is in the bottom (top) tercile of the percentage increase in comparable peers.

Second, in columns (3) and (4), we use the method proposed by DeFranco et al. (2011) and adapted by Lang et al. (2010) and Yip and Young (2012) for cross-country analysis. We estimate a firm-year specific accounting function based on a regression of earnings on stock returns (see Equation (2)). We then compute a firm's expected earnings using its own accounting function and that of its non-UK 2-digit SIC industry peers (see Equations (3) and (4)). The average difference between a firm's expected earnings using its own accounting function and that of its peers multiplied by minus one constitutes the firm-year specific accounting comparability (*ACOMP*) measure (see Equation (5)). We designate firms as experiencing a low (high) increase in comparability if their change from pre- to post-IFRS average $ACOMP_{it}$ is in the bottom (top) tercile.

Third, in columns (5) and (6), we use an intra-industry information transfer method adapted from Yip and Young (2012) and Wang (2011). For each firm-year in our sample with a non-missing earnings announcement date, we compute the absolute value of the equally-weighted mean three-day market-adjusted return across all the firm's foreign industry peers within the EU, based on 2-digit SIC industry classification, centered around the earnings announcement. We then regress that absolute return on the firm's change in annual EPS and its interaction with an indicator for fiscal years where financial reports are filed under IFRS, and estimate the coefficients separately for each 2-digit SIC group. We designate firms in a given industry as experiencing a high increase in comparability if the industry-level model is significant (as per an F test) and the coefficient on the interaction between the change in EPS and IFRS is significantly positive (with a one-tailed p-value below 0.10), and all others as experiencing a low increase in comparability.

In all regressions, the dependent variable is *BHRET*, the three-month abnormal buy-and-hold returns to insider purchases, calculated in three steps: (1) measure the stock return to each insider purchase over the three-month window beginning with the day following the insider trade; (2) subtract the stock return to the UK value-weighted index for the same window; and (3) aggregate all firm *j* insider trades for fiscal year *t*, weighting the trades by the relative shares transacted, to derive a firm-year cumulative abnormal return to total insider purchases. All other variables are defined in Table 3.

Standards errors are clustered by firm. Untabulated industry fixed-effects are by 2-digit SIC code. ***, **, and * indicate significance for one-tailed tests at the 1%, 5%, and 10% levels, respectively.

TABLE 5Abnormal returns to insider purchases: firm partitions

Panel A. Descriptive statistics

Variable	Mean			Median		
	Low	High		Low	High	
	Information Quality	Information Quality	Diff	Information Quality	Information Quality	Diff
Changes in Accruals	0.070	-0.068	< 0.01	0.038	-0.036	< 0.01
Reconciling Items	0.163	0.011	< 0.01	0.089	0.009	< 0.01
Closely Held Shares	47.432	5.605	< 0.01	46.924	1.230	< 0.01
Analyst Following	0.162	2.364	< 0.01	0.000	2.398	< 0.01

Partition:	Change in	Accruals	Reconciling Items		Closely He	eld Shares	Analyst Following	
Core Information Quality:	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
Proxy:	High Accruals	Low Accruals	High Reconciling Items	Low Reconciling Items	High Closely Held Shares	Low Closely Held Shares	Low Analyst Following	High Analyst Following
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	-0.131	0.032	-0.096	0.039	0.062	0.014	-0.056	-0.079
	(-1.70) *	(0.29)	(-0.71)	(0.43)	(0.64)	(0.14)	(-0.87)	(-0.67)
$BUYSIZE_{jt}(+)$	4.328	1.695	1.002	2.720	2.159	1.029	2.649	1.629
	(3.08) ***	(1.58) *	(0.83)	(1.91) **	(2.51) ***	(0.57)	(2.31) **	(0.76)
$BM_{jt}(+)$	0.187	0.145	0.001	0.001	0.127	-0.157	0.036	0.251
	(0.69)	(0.55)	(0.51)	(0.63)	(0.70)	(-1.34)	(0.39)	(0.61)
$SIZE_{jt}$ (-)	-0.001	-0.003	-0.005	-0.002	-0.001	-0.003	0.003	-0.005
	(-0.24)	(-0.92)	(-1.50) *	(-0.76)	(-0.45)	(-1.28)	(1.13)	(-1.56) *
$R\&D_{jt}(+)$	-0.008	0.011	-0.009	-0.012	-0.021	0.005	-0.002	-0.016
	(-0.36)	(0.75)	(-0.73)	(-0.84)	(-1.49) *	(0.31)	(-0.15)	(-1.26)
$CLOSEHELD_{jt}(+)$	-0.000	-0.000	-0.000	-0.000	-0.000	0.000	-0.000	-0.000
	(-0.64)	(-0.40)	(-0.37)	(-0.49)	(-0.27)	(0.73)	(-0.07)	(-0.98)
$RETLAG_{jt}$ (-)	-0.014	-0.023	0.004	-0.027	-0.007	-0.019	-0.002	-0.021
	(-1.49) *	(-2.61) ***	(0.43)	(-3.00) ***	(-0.77)	(-1.99) **	(-0.20)	(-2.22) **
$VOLATILITY_{jt}(+)$	1.455	0.549	3.001	0.989	-0.586	1.412	0.224	3.274
	(1.77) **	(0.55)	(1.74) **	(0.99)	(-0.74)	(1.06)	(0.34)	(2.38) ***
$IFRS_{jt}(-)$	-0.028	-0.034	-0.014	-0.041	-0.034	-0.014	-0.019	-0.016
	(-3.59) ***	(-3.52) ***	(-2.10) **	(-4.92) ***	(-4.05) ***	(-1.87) **	(-2.84) ***	(-2.15) **
Fixed Effects	Industry	Industry	Industry	Industry	Industry	Industry	Industry	Industry
N	855	852	927	923	870	874	1,055	871
Adjusted-R ²	0.125	0.094	0.105	0.133	0.090	0.091	0.102	0.098

Panel B. Multivariate analyses

Notes:

This table presents abnormal returns to insider purchases across firms partitioned by low versus high information quality. We use four partitions to capture information quality: change in accruals (where accruals are defined as the absolute difference between cash flows from operations and net income, scaled by total assets) in columns (1) and (2); reconciling items between UK standards and IFRS (scaled by market capitalization) in columns (3) and (4); (percent) closely held shares in columns (5) and (6); and analyst following in columns (7) and (8). We designate as low information quality those firms having top tercile of change in accruals, above median reconciling items, top tercile closely held shares, or bottom tercile analyst following. We designate as high information quality those firms having bottom tercile of change in accruals, below median reconciling items, bottom tercile closely held shares, or top tercile analyst following. Accordingly, columns (1), (3), (5), and (7) represent samples having low information quality; columns (2), (4), (6), and (8) represent samples having high information quality; that latter columns are of primary interest.

Across all columns, the sample includes UK firms that adopted IFRS in accordance with the 2002 EU directive. The sample period is 2003–2006; the experimental variable is *IFRS*, an indicator variable equal to one for observations reporting under IFRS, and zero otherwise (i.e., for observations reporting under UK domestic standards). UK firms adopted IFRS either 2005 or 2006, depending on the firm's fiscal year end.

The dependent variable is *BHRET*, the three-month abnormal buy-and-hold returns to insider equity purchases, calculated in three steps: (1) measure the stock return to each insider purchase over the three-month window beginning with the day following the insider trade; (2) subtract the stock return to the UK value-weighted index for the same window; and (3) aggregate all firm *j* insider trades for fiscal year *t*, weighting the trades by the relative shares transacted, to derive a firm-year cumulative abnormal return to total insider purchases. All other variables are defined in Table 3.

Standards errors are clustered by firm. Untabulated industry fixed-effects are by 2-digit SIC code. ***, **, and * indicate significance for one-tailed tests at the 1%, 5%, and 10% levels, respectively.

	Base Regres	sion (Replication	n of Table 3)	Comparability Measures (Replication of Table 4)				
				DeFond e	t al. (2011)	DeFranco et al. (2011)		
	1-Month	3-Month	6-Month	Low Increase in Comparability	High Increase in Comparability	Low Increase in Comparability	High Increase in Comparability	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Intercept	-0.025	-0.141	-0.402	-0.085	-0.032	0.169	-0.033	
	(-0.69)	(-1.70) *	(-2.78) **	(-0.85)	(-0.21)	(1.15)	(-0.25)	
$BM_{jt}(+)$	0.001	0.005	0.014	1.367	1.648	0.255	0.975	
	(0.74)	(1.65) *	(2.46) ***	(1.83) **	(2.30) ***	(1.13)	(1.32)	
$SIZE_{jt}(-)$	-0.001	-0.003	-0.002	-0.006	0.002	-0.003	-0.007	
	(-0.19)	(-1.54) *	(-0.60)	(-1.26)	(0.55)	(-0.27)	(-1.32)	
$R\&D_{jt}(+)$	-0.010	-0.013	-0.011	-0.055	0.012	-0.020	-0.005	
	(-1.79)	(-1.05)	(-0.59)	(-1.96)	(0.80)	(-0.81)	(-0.25)	
$CLOSEHELD_{jt}(+)$	0.000	-0.001	0.001	-0.001	0.001	-0.000	-0.000	
	(0.49)	(-0.35)	(0.89)	(-1.78)	(1.74) **	(-1.07)	(-0.69)	
$RETLAG_{jt}(-)$	-0.009	-0.019	-0.041	-0.011	-0.029	-0.018	-0.019	
	(-2.23) **	(-2.42) ***	(-2.69) ***	(-0.71)	(-2.45) ***	(-1.05)	(-1.62) *	
$VOLATILITY_{jt}(+)$	0.500	0.721	4.364	1.457	-0.089	-2.448	-0.095	
	(1.11)	(0.68)	(2.32) **	(1.21)	(-0.05)	(-1.29)	(-0.05)	
$IFRS_{jt}(-)$	-0.007	-0.020	-0.029	-0.010	-0.025	-0.016	-0.023	
	(-2.41) ***	(-3.48) ***	(-2.83) ***	(-0.91)	(-2.68) ***	(-1.64) *	(-2.13) **	
Fixed Effects	Industry	Industry	Industry	Industry	Industry	Industry	Industry	
<i>F</i> -test of coefficients:								
$IFRS_{LOW} > IFRS_{HIGH}$	n/a	n/a	n/a	1.	02	0.	16	
N	1,757	1,757	1,757	483	650	488	592	
Adjusted-R ²	0.047	0.054	0.073	0.098	0.076	0.155	0.091	

TABLE 6Abnormal returns to analyst recommendation upgrades

Notes:

This table presents abnormal returns to analyst recommendation upgrades. The sample includes UK firms that adopted IFRS in accordance with the 2002 EU directive. The sample period is 2003–2006; the experimental variable is *IFRS*, an indicator variable equal to one for observations reporting under IFRS, and zero otherwise (i.e., for observations reporting under UK domestic standards). UK firms adopted IFRS either 2005 or 2006, depending on the firm's fiscal year end.

We replicate the findings of Table 3 using Columns (1), (2), and (3) examine the abnormal returns to analyst recommendation upgrades over one-month, three-month, and six-month measurement windows, respectively. We replicate the findings of Table 4 using Columns (4) and (5) to partition firms based on the comparability proxy developed by DeFond et al. (2011), and Columns (6) and (7) to partition firms based on the comparability proxy developed by DeFranco et al. (2011).

Across all columns, the dependent variable is *BHRET_ARU*, abnormal buy-and-hold returns to analyst recommendation upgrades. We define as upgrades those recommendations that either: (i) are both more favorable than the previously issued recommendation, and have at least a "Hold" recommendation; or (ii) first-time recommendations that are designated as a "Buy" or "Strong Buy." We calculate abnormal buy-and-hold returns using three steps: (1) measure the one-month, three-month, or six-month stock return to each analyst recommendation upgrade starting from the day following the recommendation's disclosure; (2) subtract the stock return to the

UK value-weighted index for the same window; and (3) aggregate all recommendation upgrades across analysts for firm j for year t to derive a firm-year cumulative abnormal return to analyst recommendation upgrades.

Standards errors are clustered by firm. Untabulated industry fixed-effects are by 2-digit SIC code. ***, **, and * indicate significance for one-tailed tests at the 1%, 5%, and 10% levels, respectively. All other variables are defined in Table 3.