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How do financial analysts interpret industrial firms' corporate refocusing announcements?

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Abstract

This study investigates how analysts perceive the effect of corporate refocusing announcements on UK industrial firms' future earnings by examining current-year and one-year-ahead earnings forecast revisions, current-year target price revisions and earnings forecast errors in the five years surrounding a refocusing announcement year. The results reveal that analysts adjust their earnings forecasts downward in a refocusing announcement year and the following two years, predicting that operating performance in the post-refocusing period is likely to decline relative to their former earnings forecasts. Secondly, there is no evidence that analysts issue biased earnings forecasts after refocusing announcements or that their forecasts appear less accurate. Thirdly, they adjust their earnings forecasts downward in a refocusing announcement year with downward market movement. However, they do not similarly adjust their earnings forecast upward with upward market movement. The magnitude of downward adjustments exceeds that of upward adjustments. They also adjust current-year target price forecasts downward with downward market movement in the year prior to a refocusing announcement.

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Key words: Corporate refocusing activities, earnings forecast revisions, target price revisions, forecast errors.

JEL: G14, G34, M40.

1. Introduction

A review of the decades from the 1960s to the 2000s reveals an increase in the frequency and value of corporate refocusing activities in both the UK and the US (Mulherin and Boone, 2000; Haynes, Thompson and Wright, 2003; Powell and Yawson, 2005; Colak, 2010; Donelson, Jennings and McInnis, 2011). These corporate events draw the attention of the investment community because (i) they represent significant changes to firms' business strategies, which can alter the sustainability of earnings, cash flows and dividends (Mak, Strong and Walker, 2011; Mak, 2014); (ii) they introduce a series of material restructuring charges that can make it difficult for analysts to identify firms' core operating income, which indicates the sustainability of earnings (Penman, 2010; Donelson *et al.*, 2011; Wahlen, Baginski and Bradshaw, 2011; Mak, et al. 2011)[1]; and (iii) the uncertainty of firms' operational performance in the post-refocusing period complicates analysts' forecasting (Alford and Berger, 1999). Therefore, these events provide a unique opportunity to study the process by which analysts interpret information when uncertainty arises (Ramnath, Rock and Shane, 2008; Bradshaw, 2012). As analysts' forecasts are one of the main information sources guiding investors' decision making, their efficiency could affect the process of pricing in the capital markets; this particularly applies in case of refocusing.

This paper firstly investigates how analysts interpret refocusing announcements. It does so by examining the changes in forecast revisions (i.e., current-year and one-year-ahead earnings forecasts and current-year target price forecasts) in the five years centred on a refocusing announcement year (here after the five-year period). Secondly, it examines how refocusing announcements and restructuring charges affect earnings forecast bias and accuracy in the five-year period. Thirdly, it focuses on how analysts adjust their forecasts in response to good news

[1] Please refer to Mr. P. Malmqvist's presentation of "ICAS – What is performance?" at 39th European Accounting Association annual congress at Maastricht, Netherland, on 12th May 2016.

and bad news proxied by excess stock returns. The study conjectures that to minimise forecast errors and bias when they encounter the uncertainty associated with refocusing, analysts might exploit the opportunity to collect information about firms' refocusing plans and monitor their performance (Barron, Kim, Lim and Steven, 1998; Barron, Byard and Yu, 2008)[2]. In addition, they cannot ignore former errors or the information about future earnings revealed in share prices (Clement, Hales and Xue, 2011; Ho, Strong and Walker, 2012). In other words, analysts' forecasting behaviour might be different when they encounter the uncertainty associated with refocusing than when they operate in a normal business environment, as suggested by the underreaction hypothesis (Abarbanell, 1991; Abarbanell and Bernard, 1992; Zhang 2006) and the systematic optimism literature (Das, Levine and Sivaramakishnan, 1998; Eastwood and Nutt, 1999).

The results demonstrate that analysts adjust current-year and one-year-ahead earnings forecasts downward in a refocusing announcement year and the following two years. They also adjust the target price downward in the year preceding and the year after a refocusing announcement year. These findings suggest that firms' operating performance in a post-refocusing period is likely to decline relative to analysts' former earnings forecasts. The research further reveals material current-year earnings forecast errors in a refocusing announcement year and the year prior to a refocusing announcement. However, there is no evidence to indicate that analysts issue biased current-year and one-year-ahead earnings forecasts or that their forecasts are less accurate in two years following a refocusing announcement. Finally, they react asymmetrically to bad news and good news. They adjust current and one-year-ahead earnings forecasts downward where there is downward market movement in the refocusing announcement

[2] Please see also the Thomson Reuters' user manual for I/B/E/S data – "Methodology for estimates: a guide to understanding Thomoson Reuters methodologies, terms and policies for I/B/E/S estimates databases" (July 2013, p.8).

year. However, they do not similarly adjust earnings forecasts upward with upward market movement. The magnitude of downward adjustments is greater than that of upward adjustments. Analysts also adjust current-year target price forecasts downward with downward market movement in the year prior to a refocusing announcement.

This paper contributes to the literature by providing up-to-date evidence to demonstrate how analysts derive forecasts when encountering the uncertainty associated with the refocusing. This is important because since the work of Chaney, Hogan and Jeter (1999), there have been few studies which have reported the effect of refocusing on analysts' forecasts (Bradshaw, 2012). Differing from Chaney et al. (1999), I adopt a propensity score-matching technique to focus exclusively on the effect of refocusing announcements on analysts' forecasts after controlling for other factors that might inform managers' refocusing decisions. Secondly, I observe that analysts' forecasts are efficient for the five-year period. During this period, they learn from past errors and reflect on the information revealed by past stock returns. They also refer to a wealth of information to minimise their forecast errors and bias. Apart from the five-year period, my results show that their forecasts are inefficient for the rest of the period. Thirdly, I demonstrate that analysts' asymmetric reactions to good and bad news are based on the nature of the refocusing announcements. These results contribute to the debate about the rationality of analysts' forecasts.

This paper adopts Mak *et al.*'s (2011) definition of corporate refocusing as a type of asset restructuring. A firm can undertake refocusing in three ways. The first is downsizing by divesting peripheral, loss-making or unimportant business segments to focus on its original core business. Second, in addition to divesting, it can intensify investment in its original core business

by acquiring related business segments. Third, it can exit its original core business after a series of divestments to acquire a new business and enter a new core area.

The structure of the remainder of the paper is as follows: Section 2 presents the literature review and hypotheses; Section 3 describes the research design; Section 4 describes the research sample and the data; Section 5 reports the empirical findings; and Section 6 concludes.

2. Literature review and hypotheses

2.1 Changes in analysts' interpretations of firms' refocusing announcements

The content of the information issued in a refocusing announcement informs the variations noted in analysts' forecasts. This study covers the activities of downsizing, investing in an original core business, and entering into a new business. These activities involve the utilisation of any disposal proceeds. A downsizing announcement might be treated as good news if the firm states that it will utilise disposal proceeds to relieve any financial distress and to improve future operating performance (Ofek, 1993; Lasfer, Sudarsanam and Taffler 1996). However, an announcement might be treated as bad news if the assets' disposal proceeds are less than the net present value of the expected future cash inflows generated by the assets (Penman, 2010). This occurs when firms do not bargain for an optimal selling price for assets and simply search for a quick sale, acting under the pressure of financial distress (Shleifer and Vishny, 2002). The worst situation arises when firms forego profitable investment projects and are unsuccessful in reducing financial distress (Myers, 1977), as this can affect long-term firm performance. An announcement of intention to focus on the original core business might be treated as good news if the firm will invest the disposal proceeds in the related profit-making business and maintain financial flexibility (Hite, Owers and Rogers, 1987). However, it might be treated as bad news if

managers are judged to be making sub-optimal investments in pursuit of personal benefits and power, instead of protecting shareholders' wealth creation (Jensen, 1986). Jensen's free cash-flow theory is applicable to announcements when entering a new business. Furthermore, in comparison to the former two types of announcements, the risk and uncertainty when embarking on a new business is considered greater. Managers encounter difficulties convincing analysts and investors of the feasibility of their proposals and in persuading them to treat these proposals as good news. Details about refocusing announcements also affect analysts' forecasts, particularly when assessing the feasibility of firms' refocusing plans. Detailed announcements also show managers' strong commitment to turning around their firm's strategic positions. Therefore, I hypothesise that:

H1a: Analysts' current-year earnings forecast revisions are negatively (positively) associated with the refocusing announcement year if they expect a decline (improvement) in firms' future earnings.

H1b: Analysts' one-year-ahead earnings forecast revisions are negatively (positively) associated with the refocusing announcement year if they expect a decline (improvement) in firms' future earnings.

The target price represents the analyst's view of a firm's value after considering different types of information, including long-term earnings forecasts (Bradshaw, 2012). As refocusing activities represent significant changes to business strategy and might alter the pattern of future earnings and cash flows, I further hypothesise that:

H1c: Analysts' target price revisions are negatively (positively) associated with the refocusing announcement year if they expect a decline (improvement) in firms' future earnings performance.

2.2 Analysts' forecast bias, accuracy and efficiency of processing information

One stream of studies shows that analysts underreact to the information revealed in prior stock price changes (Abarbanell, 1991; Ali et al., 1992) and their own past errors (Ali et al., 1992). Chaney, Hogan and Jeter (1999) do not find these results but show that analysts' forecast bias and accuracy decline in the year following restructuring charges. They conclude that analysts are still optimistically biased. On the other hand, Thomson Reuters presents that analysts provide their "best guess" in deriving forecasts and monitoring firms' performance during the period of refocusing (see footnote 2). Therefore, it is important to investigate the changes in forecast bias and accuracy in the year following a refocusing announcement while controlling for the effect of prior stock returns and past errors. I hypothesise that:

H1d: Analysts' current-year forecast errors (absolute errors) in the year after a refocusing announcement are negatively (positively) associated with the refocusing announcement year.

H1e: Analysts' one-year-ahead forecast errors (absolute errors) in the year after a refocusing announcement are negatively (positively) associated with the refocusing announcement year.

2.3 Analysts' asymmetric reactions to good and bad news

Easterwood and Nutt (1999) argue that the nature of news affects analysts' reactions. For example, their results show analysts systematically overreact to positive prior earnings performance and underreact to negative prior earnings performance. Kasznik and McNichols (2002) find analysts' forecast revisions exhibit a differential response to positive and negative earnings surprises. Elsewhere, Zhang (2006) shows analysts adjust their earnings forecasts upwards following good news, but adjust forecasts downwards more strongly following bad news and when they are subject to greater information uncertainty. He argues that these results are consistent with a post-analyst-revision drift and support the hypothesis that analysts

underreact. Ho, Strong and Walker (2012) explain this phenomenon in relation to the information disclosure behaviour of managers (Kothari *et al.*, 2009). They conjecture that analysts obtain good news from managers privately, but discover bad news only when managers announce it. In other words, analysts' asymmetric reactions to good news and bad news are stronger when managers accumulate and disclose more bad news. Helbok and Walker (2003) show that analysts are aware of the effect of accounting conservatism on reported earnings and how it affects future earnings. At the beginning of a financial year, they derive earnings forecasts based on sustainable earnings and ignore the impact of transitory items on the current-year earnings. Later in the year, they adjust their current-year earnings forecasts in response to good news and bad news of transitory items.

I argue that there is asymmetric timeliness in the realization of good and bad news in relation to refocusing events. When firms undertake refocusing, costs are incurred (e.g., restructuring charges, costs of labour cutting and compensation). The realisation of benefits (such as the possibilities for improvement in future earnings) is linked to how managers undertake refocusing in the future. The asymmetry in the realisation of bad news and good news is reflected in reported earnings and accruals via conditional conservatism (Mak *et al.* 2011). This implies that analysts' reactions to bad news differ from their reactions to good news. Therefore, the following hypotheses are developed:

H2a (2b, 2c): Analysts' current-year earnings forecast (one-year-ahead earnings forecast, target price) revisions are more strongly associated with bad news (proxied by firms' negative excess stock returns) in a refocusing announcement year than with good news (proxied by firms' positive excess stock returns).

3. Research design

3.1 Analysts' forecast revisions

Following Hoden, Peel and Thompson (1990), I define analysts' current-year and one-year-ahead earnings forecast revisions and target price revisions as follows (please refer to Figure 1 for the various time points).

$$FRV_{i,t}^{t} = \left(F_{i,m1}^{t} - F_{i,m12}^{t}\right) \Big/ P_{i,t-1} \tag{1}$$

where $FRV_{i,t}^{t}$ denotes the current-year earnings forecast revision for firm *i* in year *t*[3],

$F_{i,m1}^{t}$ is mean current-year earnings forecast for firm *i* in the 1st-month before the I/B/E/S earnings announcement date of year *t*[4],

$F_{i,m12}^{t}$ is mean current-year earnings forecast for firm *i* in the 12th-month before the I/B/E/S earnings announcement date of year *t*, and

$P_{i,t-1}$ is the price per share 12 months before the I/B/E/S earnings announcement date of year *t*.

I calculate one-year-ahead earnings forecast revisions ($FRV_{i,t}^{t+1}$) in the same fashion by replacing $F_{i,m1}^{t}$ with $F_{i,m1}^{t+1}$ and $F_{i,m12}^{t}$ with $F_{i,m12}^{t+1}$. The definition of target price revisions is

$$TPRV_{i,t}^{t} = \left(TP_{i,m1}^{t} - TP_{i,m12}^{t}\right) \Big/ P_{i,t-1} \tag{2}$$

where $TPRV_{i,t}^{t}$ denotes the current-year target price revision for firm *i* in year *t*,

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[3] For $FRV_{i,t}^{t}$ the superscript *t* indicates that the forecast revision (FRV) of firm *i* is for the current year. The subscript *t* indicates that the forecast is made during the current year. For, $FRV_{i,t}^{t+1}$, the superscript t+1 indicates that the forecast revision (FRV) of firm *i* is for one-year-ahead. The subscript *t* remains the same as the above. The same fashion of presentation is for other variables of forecasts.

[4] I obtain similar results and the same conclusion when adopting the median earnings forecasts for deriving forecast revisions and forecast errors in Section 3.2.

$TP^{t}_{i,m1}$ is the mean current-year target price forecast for firm *i* in the 1st-month before the I/B/E/S earnings announcement date of year *t*, and

$TP^{t}_{i,m12}$ is the mean current-year target price forecast for firm *i* in the 12th-month before the I/B/E/S earnings announcement date of year *t*.

(Insert Figure 1 here)

Chaney *et al*. (1999, 2000) assert that analysts do not typically adjust three-years-ahead and five-years-ahead earnings forecasts downward. This implies they consider the effect of restructuring charges on earnings as only short term. However, the literature pertaining to market performance and restructuring indicates that it takes time (i.e., two to three years) to realise the benefits and cost advantages of restructuring (Bartov, Lindahl and Ricks, 1998; Bates, 2005; Mak, Strong and Walker, 2011), which might be expected to influence analysts' forecasts. In other words, firms' earnings performance in a post-refocusing period might then affect analysts' forecasts, causing them to differ from their forecasts prior to a refocusing announcement. Accordingly, this research measures the earnings forecast revisions and target price revisions over the five-year period. The univariate results demonstrate how analysts' perception changes in response to the information disclosed by firms. Subsequently, I test hypotheses *H1a*, *H1b* and *H1c* applying the following multivariate model (3).

$$FRV^{t}_{i,t} = \vartheta + \lambda_1 OI_{i,t} + \lambda_2 UNEXP_{i,t} + \lambda_3 UNEXP_{i,t} OI_{i,t} + \sum_{f=-2}^{2} \rho_f D_f + \sum_{f=-2}^{2} \delta_f D_f OI_{i,f} + \sum_{f=-2}^{2} \varphi_f D_f UNEXP_{i,f} + \sum_{f=-2}^{2} \gamma_f D_f UNEXP_{i,f} OI_{i,f} + \lambda_4 AR_{it,} + \lambda_5 RECESS_{t-12m} + \lambda_6 Hindex_{d,i,t} + \sum_{y=98}^{2010} \upsilon_y D_y + \varepsilon_{i,t} \quad (3)$$

where $FRV^{t}_{i,t}$ denotes the current-year earnings forecast revisions for firm *i* in year *t*, as it is defined at model (1). It can be replaced by one-year-ahead earnings forecast revisions ($FRV^{t+1}_{i,t}$) or the current-year target price revision ($TPRV^{t}_{i,t}$). $OI_{i,t}$ is an indicator variable equal to 1 if the

operating income to net total assets ratio for firm *i* in year *t* is less than zero and is 0 otherwise. As Ali, Klein and Rosenfeld (1992) show, analysts' forecasts are biased upwards for firms experiencing operating losses; therefore, the coefficient λ_1 should be negative. $UNEXP_{i,t}$ denotes unexpected earnings, defined as the price-scaled earnings forecast errors for firm *i* in year *t-1* (Er_{t-1}^{t-1}), as expressed in model (4) in the following. Its coefficient λ_2 measures the association between forecast revisions and unexpected earnings. $UNEXP_{i,t}OI_{i,t}$ is an interactive term and its coefficient λ_3 measures the sensitivity of forecast revisions to unexpected earnings when an operating loss is present.

To capture the effect of refocusing announcements on forecast revisions, I introduce D_f to represent a refocusing announcement year and two years on either side, where f takes the values of –2, –1, 0, 1 and 2. For example, D_0 equals 1 if year *t* is the refocusing announcement year and is 0 otherwise. The coefficient ρ_f (f = –2, –1, 0, 1 and 2) measures the sensitivity of forecast revisions to the refocusing announcement in the five-year period. If analysts perceive the refocusing announcement as good news for future earnings on average (e.g., expecting improvements in future earnings, future reversals of excess current accruals, clear business objectives, elimination of unproductive assets, and control of production costs), then ρ_0 will be positively significant. However, if analysts perceive the refocusing announcement as bad news (e.g., expecting asset disposals to defend against takeovers, failure to make an acquisition, relief of financial distress in the short term without a clear strategic objective), ρ_0 will be negatively significant. If the refocusing announcement is uninformative for analysts, ρ_0 is expected to be zero. ρ_{-2}, ρ_{-1}, ρ_1 and ρ_2 measure the changes in analysts' forecast revisions in event years –2,

–1, 1 or 2. The rest of the years are those that are at least two years away from a refocusing announcement year. $D_f OI_{i,f}$ is an interactive variable and its coefficient δ_f (f = –2, –1, 0, 1 and 2) measures the sensitivity of forecast revisions to the operating loss over the five-year period, including analysts' response to the refocusing announcement year (Hogan and Jeter, 1998). Similarly, $D_f UNEXP_{i,f}$ is an interactive variable and its coefficient φ_f measures the sensitivity of forecast revisions to the unexpected earnings over the five-year period. Following the same fashion, $D_f UNEXP_{i,f} OI_{i,f}$ is an interactive variable of the five-year period, unexpected earnings and the operating loss. Its coefficient γ_f measures the sensitivity of forecast revisions to the unexpected earnings and operating loss over the five-year period.

$AR_{i,t}$, excess stock returns, are equal to the difference between firm *i*'s stock returns and the market returns at the end of financial year *t*. The measurement period of excess stock returns concludes earlier than the first month prior to the earnings announcement date (m1 in Figure 1). Clement *et al*. (2011) show that analysts refer to firms' stock returns when deriving their own forecasts. Therefore, $AR_{i,t}$ controls for this effect. Its coefficient λ_4 is expected to be positive. $RECESS_{t-12m}$ is an indicative variable equal to 1 if an economic recession occurred in the past 12 months of year *t*. According to Jacob (1997), analysts' forecasts are affected by economic recession, therefore, its coefficient λ_5 is expected to be negative. According to Colak (2010), competition affects firms' performance and their decision to undertake refocusing. This should also affect analysts' revision forecast. I include the Herfindahl index ($Hindex_{d,i,t}$) for firm *i* in industry *d* in year *t*. Its coefficient λ_6 is expected to be negative. D_y are year-dummies across the sample period.

The novel feature of model (3) is that D_f can capture changes in analysts' perceptions of firms' performance and refocusing announcements over the five-year period exclusively after controlling for the effect of unexpected earnings, operating loss, the joint effect of unexpected earnings and operating loss in each of the five years, firms' historical returns performance, and other control variables.

3.2 Analysts' forecast errors

Current-year earnings forecast error are defined as

$$Er_{i,t}^{t} = \left(X_{i,t} - F_{i,m1}^{t}\right) \Big/ P_{t-1} \tag{4}$$

where $Er_{i,t}^{t}$ denotes the current-year earnings forecast error for firm *i* in year *t*[5].

$X_{i,t}$ represents firm *i*'s realised earnings in year *t* from the I/B/E/S Actual file.

Other variables are defined in model (1).

Current-year mean absolute error ($MAE_{i,t}^{t}$) and current-year root mean square error ($RMSE_{i,t}^{t}$) for firm *i* in year *t* are defined as

$$MAE_{i,t}^{t} = \frac{\sum \left| X_{i,t} - F_{i,m1}^{t} \right| \Big/ P_{t-1}}{n} \tag{5}$$

$$RMSE_{i,t}^{t} = \sqrt{\frac{\sum \left(\left(X_{i,t} - F_{i,m1}^{t}\right) \Big/ P_{t-1} \right)^{2}}{n}} \tag{6}$$

One-year-ahead earnings forecast errors ($Er_{i,t}^{t+1}$, $MAE_{i,t}^{t+1}$ and $RMSE_{i,t}^{t+1}$) are defined in the same way, by replacing $F_{i,m1}^{t}$ with $F_{i,m1}^{t+1}$ and replacing $X_{i,t}$ with $X_{i,t+1}$. Firstly, I measure these forecast

[5] For $Er_{i,t}^{t}$ the superscript *t* indicates that the earnings forecast error (Er) of firm *i* is for the current year. The subscript *t* indicates that the earnings forecast error is made during the current year. For, $Er_{i,t}^{t+1}$, the superscript t+1 indicates that the earnings forecast error (Er) of firm *i* is for one-year-ahead. The subscript *t* remains the same as the above. The same fashion of presentation for other earnings forecast errors.

errors over the five-year period, centring on the refocusing announcement year (0), to demonstrate the changes in analysts' bias and accuracy. Then, I test hypotheses *H1d* and *H1e* applying Models (7), (8), (9) and (10). Models (7) and (8) are developed based on the work of Chaney et al. (1999) and Ali et al. (1992):

$$Er_{i,t} = \varphi + \gamma_1 Er_{i,t-1} + \gamma_2 R_{i,t-1} + \gamma_3 Fq_{i,t} + \sum_{f=-2}^{2} \psi_f D_f + \sum_{f=-2}^{2} \phi_f D_f Er_{i,f-1} + \sum_{f=-2}^{2} \theta_f D_f R_{i,f-1} + \sum_{f=-2}^{2} \varpi_f D_f Fq_{i,t} + \gamma_4 RECESS_{t-12m} + \gamma_5 Hindex_{d,i,t} + + \sum_{y=98}^{2010} \upsilon_y D_y + \varepsilon_{i,t} \quad (7)$$

$$\left|Er_{i,t}\right| = \varphi + \gamma_1 \left|Er_{i,t-1}\right| + \gamma_2 \left|R_{i,t-1}\right| + \gamma_3 Fq_{i,t} + \sum_{f=-2}^{2} \psi_f D_f + \sum_{f=-2}^{2} \phi_f D_f Er_{i,f-1} + \sum_{f=-2}^{2} \theta_f D_f R_{i,f-1} + \sum_{f=-2}^{2} \varpi_f D_f Fq_{i,t} + \gamma_4 RECESS_{t-12m} + \gamma_5 Hindex_{d,i,t} + + \sum_{y=98}^{2010} \upsilon_y D_y + \varepsilon_{i,t} \quad (8)$$

where for model (7) $Er_{i,t}$ is a common term, which denotes the current-year earnings forecast error ($Er_{i,t}^{t}$) for firm *i* in year *t.* It can be replaced by one-year-ahead earnings forecast error ($Er_{i,t}^{t+1}$). Similarly, $Er_{i,t-1}$ is another common term and denotes the lagged current-year earnings forecast error ($Er_{i,t-1}^{t-1}$). It can be replaced by the lagged one-year-ahead earnings forecast error ($Er_{i,t-1}^{t}$). According to Chaney et al. (1999) and Ali et al. (1992), the lagged forecast error $Er_{i,t-1}$ reveals whether analysts fully digest and react to information proceeding from their own past errors. If its coefficient γ_1 is positively significant, this implies that analysts have failed to learn from their former errors. I include the lagged stock returns of firm *i* at the end of financial year *t–1*, $R_{i,t-1}$, to test whether analysts react fully to information contained in historical stock returns. If its coefficient γ_2 is positively significant, this suggests that analysts have failed to digest the information revealed in historical stock returns about future earnings. $Fq_{i,t}$ represents the logarithm for the number of analysts issuing forecasts for firm *i* in the 1st-

month before the I/B/E/S earnings announcement date of year *t* (*m1* in Figure 1). As the number of analysts issuing forecasts for a firm increases, the earnings forecast error should decrease. Its coefficient γ_3 is expected to be negative.

To demonstrate the effect of refocusing announcements on earnings forecast errors, in the same fashion as model (3), I introduce D_f to represent a refocusing announcement year and two years on either side, where f takes the values of –2, –1, 0, 1 and 2. Its coefficient ψ_f (f = –2, –1, 0, 1 and 2) measures the sensitivity of earnings forecast errors to a refocusing announcement in the five-year period. The coefficient for the refocusing announcement year, ψ_0 is expected to be negatively significant if the analysts derive significant bias (or error in model (8)) in the refocusing announcement year. The statistical significance of coefficients ψ_{-2} and ψ_{-1} might depend on firms' performance prior to the refocusing announcement year. The coefficients ψ_1 and ψ_2 may be statistically insignificant if analysts treat the refocusing activity and restructuring charges as a temporary event. The rest of the years are those that are at least two years away from a refocusing announcement year.

To test whether analysts fully digest the information gleaned from their past errors and from historical stock returns over the five-year period centred on the refocusing announcement year, I include an interactive term $D_f Er_{i,f-1}$. Its coefficient ϕ_f (f = –2, –1, 0, 1 and 2) measures the sensitivity of earnings forecast errors to the lagged forecast errors over the five-year period. Another interactive term is for five-year period and the lagged stock returns, $D_f R_{i,f-1}$. Its coefficient θ_f (f = –2, –1, 0, 1 and 2) measures the sensitivity of earnings forecast errors to the lagged stock returns over the same period. I also include an interactive term for five-year period

and number of analysts, $D_f Fq_{i,t}$. Its coefficient ϖ_f (f = –2, –1, 0, 1 and 2) measures the sensitivity of earnings forecasts errors to the number of analysts following the firm *i*.

For model (8), $\left|Er_{i,t}\right|$ is a common term and denotes current-year mean absolute forecast error ($MAE_{i,t}^{t}$) and current-year root mean square forecast error ($RMSE_{i,t}^{t}$) of firm *i* in year *t*. It can be replaced by one-year-ahead forecast errors ($MAE_{i,t}^{t+1}$, $RMSE_{i,t}^{t+1}$). Similarly, $\left|Er_{i,t-1}\right|$ is a common term and represents the lagged current-year mean absolute forecast error ($MAE_{i,t-1}^{t-1}$) and the lagged current-year root mean square forecast error ($RMSE_{i,t-1}^{t-1}$). It can be replaced by the lagged one-year-ahead forecast errors ($MAE_{i,t-1}^{t}$, $RMSE_{i,t-1}^{t}$). I adopt the lagged absolute stock returns of firm *i* at the end of financial year *t–1*, $\left|R_{i,t-1}\right|$. The remaining variables of models (7) and (8) are defined as in model (3).

The introduction of the above dummies for the five-year period D_f (f = –2, –1, 0, 1 and 2) is the novel component of models (7) and (8). Firstly, they demonstrate the changes in analysts' forecast bias and errors in the five-year period. This result shows whether analysts treat a refocusing announcement as a temporary event or not. Secondly, I conjecture that analysts' reactions to information about their past errors and the historical stock returns during the five-year period might differ from their reactions in the rest of the period. Because of the uncertainty associated with a refocusing announcement (Alford and Berger 1999; Penman, 2010; Donelson *et al.*, 2011; Wahlen, Baginski and Bradshaw, 2011) analysts might try to capture all related information, seeking to minimise their bias or errors. If so, this would prompt them not to underreact to the past information (Stickel, 1989; Barron, Kim, Lim and Stevens, 1998; Barron,

Byard and Yu, 2008; also see footnote 2). This supposition differs from the literature which shows a positive bias and positive serial correlation in analysts' forecast errors (Ali et al., 1992).

In order to confirm the results of models (7) and (8), I also modify Chaney et al.'s (1999) model, which is as follows:

$$Er_{i,t+1} = \varphi + \gamma_1 Er_{i,t-1} + \gamma_2 Restruct_{i,t} + \gamma_3 R_{i,t} + \gamma_4 Fq_{i,t+1} + \gamma_5 RECESS_{t+1-12m} + \gamma_6 Hindex_{d,i,t+1} + \sum_{y=98}^{2010} \upsilon_y D_y + \varepsilon_{i,t+1} \quad (9)$$

$$\left|Er_{i,t+1}\right| = \varphi + \gamma_1 \left|Er_{i,t-1}\right| + \gamma_2 Restruct_{i,t} + \gamma_3 \left|R_{i,t}\right| + \gamma_4 Fq_{i,t+1} + \gamma_5 RECESS_{t+1-12m} + \gamma_6 Hindex_{d,i,t+1} + \sum_{y=98}^{2010} \upsilon_y D_y + \varepsilon_{i,t+1} \quad (10)$$

where for model (9) $Restruct_{i,t}$ denotes the restructuring charges for firm *i* divided by its total sales at the end of financial year *t*.[6] $Er_{i,t+1}$ is a common term, which represents firm *i*'s current-year earnings forecast error ($Er_{i,t+1}^{t+1}$), or its one-year-head earnings forecast error ($Er_{i,t+1}^{t+2}$) in year *t+1*. If analysts treat the effect of restructuring charges in year *t* as temporary, then their forecast errors in year *t+1* should not be affected. Therefore, the coefficient γ_2 is expected to be statistically insignificant. $Er_{i,t-1}$ is the second common term, which denotes the lagged earnings forecast error in year *t–1*, prior to the year of recording restructuring charges. It can be replaced by firm *i*'s lagged current-year earnings forecast error ($Er_{i,t-1}^{t-1}$), or its lagged one-year-ahead earnings forecast error ($Er_{i,t-1}^{t}$). If analyst learn from their past forecast errors, the coefficient γ_1 should be statistically insignificant. Otherwise, it could be positively significant according to Chaney et al. (1999) and Ali et al. (1992). Similarly, I include the lagged stock returns in year *t*,

[6] I also replace the restructuring charges by a dummy for the refocusing announcement year and reach the same conclusion.

$R_{i,t}$, in relative to the dependent variable $Er_{i,t+1}$ in year *t+1*, in order to examine whether analysts digest the information revealed in historical stock returns about future earnings. If they do so, the coefficient γ_3 should be statistically insignificant. Otherwise, it could be positively significant. $Fq_{i,t+1}$ describes the logarithm for the number of analysts issuing forecasts in the first month before the I/B/E/S earnings announcement date of year *t+1* (m1). As the number of analysts issuing forecasts for a firm increases, the mean forecast error should decrease. Therefore, its coefficient γ_4 is expected to be negative. Like model (3), I include $RECESS_{t+1-12m}$ to control the effect of economic recession in the past 12 months of year *t+1*. $Hindex_{d,i,t+1}$ is for controlling the effect of competition for firm *i* in industry *d* in year *t+1*.

For model (10), $|Er_{i,t+1}|$ is a common term, which denotes firm *i*'s current-year mean absolute forecast error ($MAE_{i,t+1}^{t+1}$), or current-year root mean square forecast error ($RMSE_{i,t+1}^{t+1}$) in year *t+1*. It can be replaced by one-year-head mean absolute forecast error ($MAE_{i,t+1}^{t+2}$), or one-year-ahead root mean square forecast error ($RMSE_{i,t+1}^{t+2}$) in year *t+1*. The absolute value of lagged stock return of firm *i* in year *t*, $|R_{i,t}|$, is adopted accordingly. Other variables are defined as in model (3) and as presented in Table 1.

(Insert Table 1 here)

3.3 Analysts' forecast revisions in response to good news and bad news

Hypotheses *H2a*, *H2b* and *H2c* concentrate on how analysts adjust forecasts in response to good news (upward market movement) and bad news (downward market movement). I derive the following model (11) based on the work of Basu (1997), Helbok and Walker (2003) and Mak *et al*. (2011).

$$FRV_{i,t}^{t} = \alpha + \omega AR_{i,t} + \alpha_B B + \omega_B BAR_{i,t} + \alpha_r Rf + \omega_r RfAR_{i,t} + \alpha_{B,r} RfB + \omega_{B,r} RfBAR_{i,t} \quad (11)$$
$$+ \sum_{f=-2}^{2} (\alpha_f D_f + \omega_f D_f AR_{i,t} + \alpha_{B,f} D_f B + \omega_{B,f} D_f BAR_{i,t})$$
$$+ \sum_{y=98}^{2011} (\alpha_y D_y + \omega_y D_y AR_{i,t} + \alpha_{B,y} D_y B + \omega_{B,y} D_y BAR_{i,t}) + \varepsilon_{i,t}$$

where $FRV_{i,t}^{t}$ and $AR_{i,t}$ are defined at model (3). B is a dummy variable equal to 1 if $AR_{i,t}$ is negative (denoting bad news) and 0 if $AR_{i,t}$ is positive (denoting good news). I use abnormal stock returns ($AR_{i,t}$) of firm *i* in year *t* because they indicate good or bad news after comparing with the average performance of other firms in the capital market[7]. $BAR_{i,t}$ denotes the interactive variable of firm *i*'s bad news and excess stock returns in year *t*. ω (ω_B) measures the sensitivity of current-year forecast revisions to good news (incremental bad news) across non-refocusing firms' firm years. Rf is a dummy variable equal to 1 if a firm is a refocusing firm and is 0 otherwise. ω_r ($\omega_{B,r}$) measures the incremental sensitivity of current-year earnings forecast revisions to good (bad) news across refocusing firms' non-refocusing years. As defined in model (3), in order to capture the effect of refocusing announcement on current-year earnings forecast revisions, I introduce D_f to represent the refocusing announcement year and two years on either side, where f takes the values of –2, –1, 0, 1 and 2. D_f is incremental good news intercept. $D_f B$ is incremental bad news intercept terms. ω_f ($\omega_{B,f}$) measures the changes in the incremental sensitivity of current-year earnings forecast revisions to good (bad) news in the five-year period. If analysts perceive good (bad) news connected with refocusing announcements,

[7] Previous studies use stock returns of firm *i* at the end of financial year *t* ($R_{i,t}$) to denote the good or bad news perceived by investors. However, this method ignores the degree of the good or bad news in contrast with the market performance on average. I reach the same conclusion using $R_{i,t}$.

they will adjust their earnings forecasts upward (downward) in the refocusing announcement year. Then, in the refocusing announcement year, the coefficient ω_0 ($\omega_{B,0}$), is expected to be negatively (positively) significant in line with hypothesis *H2a*. The coefficients ω_{-2}, ω_{-1}, ω_1 and ω_2 ($\omega_{B,-2}$, $\omega_{B,-1}$, $\omega_{B,1}$, $\omega_{B,2}$) denote analysts' adjustments for current-year earnings forecasts due to good (bad) news in years –2, –1, 1 and 2. Other variables are defined by model 3 and Table 1. The current-year earnings forecast revisions $FRV_{i,t}^{t}$ can be replaced by one-year-ahead earnings forecast revisions ($FRV_{i,t}^{t+1}$) or current-year target price forecast revisions ($TPRV_{i,t}^{t}$) in year *t*.

4 Sample and data

4.1 Sampling criteria for identifying refocusing firms

I adopt the sampling criteria provided in Mak (2014). They are as follows.

a) UK listed industrial firms

All firms selected in this study are UK industrial firms quoted on the London Stock Exchange (LSE) according to the 2010 version of the Standard Industrial Classification (SIC). Financial institutions and banks are excluded from this study because accounting standards and accounting policies differ from those of industrial firms. Diversified firms appearing in more than one SIC group are allocated to the SIC group in which their refocused business operates.

b) Sample period and refocusing announcement dates

Industrial firms' refocusing announcements and dates must fall between 1 January 2000 and 31 December 2009. This period covers the entire economic cycle of the UK for the 2000s. In addition, it is possible to examine the effect of refocusing activities on analysts' forecasts in the

two years before (1998 and 1999) and two years after (2010 and 2011) the event years. To eliminate any effect of former refocusing activities undertaken by the sampled firms in the 1990s, firms that had announced any refocusing activity in the two years before 2000 are excluded. Following a standard event-study approach, firms' first refocusing announcements and announcement dates were collected.[8]

c) Changes in business direction

A refocusing firm must indicate a change in its strategic direction corresponding with one of three types of corporate refocusing activities, according to the definition of refocusing presented at section 1 Introduction. UK industrial firms are classified as non-refocusing firms if there were no refocusing announcements during the sample period.

4.2 Procedures for identifying refocusing firms

A list of the names of all the UK industrial firms listed on the London Stock Exchange, including delisted firms from 2000 to 2009, was downloaded from the 2013 version of the London Share Price Database (LSPD). Then, full-text articles of firms' official refocusing announcements, related news, conference announcements and analysis reports were captured from one website and two databases in the following sequence: (1) www.ukbusinesspark.com, (2) Perfect Information Navigator, and (3) Financial Times (FT), provided by the ProQuest ABI/INFORM Global New Platform and Free E-journals. I used both the firm-name search and the clause-text search functions. The keywords were 'refocusing', 'restructuring', 'assets restructuring', 'rationalisation', 'reorganisation', 'rejuvenation', 'streamlining', 'consolidation',

[8] According to International Accounting Standard (IAS) 37 par. 12 and 14, managers are obligated to report provisions for restructuring charges if a detailed formal plan for restructuring is announced and has raised a valid expectation among those affected (Alexander and Archer, 2012). Therefore, my approach of adopting firms' first refocusing announcement is valid.

'cost cutting/reduction/savings', 'repositioning', 'shake-up', and 'reshape/reshaping'. I read the content of all downloaded full-text articles to identify the refocusing firms and to check that their announcement dates matched the above sampling criteria. This search provided 6,330 full-text articles and 4,831 short paragraphs for 841 refocusing firms, containing news about refocusing announcements between the specified dates.

4.3 Sample and data

Table 2 reports the sample structure, the distribution of UK listed industrial firms' first refocusing announcements and the I/B/E/S data collected. Panel A shows SIC 4 is the largest group, with a refocusing rate of 37%. SIC 2 is the second-largest group, with a low refocusing rate of 18.81%. SIC 3 has a refocusing rate of 34.67%. SICs 1 and 5 are small groups, with high refocusing rates of 50.2% and 62.1%, respectively. SIC 0 is the smallest group, with a refocusing rate of 44.44%. The average refocusing rate across all industry groups is 34.76%. The final number of refocusing firms is 724, excluding those without a Datastream firm code (32), those without an I/B/E/S firm code (59), and those that announced refocusing in 2010 (26). The final number of non-refocusing firms is 1,359 after excluding 437 firms without an I/B/E/S firm code.

Panel B presents the number of UK listed industrial firms announcing their first refocusing in the period from 2000 to 2009 as a percentage of all LSE industrial firms in each year, after excluding firms that had announced refocusing in previous years. It illustrates that there were two waves of refocusing. The first took place at a rate of 5.58% in 2000 to 5.67% in 2004, reaching a peak of 8.01% in 2002. This refocusing might have resulted from the 9/11 attacks in New York. Although the UK GDP in this period was stable and even increased slightly, some industries, such as airlines, were deeply affected. The second period of intensified refocusing

was at a rate of 5.54% in 2008 to 5.57% in 2009. This might have been a consequence of the mid-2007 credit crunch, the effects of which were not felt until 2008 and 2009. For the remaining periods, the refocusing rate remained below 5%. The average annual percentage of firms announcing a first-time refocusing was 5.83%, and this result indicates that UK listed industrial firms experienced a higher frequency of corporate refocusing activities in the 2000s than in the 1990s (see Mak *et al*., 2011).

Panel C reports the number of observations for analysts' primary current-year EPS forecasts (in Fiscal year 1), one-year-ahead EPS forecasts (in Fiscal year 2), and current-year target price forecasts. It shows that the numbers of observations of refocusing firms' forecasts exceeded those of non-refocusing firms. This might be because most refocusing firms are larger than non-refocusing firms and thus are followed by more financial analysts. The primary EPS forecast data run from 1998 to 2011, but current-year target price forecast data run only from 2003 to 2011. This is because I/B/E/S target price forecasting data for UK industrial firms is available only since 2002.

To enhance data accuracy and consistency, I take firms' financial year-end dates, their earnings announcement dates and the identities of analysts and broker houses from the I/B/E/S Detail file. This information is then used to recalculate the consensus forecasts. According to the I/B/E/S user manual version 2013 (see footnote 2), all exceptional and extraordinary items may be included or excluded in the realised EPS forecasts. This depends on the base the majority of contributors or analysts adopt to value the stocks. Therefore, I collect the realised EPS from the Actual file to avoid bias arising from exaggerating forecast errors, as suggested by Keane and Runkle (1998) and Hanna (1999). Accounting data and market data are collected from Datastream according to firms' financial year end dates. No limitation is placed on firms'

financial year ends to avoid bias toward large firms. The only limitation imposed by this criterion is that there are limited numbers of financial analysts tracing small and medium-sized firms and leading to the limited observations. The 5% top- and bottom-ranked data for each year are excluded as outliers. I obtain similar results and reach the same conclusion when adopting a 1% exclusion criterion.

(Insert Table 2 here)

4.4 Propensity score matched refocusing and non-refocusing firms

Chaney *et al.* (1999, p.267) recognise that their study fails to distinguish between the effects of reporting a restructuring charge on analysts' forecasts and the underlying conditions that triggered the restructuring. This is because their sample includes only restructuring firms and thus consists of firm year observations with and without restructuring charge announcements for the same firms. Thus, firm year observations without restructuring charges denote the control for those with restructuring charges. Moreover, firms' financial characteristics in the pre- and post-restructuring periods differ. Therefore, firm year observations without restructuring charges do not deliver proper controls. To address these problems, I adopt a propensity score analysis and matching procedures to construct the dataset for propensity score matched (PSM) refocusing firms and non-refocusing firms (Lee, 2005; Armstrong, Jagolinzer and Larcker, 2010). This dataset is used for deriving all subsequent empirical results. Accordingly, firms' decisions to announce refocusing are analysed as treatments. This analysis can thereby examine whether analysts' forecasts for the firms that chose to announce refocusing differ from the forecasts for firms that had similar characteristics and the potential to refocus, but chose not to do so. The literature concerning refocusing identifies the firm-level characteristics of firms before

announcing their refocusing (Berger and Ofek, 1999; Haynes *et al*., 2003; Colak, 2010). Thus, I introduce the key characteristics into the following binominal logistic model to derive firms' likelihood of announcing refocusing (propensity score) in each year.

$$\Pr(\text{Refocus 1,0})_{i,t} = \alpha_{i,t} + \beta_1 CAR_{i,t-12m} + \beta_2 logMV_{i,t-1} + \beta_3 BTMV_{i,t-1} + \beta_4 DtoEq_{i,t-1} + \beta_5 IndadjROA_{i,t-1} + \sum_{d=0}^{4} \gamma_d SIC_{d,t} + \varepsilon_{i,t} \quad (12)$$

where Pr(Refocus1,0) equals 1 if firm *i* announces refocusing in year *t* and is 0 otherwise. $CAR_{i,t-12m}$ denotes the cumulated abnormal stock returns for firm *i* for the preceding 12 months of year *t*. $logMV_{i,t-1}$ represents annual nature logarithm of market value of equity for firm *i* at the end of financial year *t–1*. $BTMV_{i,t-1}$ is the ratio of book value of equity to market value of equity for firm *i* at the end of financial year *t–1*. $DtoEq_{i,t-1}$ denotes the ratio of total liabilities divided by book value of equity for firm *i* at the end of financial year *t–1*. $IndadjROA_{i,t-1}$ describes the industry-adjusted return on total net assets for firm *i* at the end of financial year *t–1*. $SIC_{d,i,t}$ represents an industry group dummy (*d*) for firm *i* in year *t*. It is one digit Standard Industrial Classification (SIC) group, from SIC 0 to 5. For example, it equals one if firm *i* operates in SIC 0 in year *t* and is zero for the rest of the SIC groups. I apply the same fashion to set industry group dummies for the rest of the firms. In the above model, year *t* includes firms that announced refocusing in year *t*, firms that announced refocusing for the first time after year *t*, and firms that never announced refocusing throughout the sample period.

Panel A of Table 3 reports the majority of the independent variables are statistically significant at 1%, except for $IndadjROA_{i,t-1}$, SIC 2, 3 and 4. I match refocusing firms to non-refocusing firms based on their propensity scores by developing a 5 to 1 digit Greedy Match SAS

programme based on the work of Guo and Fraser (2010) and Parsons (2001). I identify 490 pairs of PSM refocusing firms and non-refocusing firms; of these, 3.87%, 13.27%, 44.29%, 37.76% and 0.81% are matched by 5, 4, 3, 2 or 1 digit of the propensity score. In total, 233 refocusing firms cannot be matched using the above programme. The quality of this matching requires confirmation, which can be achieved by maintaining the covariance balance of the above independent variables between the matched refocusing and non-refocusing firms. This implies that the differences in magnitude of the variables between the matched refocusing and non-refocusing firms should be statistically insignificant, as confirmed by the results for Panel B, which shows the *t*-test for means, the Wilcoxon sign rank test, and the Kolmogorov-Smirnov test for medians, reflecting that the differences between these variables are statistically insignificant.

(Insert Table 3 here)

4.5 Descriptive statistics

Table 4 reports the descriptive statistics for the variables for 490 pairs of PSM refocusing firms and non-refocusing firms in Panels A and B. It shows that $IndadjROA_{i,t-1}$, $CAR_{i,t-12m}$ and $OItNTA_{i,t}$ are left-skewed. The variables for refocusing firms' accounting performance ($OItNTA_{i,t}$ and $IndadjROA_{i,t-1}$), firm size ($logMV_{i,t-1}$), and leverage ($DtoEq_{i,t-1}$) are slightly higher than those of non-refocusing firms. Refocusing firms' market performance ($CAR_{i,t-12m}$, $AR_{i,t}$), operating risk ($BTMV_{i,t-1}$), forecast revisions and forecast errors are slightly lower than those of non-refocusing firms.

(Insert Table 4 here)

4.6 Additional univariate analysis

These analyses are not tabulated due to the limitation of space but are available upon request. I compare the analysts' current-year earnings forecast revisions ($FRV_{i,t}^{t}$) between 111 pairs of PSM refocusing and non-refocusing firms in the five-year period centred on refocusing announcement year. The results show that PSM refocusing firms' $FRV_{i,t}^{t}$ decline from –0.0061 (year –2) to –0.012 (year 0) before slightly increase to –0.0065 (in year 2). However, PSM non-refocusing firms' $FRV_{i,t}^{t}$ are a random walk. The differences in revisions between the two sample groups in years 0 (–0.0075), 1 (–0.0048) and 2 (–0.0062) are statistically significant at 5%.

Secondly, I compare one-year-ahead earnings forecast revisions ($FRV_{i,t}^{t+1}$) between 92 pairs of PSM refocusing firms and non-refocusing firms. The results show that PSM refocusing firms' $FRV_{i,t}^{t+1}$ decline from –0.0057 in year –2 to –0.0107 in year 0 and slightly increase to –0.0105 in year 2. PSM non-refocusing firms' $FRV_{i,t}^{t+1}$ display a similar trend, but their magnitude is less negative. The differences in $FRV_{i,t}^{t+1}$ between the two sample groups of firms in years 0 (–0.0055), 1 (–0.006) and 2 (–0.0076) are statistically significant at 10%, 5% and 1% respectively. These results suggest that analysts are continuously revising their $FRV_{i,t}^{t+1}$ downward in years 0, 1 and 2, but they remain optimistic. These results are consistent with those of Chaney *et al.* (1999).

Thirdly, I compare the current-year target price revisions ($TPRV_{i,t}^{t}$) between 182 pairs of PSM refocusing firms and non-refocusing firms over the five-year period. The results show that analysts revise $TPRV_{i,t}^{t}$ downward to –0.0993 in year –1. They revise $TPRV_{i,t}^{t}$ upward in years 0 (0.0535), 1 (0.0123) and 2 (0.0312). However, PSM non-refocusing firms' $TPRV_{i,t}^{t}$ are a random

walk. The difference in $TPRV_{i,t}^{t}$ between the two groups of firms in year –1 (–0.1063) is statistically significant at 1%. These results imply analysts may have already adjusted their valuation of firms because of the operating performance in the year before the refocusing announcement. As there is no further downward adjustment after year –1, analysts might therefore be treating the effect of the refocusing announcement as short term.

Fourthly, I compare the current-year earnings forecast errors ($Er_{i,t}^{t}$) between 137 pairs of PSM refocusing firms and non-refocusing firms over the five-year period. The results show that refocusing firms' $Er_{i,t}^{t}$ increase from –0.0044 in year –2 to –0.0152 in year 0 and slightly decrease to –0.0104 in year 2. The results for the PSM non-refocusing firms demonstrate the same trend of changes with a smaller magnitude. The differences in $Er_{i,t}^{t}$ between two groups of firms are significant at 10% to 1%, except in year –2. These results indicate the analysts are optimistic across years –1 to 2.

For current-year mean absolute errors ($MAE_{i,t}^{t}$) and root mean square errors ($RMSE_{i,t}^{t}$), the results show that the differences in $MAE_{i,t}^{t}$ between PSM refocusing firms and non-refocusing firms are positively significant across the five-year period. The results of $RMSE_{i,t}^{t}$ are similar. These indicate that analysts' forecast accuracy for refocusing firms is lower than that for non-refocusing firms.

Fifthly, I compare the one-year-ahead earnings forecast errors ($Er_{i,t}^{t+1}$) between 109 pairs of PSM refocusing firms and non-refocusing firms over the five-year period. The results show that refocusing firms' $Er_{i,t}^{t+1}$ are less than those of non-refocusing firms. The differences in $Er_{i,t}^{t+1}$ between two groups of firms in years –2, (–0.0117), –1 (–0.0125) and 1 (–0.0039) are statistically significant at 1%.

Finally, the results also show that the differences in one-year-ahead mean absolute errors ($MAE_{i,t}^{t+1}$) and one-year-ahead root mean square error ($RMSE_{i,t}^{t+1}$) between refocusing firms and non-refocusing firms over the five-year period are positively significant at 1%. These results suggest that analysts' accuracy in the case of one-year-ahead earnings forecasts is lower for refocusing firms than for non-refocusing firms.

5 Results

5.1 Analysts' forecast revisions

Table 5 reports the results of estimating model (3) based on the panel data for 490 pairs of PSM refocusing and non-refocusing firms across the sample period. The second column presents the results associated with the effect of refocusing announcements on current-year earnings forecast revisions ($FRV_{i,t}^{t}$). It is necessary to focus on the results of dummies of the five-year period first. The coefficient for the refocusing announcement year dummy (D_0) is negatively significant at 5%, after controlling for the effects of operating loss ($D_0 OI_{i,0}$), unexpected earnings ($D_0 UNEXP_{i,0}$), and the interactive term ($D_0 UNEXP_{i,0} OI_{i,0}$) in the same year. However, D_{-2}, D_{-1}, D_1 and D_2 are statistically insignificant. This implies that analysts revise current-year earnings forecasts downward, on average, after learning of refocusing announcements in year 0. They might then believe that incremental information about firms' operational changes, released by refocusing announcements, is more likely to lead to a further decline in earnings relative to former earnings forecasts. This expectation does not exclude the possibility of an improvement in earnings performance long term. Furthermore, the presence of operating loss and unexpected earnings does not affect the forecast revisions associated with refocusing announcements.

For the remaining years, the coefficient for operating loss ($OI_{i,t}$) is negatively significant at 1%. This implies that analysts revise current-year earnings forecasts downward in the presence of operating losses. The coefficient for unexpected earnings ($UNEXP_{i,t}$) is positively significant at 0.1%, suggesting analysts estimate that the unexpected component of earnings will persist into the following year. However, the coefficient for $UNEXP_{i,t}OI_{i,t}$ is statistically insignificant. The coefficient for excess stock returns ($AR_{i,t}$) is positively significant at 0.1%, suggesting that analysts do refer to firms' historical market performance when generating earnings forecasts. The coefficients for other control variables are statistically insignificant. These pieces of evidence correspond to hypothesis *H1a* and the work of both Chaney *et al*. (1999, 2000) and Clement *et al*. (2011).

The fourth column reports the results of the effect of refocusing announcements on analysts' one-year-ahead earnings forecast revisions ($FRV_{i,t}^{t+1}$). The coefficients for D_0, D_{-1} and D_{-2} are negatively significant at 5% and 10% after controlling for the effects of operating loss, unexpected earnings and the joint effect of the two scenarios. This suggests that analysts adjust their $FRV_{i,t}^{t+1}$ according to the progress of the refocusing. They might expect that refocusing announcements and related activities will affect firms' future sustainability of earnings performance.

For the remaining years, the magnitude and statistical significance of the coefficient for $OI_{i,t}$ are very similar to those in the second column. The coefficient for $UNEXP_{i,t}$ is positively significant at 0.1%. The magnitude is higher than that for the second column, suggesting that analysts adjust their $FRV_{i,t}^{t+1}$ to reflect their views concerning the persistence of unexpected

components of earnings in following years. The coefficient for $UNEXP_{i,t}OI_{i,t}$ is negatively significant at 0.1%, suggesting that the presence of operating losses affects analysts' views of unexpected earnings. The coefficients for other control variables are statistically insignificant. In general, the results in the fourth column are stronger than those in the second column, as the adj. R-sq. is higher. These results are broadly consistent with hypothesis H1b.

The fifth column reports the results for the effect of refocusing announcements on current-year target price revisions ($TPRV_{i,t}^{t}$). The coefficients for D_{-1} and D_1 are negatively significant at 5%, and that for D_0 is insignificant after controlling for the effects of operating losses, unexpected earnings and the joint effect of both scenarios. This indicates that analysts adjust $TPRV_{i,t}^{t}$ downwards significantly in the year prior to and the year after the refocusing announcements.

For the remaining years, the coefficients for $OI_{i,t}$, $UNEXP_{i,t}$ and $UNEXP_{i,t}OI_{i,t}$ are statistically insignificant. This implies that analysts might consider other factors when setting their target price. In cases of refocusing, they are likely to have expectations about the sustainability of firms' earnings in the post-refocusing period. Analysts apparently refer to firms' historical stock returns and the economic recession when adjusting target prices, as the coefficients for $AR_{i,t}$ and $RECESS_{t-12m}$ are statistically significant at 0.1%. These results are consistent with hypothesis *H1c*.

(Insert Table 5 here)

5.2 Analysts' forecast errors based on models (7) and (8)

Table 6 reports the results of estimating models (7) and (8) based on the panel data of 490 pairs of PSM refocusing and non-refocusing firms. These two models examine the changes in

current-year and one-year-ahead forecast errors and absolute forecast errors in the-five year period. In addition, they examine whether analysts derive forecasts efficiently, learning from their past errors and reflecting all information revealed in past stock returns regarding firms' future earnings in the five-year period and the rest of the period. The first four columns of Table 6 report the results for both the current-year forecast errors ($Er_{i,t}^{t}$) and the absolute forecast errors ($MAE_{i,t}^{t}$, $RMSE_{i,t}^{t}$).

The second column shows that the coefficients for D_{-1} and D_0 are negatively significant at 1% and 5%, respectively. This implies analysts overestimate current-year earnings in these two years. However, there are no more overestimations in years 1 and 2. The coefficients for previous errors in the five-year period (from $D_{-2}Er_{i,-3}$ to $D_2Er_{i,1}$) are all statistically insignificant. This suggests that analysts do learn from past errors when encountering the uncertainty due to the decline in firms' earnings performance before a refocusing announcement and the uncertainty associated with the refocusing announcements, including post-refocusing earnings performance. The coefficients for the lagged stock returns in the five-year period (from $D_{-2}R_{i,-3}$ to $D_2R_{i,1}$) are all statistically insignificant. This implies that during these years, analysts do reflect the information revealed in past stock returns about future earnings. Therefore, their current-year earnings forecasts for these years are efficient. For the rest of the period, the coefficients for past errors ($Er_{i,t-1}$) and lagged stock returns ($R_{i,t-1}$) are positively significant at 0.1%. This suggests analysts do not learn from former errors or reflect the information revealed in past stock returns during the rest of the period.

The third column reports the results for current-year mean absolute errors ($MAE_{i,t}^{t}$). Only the coefficient for D_{-1} is positively significant at 5%; the remainder are statistically insignificant.

This suggests that the analysts' current-year earnings forecasts during the five-year period are accurate. The coefficients relating to the majority of the past absolute errors (from $D_{-2}\left|Er_{i,-3}\right|$ to $D_2\left|Er_{i,1}\right|$) and the lagged stock returns (from $D_{-2}\left|R_{i,-3}\right|$ to $D_2\left|R_{i,1}\right|$) for the five-year period are statistically insignificant. This implies analysts do learn from former errors and reflect on the information revealed in past stock returns. For the rest of the period, only the coefficient related to past errors ($\left|Er_{i,t-1}\right|$) is positively significant at 0.1%. This result is similar to those in the second column.

The fourth column reports the results for the current-year root mean square forecast errors ($RMSE_{i,t}^{t}$), which are very similar to those in the third column; in particular, none of the coefficients for the five-year period dummies (from D_{-2} to D_2) are statistically significant. Therefore, hypothesis *H1d* is rejected.

The fifth, sixth and seventh columns report the results of one-year-ahead forecast errors ($Er_{i,t}^{t+1}$), mean absolute errors ($MAE_{i,t}^{t+1}$) and root mean square forecast errors ($RMSE_{i,t}^{t+1}$). The coefficients for the five-year period dummies (from D_{-2} to D_2) of these three models are all statistically insignificant. This means that the analysts' one-year-ahead forecasts are not biased and are accurate. Furthermore, it appears that they learn from previous errors and reflect on the information revealed in past stock returns because the majority of the related independent variables in the five-year period (from $D_{-2}Er_{i,-3}$ to $D_2Er_{i,1}$, from $D_{-2}\left|Er_{i,-3}\right|$ to $D_2\left|Er_{i,1}\right|$, from $D_{-2}R_{i,-3}$ to $D_2R_{i,1}$, and from $D_{-2}\left|R_{i,-3}\right|$ to $D_2\left|R_{i,1}\right|$) are statistically insignificant. On the other hand, they do not derive forecasts efficiently in the rest of the period. The coefficients $Er_{i,t-1}$, $\left|Er_{i,t-1}\right|$, $R_{i,t-1}$ and $\left|R_{i,t-1}\right|$ for the three models are all positively significant at 0.1%. The above

results reject hypothesis *H1e*.

In summary, when following these UK industrial firms, analysts overestimate the current-year earnings forecasts in the year before the refocusing announcement and in the refocusing announcement year. Their earnings forecasts are not biased and are no less accurate in the two years following refocusing announcements. They learn from their past errors and reflect on the information revealed by past stock returns. However in the rest of the period, the results indicate that analysts' earnings forecasts are not efficient. This might be because analysts try to capture all related information to minimise bias or errors in the face of declines in firms' earnings performance prior to refocusing announcements and the uncertainty brought by the refocusing announcements.

(Insert Table 6 here)

5.3 Analysts' forecast errors based on models (9) and (10)

To confirm my results for models (7) and (8) further, I estimate models (9) and (10) based on the panel data of 490 pairs of PSM refocusing and non-refocusing firms. These models examine the effects of the restructuring charges incurred in refocusing announcement year *t* ($Restruct_{i,t}$) on analysts' current-year and one-year-ahead forecast errors in the year after the refocusing announcement year *t*[9].

Table 7 shows that the coefficient for $Restruct_{i,t}$ is statistically insignificant in all models. This suggests that analysts do not make any material current-year or one-year-ahead forecast errors and absolute forecast errors in the year following the announcement of restructuring charges. Their forecasts after announcing restructuring charges are not biased and might also be

[9] Following Chaney et al.'s (1999) approach, I exclude the forecast errors for the year the refocusing is announced, because the results for Table 6 and the univariate analysis reveal that the forecast errors in the year of the announcement is high. I then derive the same regressions including the forecast errors for the year when refocusing is announced and reach the same conclusion.

accurate. This result differs from that of Chaney *et al.* (1999) and Lin and Yang (2006).

Meanwhile, the coefficients for both the lagged current-year and the one-year-ahead forecast errors and absolute forecast errors in the year prior to announcing restructuring charges ($Er_{i,t-1}$; $|Er_{i,t-1}|$) in all models are positively significant at 0.1%. The coefficients for lagged stock returns and lagged absolute returns ($R_{i,t}$, $|R_{i,t}|$) are positively significant at 0.1% in all models. These results suggest that analysts do not learn from past errors and do not reflect on all information in past stock returns in normal times. This is consistent with the findings reported by Ali *et al.* (1992).

Taken together, the above results confirm the results for models (7) and (8) given in Table 6. Hypotheses *H1d* and *H1e* are thereby rejected.

(Insert Table 7 here)

5.4 Analysts' forecast revisions in reaction to good and bad news

In this section, I investigate how analysts revise their earnings forecasts and target price forecasts when encountering good news and bad news proxied by the excess stock returns over the five-year period centred on the refocusing announcement year. Model (11) is estimated based on the panel data of 490 pairs of PSM refocusing firms and non-refocusing firms across the sample period. Table 8 reports the results for $FRV_{i,t}^{t}$, $FRV_{i,t}^{t+1}$ and $TPRV_{i,t}^{t}$ in three rows. To conserve space, the results for the dummy years (D_y) are not tabulated.

The results show that the coefficients for the incremental bad news in year 0, $D_0BAR_{i,0}$ (0.0557) are positively significant at 1%. However, the coefficients for the incremental good news in year 0, $D_0AR_{i,0}$ (–0.0066) are statistically insignificant. Furthermore, the magnitude of $D_0BAR_{i,0}$ is larger than that of $D_0AR_{i,0}$. This indicates that analysts are more prone to adjusting

their current-year earnings forecasts downward in response to downward market movement than to adjusting them upward in response to upward market movement. Therefore, null hypothesis, *H2a* is accepted. The results also suggest that analysts adjust their current-year earnings forecasts upward in the years before and after refocusing announcement year as the coefficients for incremental good news $D_{-2}AR_{i,-2}$, $D_{-1}AR_{i,-1}$ and $D_1AR_{i,1}$ are negatively significant at 10%.

Similar to the above result, the second row in Table 8 presents the results for one-year-ahead earnings forecasts, indicating a positively significant coefficient for $D_0BAR_{i,0}$(0.0475) at 5%. However, the coefficient for $D_0AR_{i,0}$(0.005) is statistically insignificant. This suggests that analysts adjust one-year-ahead earnings forecasts downward in the refocusing announcement year if there is downward market movement, but not upward movement. The magnitude of analysts' downward adjustments is higher than their upward adjustments. Therefore, hypothesis *H2b* is accepted.

The third row in Table 8 reports the results for the current-year target price revisions. The coefficient for $D_{-1}BAR_{i,-1}$(0.9362) is positively significant at 1% in year –1, while the coefficient for $D_0AR_{i,0}$ (–0.0162) is negatively insignificant. This result differs from those of earnings forecast revisions, indicating that analysts adjust target prices downward when following downward market movements in the year before the refocusing announcement. Analysts also seem to anticipate refocusing announcements. Therefore, hypothesis *H2c* is rejected.

I also re-estimate model (11) by replacing market adjust returns ($AR_{i,t}$) with current-year earnings forecast errors ($Er_{i,t}^{t}$) or firms' stock returns ($R_{i,t}$) as proxies for good news and bad news in the same fashion. I obtain consistent results and conclusions. To conserve space, the results are not tabulated. The above results show that analysts adjust forecasts according to bad

news only in the refocusing announcement year. Therefore, there is no evidence of post-analyst-revision drift.

(Insert Table 8 here)

6 Conclusion

This paper has adopted a standard event study approach to investigate how analysts perceive UK listed industrial firms' refocusing announcements. It measures analysts' earnings, target price forecasts and forecast errors over a five-year period. Firstly, the results show that analysts adjust current-year and one-year-ahead earnings forecasts downward in refocusing announcement year and the following two years. These results suggest that they expect that firms' operational performance is likely to decline in the post-refocusing period relative to their former earnings forecasts. They also adjust current-year target prices downward the year before and the year after the refocusing announcements. These results broadly correspond with those reported by Chaney *et al.* (1999, 2000) and Clement *et al.* (2011).

Secondly, the results found significant current-year and one-year-ahead earnings forecast errors only in the year before announcing refocusing and the refocusing announcement year, after controlling for the effects of former errors and past stock returns. There are no significant forecast errors in the years following refocusing announcements. These results are different from those reported by Chaney *et al.* (1999) and Lin and Yang (2006). In addition, most coefficients of past forecast errors and past stock returns in the five-year period are statistically insignificant. This suggests that analysts following UK industrial firms issue non-biased and accurate earnings forecasts in these five years. They learn from past errors and reflect on the information revealed by past stock returns when they face uncertainty associated with refocusing

announcements. However, apart from the five-year period, the results show that their forecasts in the rest of the period are inefficient.

Thirdly, the results show that analysts adjust current-year and one-year-ahead earnings forecasts downward with downward market movement (bad news), but not upward with upward market movement (good news) in refocusing announcement year. Furthermore, analysts revise current-year target prices downward in the year prior to refocusing announcements. There is no significant adjustment corresponding to good news or bad news after refocusing announcements. Therefore, there is no post-analyst-revision drift.

Overall, the results reveal that analysts' forecasts for the five-year period are non-biased and accurate. This might be because they are striving to capture all related information to minimise forecast bias or errors in the face of any decline in firms' earnings performance prior to refocusing announcement and the uncertainty associated with the refocusing announcements. In the rest of the period, however, they underreact to former errors and past stock returns. This is similar to the findings of previous studies.

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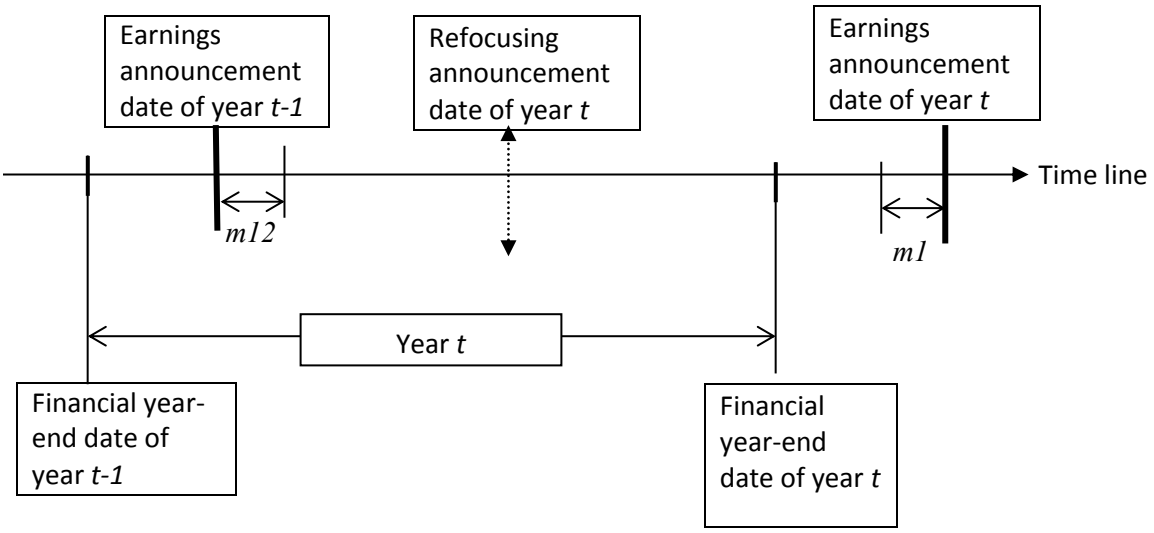
Figure 1. Illustration of the calculations of mean forecast, forecast revision and forecast error

This figure illustrates the timeline and concepts used to calculate mean forecast, forecast revision and forecast error based on I/B/E/S data of earnings forecast and target price forecast.



where *m1* denotes 1st-month before the I/B/E/S earnings announcement date of year *t*. *m12* denotes 12th-month before the I/B/E/S earnings announcement date of year *t*. The earnings announcement date is after the date of financial year end in each year. Sample firms' variables of market performance and accounting performance are calculated according to the date of financial year end in each year. Analysts' mean forecasts, forecast revisions and forecast errors for sample firms are calculated according to the earnings announcement date in each year.

Table 1. Variable definitions

Test variables	
$F_{i,m1}^{t}$	Mean current year earnings forecast for firm *i* in the 1st -month before the I/B/E/S earnings announcement date of year *t*. Please see Figure 1.
$F_{i,m12}^{t}$	Mean current year earnings forecast for firm *i* in the 12th-month before the I/B/E/S earnings announcement date of year *t*.
$FRV_{i,t}^{t}$	Current year earnings forecast revision for firm *i* in year *t*.
$P_{i,t-1}$	Firm *i*'s price per share 12 months before the I/B/E/S earnings announcement date of year *t*.
$F_{i,m1}^{t+1}$	Mean one-year-ahead earnings forecast for firm *i* in the 1st - month before the I/B/E/S earnings announcement date of year *t*.
$F_{i,m12}^{t+1}$	Mean one-year-ahead earnings forecast for firm *i* in the 12th- month before the I/B/E/S earnings announcement date of year *t*.
$FRV_{i,t}^{t+1}$	One-year-ahead earnings forecast revision for firm *i* in year *t*.
$TP_{i,m1}^{t}$	Mean current year target price forecasts for firm *i* in the 1st-month before the I/B/E/S earnings announcement date of year *t*.
$TP_{i,m12}^{t}$	Mean current year target price forecasts for firm *i* in the 12th-month before the I/B/E/S earnings announcement date of year *t*.
$TPRV_{i,t}^{t}$	Current year target price revision for firm *i* in year *t*.
$Er_{i,t}^{t}$	Current year earnings forecast error for firm *i* in year *t*.
$Er_{i,t}^{t+1}$	One-year-ahead earnings forecast error for firm *i* in year *t*.
$MAE_{i,t}^{t}$	Current year mean absolute error for firm *i* in year *t*.
$MAE_{i,t}^{t+1}$	One-year-ahead mean absolute error for firm *i* in year *t*.
$RMSE_{i,t}^{t}$	Current year root mean square error for firm *i* in year *t*.
$RMSE_{i,t}^{t+1}$	One-year-ahead root mean square error for firm *i* in year *t*.
$Fq_{i,t}$	The logarithm of the number of analysts issuing forecasts for firm *i* in the 1st- month before the I/B/E/S earnings announcement date of year *t* (*m1* in Figure 1).
D_f	An indicative variable represents the refocusing announcement year and two years on either side, where f takes the values of –2, –1, 0, 1 and 2. D_0 equals 1 if year *t* is refocusing announcement year and is 0 otherwise. The same fashion for two years before (–2, –1) and two years after (1, 2) the refocusing announcement year (0).
D_y	Year dummies from 2000 to 2011. It equals 1 if year *y* is 2000, 0 otherwise. The same fashion for the rest of the years.
$OI_{i,t}$	An indicator variable equals 1 if the operating income to net total assets ratio of firm *i* in year *t* ($OItNTA_{i,t}$) is less than zero and is 0 otherwise.
$UNEXP_{i,t}$	Price scaled earnings forecast errors for firm *i* in year *t-1* (Er_{t-1}^{t-1}).
$R_{i,t}$; $\lvert R_{i,t} \rvert$	Stock returns (absolute stock returns) for firm *i* at the end of financial year *t*. Its measurement period concludes earlier than the first month prior to the earnings announcement date (m1) in Figure 1.
$AR_{i,t}$	Excess stock returns for firm *i* at the end of financial year *t*. It is the difference between firm *i*'s stock returns and the market returns at the end of financial year *t*.
Control variables	
$logMV_{i,t-1}$	Annual natural logarithm of market value of equity for firm *i* at the end of financial year *t–1*.

Table 1. Variable definitions (continue)

$BTMV_{i,t-1}$	Ratio of book value of equity to market value of equity for firm *i* at the end of financial year *t–1*.
$DtoEq_{i,t-1}$	Ratio of total liabilities divided by book value of equity for firm *i* at the end of financial year *t–1*.
$RECESS_{t-12m}$	An indicator equals 1 if an economic recession occurred in the past 12 months of year *t*.
$SIC_{d,i,t}$	Industry group dummy (*d*) for firm *i* in year *t*. It is one digit Standard Industrial Classification (SIC) group, from SIC 0 to 5. For example, it equals one if firm *i* operates in SIC 0 in year *t* and is zero for the rest of the SIC groups. I apply the same fashion to set industry group dummy for the rest of the firms.
$Hindex_{d,i,t}$	Herfindhal index for firm *i* in industry *d* in year *t*.
Common terms of models (7),(8), (9) and (10).	
$Er_{i,t}$	It represents current year earnings forecast error $Er_{i,t}^{t}$ or one-year-ahead earnings forecast error $Er_{i,t}^{t+1}$.
$Er_{i,t-1}$	It represents the lagged current-year earnings forecast error and represents $Er_{i,t-1}^{t-1}$ or the lagged one-year-ahead earnings forecast error $Er_{i,t-1}^{t}$.
$\lvert Er_{i,t} \rvert$	It represents current-year mean absolute forecast error $MAE_{i,t}^{t}$, current-year root mean square forecast error $RMSE_{i,t}^{t}$ or one-year-ahead mean absolute forecast error $MAE_{i,t}^{t+1}$, one-year-ahead root mean square forecast error $RMSE_{i,t}^{t+1}$.
$\lvert Er_{i,t-1} \rvert$	It represents the lagged current-year mean absolute forecast error $MAE_{i,t-1}^{t-1}$, the lagged current-year root mean square forecast error $RMSE_{i,t-1}^{t-1}$, the lagged one-year-ahead mean absolute forecast error $MAE_{i,t-1}^{t}$ or the lagged one-year-ahead root mean square forecast error $RMSE_{i,t-1}^{t}$.
$Er_{i,t+1}$	It represents current year earnings forecast error $Er_{i,t+1}^{t+1}$ or one-year-ahead earnings forecast error $Er_{i,t+1}^{t+2}$.
$\lvert Er_{i,t+1} \rvert$	It represents current-year mean absolute forecast error $MAE_{i,t+1}^{t+1}$, current-year root mean square forecast error $RMSE_{i,t+1}^{t+1}$ or one-year-ahead mean absolute forecast error $MAE_{i,t+1}^{t+2}$, one-year-ahead root mean square forecast error $RMSE_{i,t+1}^{t+2}$.

Table 2. Sample structure and the distribution of UK listed industrial firms' first corporate refocusing

announcements.

Panel A reports the number of UK listed industrial firms announcing refocusing and those without any refocusing announcements. They are classified by Standard Industrial Classification (SIC) groups. SIC0 = agriculture, forestry, fishing and hunting; SIC1 = utilities; SIC2 = mining, quarrying, and oil and gas extractions; SIC3 = manufacturing; SIC4 = wholesale trade, retail trade, transportation and warehousing, information, accommodation and food services, and other services (except administration); and SIC5 = construction. Panel B presents the frequency of the first refocusing announcements. Panel C presents the number of current year and one-year-ahead primary EPS and target price forecast observations of refocusing firms and non-refocusing firms. The primary EPS forecast data is from 1998 to 2011 but target price data are from 2003 to 2011. This is because I/B/E/S has been providing target price forecast data for UK industrial firms since 2002. There are 490 pairs of PSM refocusing and non-refocusing firms according to their financial characteristics, which are presented in Table 3.

Panel A: Sample structure

SIC Group	0	1	2	3	4	5	Total
Initial number of refocusing firms	8	26	87	123	533	64	841
Less: Missed Datastream firm code	0	1	2	8	20	1	32
Less: Firms announced refocusing in 2010	0	2	6	1	15	2	26
Less: Missed I/B/E/S firm code or data	0	2	6	2	47	2	59
Final number of refocusing firms from 2000-2009	8	21	73	112	451	59	724
Initial number of non-refocusing firms	23	29	409	277	998	60	1796
Less: Missed I/B/E/S firm code or data	13	10	94	66	230	24	437
Final number of non-refocusing firms	10	19	315	211	768	36	1359

Panel B: Frequency of the first refocusing announcements

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Frequency of first refocusing announcements (%)	5.58	7.77	8.01	6.82	5.67	4.58	3.95	4.78	5.54	5.57

Panel C: I/B/E/S data

	No. of firms	No. of primary current year EPS forecasts	No. of primary one-year-ahead EPS forecasts	No. of primary target price forecasts
Refocusing firms	724	150,521	153,190	51,096
Non–refocusing firms	1,359	77,473	76,578	31,865
PSM refocusing firms	490	94,775	96,599	35,245
PSM non–refocusing firms	490	54,800	55,142	27,993

Table 3. 490 pairs of Propensity Score Matched refocusing and non-refocusing firms

There are 490 pairs of Propensity Score Matched (PSM) refocusing and non-refocusing firms derived from the following binominal logistic model:

$$\Pr(\text{Refocus 1,0})_{i,t} = \alpha_{i,t} + \beta_1 CAR_{i,t-12m} + \beta_2 \log MV_{i,t-1} + \beta_3 BTMV_{i,t-1} + \beta_4 DtoEq_{i,t-1} + \beta_5 IndadjROA_{i,t-1} + \sum_{d=0}^{4} \beta_d SIC_{d,i,t} + \varepsilon_{i,t}$$

Pr(Refocus1,0) is equal to 1 if a firm *i* announces refocusing in year *t*, 0 otherwise. $SIC_{d,i,t}$ is one digit Standard Industry Classification (SIC) group of firm *i* in year *t*. SIC5 is treated as the base group by the SAS programme. Panel A presents the results of the above model. Panel B presents the covariance balance of independent variables between 490 PSM refocusing and non-refocusing firms, which is measured by the difference of magnitude of these variables. The remaining independent variables are defined in Table 1. *t*-test, Wilcoxon sign rank test and Kolmogorov-Smimov test are presented in parentheses. *, ** and *** denote the statistically significance at the 10%, 5% and 1% respectively.

Panel A: Results of binominal logistic model						
	$\alpha_{i,t}$	$IndadjROA_{i,t-1}$	$logMV_{i,t-1}$	$CAR_{i,t-12m}$	$BTMV_{i,t-1}$	$DtoEq_{i,t-1}$
Mean	–3.8788***	0.0924	0.3333***	–0.285**	0.2125**	0.0018**
t-test	(–15.32)	(0.33)	(4.06)	(–2.19)	(2.54)	(2.88)
		SIC0	*SIC1*	*SIC2*	*SIC3*	*SIC4*
Mean		–5.5626**	0.1692	–0.3659	–0.2068	–0.0888
t-test		(–2.5)	(0.51)	(–1.94)	(–0.80)	(–0.45)
Panel B:Covariance balance of independent variables between 490 PSM refocusing and non-refocusing firms						
		$DiffIndadjROA_{i,t-1}$	$DifflogMV_{i,t-1}$	$DiffCAR_{i,t-12m}$	$DiffBTMV_{i,t-1}$	$DiffDtoEq_{i,t-1}$
Mean		0.0235	0.0949**	0.0549*	–0.0305	5.2117
t-test		(1.63)	(2.03)	(1.79)	(–0.55)	(1.00)
Median		–0.0035	0.041	0.0245	0.062	3.98
Wilcoxon sign rank		(0.1)	(1.89)	(1.71)	(0.22)	(1.62)
Kolmogorov-Smirnov		(0.08)	(0.09)	(0.07)	(0.08)	(0.07)

Table 4. Descriptive analysis

Please refer to Table 1 for the definition of the following variables.

	Obs.	Mean	STD	Max	Median	Min	Skewness	Kurt
Panel A: 490 PSM refocusing firms								
$IndadjROA_{i,t-1}$	4836	–0.01	0.192	0.469	0.015	–1.871	–3.885	24.993
$CAR_{i,t-12m}$	5101	0.019	0.488	1.694	0.04	–1.694	–0.244	1.117
$logMV_{i,t-1}$	6492	1.892	0.897	3.769	1.942	–0.420	–0.129	–0.658
$BTMV_{i,t-1}$	6343	0.825	0.992	10	0.575	–2.174	3.777	23.103
$DtoEq_{i,t-1}$	4905	55.89	82.637	521.25	36.44	–294.05	1.85	7.745
$OItNTA_{i,t}$	5129	0.163	0.72	8.468	0.183	–14.05	–2.771	89.210
$AR_{i,t}$	5468	0.009	0.475	2.207	–0.038	–1.125	0.851	1.741
$Fq_{i,t}$	3473	0.200	0.264	1.362	0	0	0.13	0.518
$FRV_{i,t}^{t}$	2950	–0.011	0.03	0.056	–0.003	–0.148	–1.758	3.874
$FRV_{i,t}^{t+1}$	2580	–0.011	0.028	0.058	–0.004	–0.125	–1.218	2.248
$Er_{i,t}^{t}$	3331	–0.015	0.046	0.080	–0.002	–0.286	–2.110	6.280
$Er_{i,t}^{t+1}$	2827	–0.025	0.059	0.102	–0.011	–0.284	–1.390	2.749
$MAE_{i,t}^{t}$	3331	0.034	0.048	0.352	0.015	0.0004	2.819	9.330
$MAE_{i,t}^{t+1}$	2827	0.049	0.057	0.338	0.027	0.001	2.170	5.014
$RMSE_{i,t}^{t}$	3331	0.035	0.049	0.352	0.016	0.0005	2.820	9.333
$RMSE_{i,t}^{t+1}$	2827	0.050	0.058	0.339	0.028	0.001	2.171	5.006
$TPRV_{i,t}^{t}$	800	0.005	0.349	0.908	0.01	–1.532	–0.398	0.916
Panel B: 490 PSM non-refocusing firms								
$IndadjROA_{i,t-1}$	4612	–0.027	0.231	0.469	0.012	–1.849	–3.183	15.027
$CAR_{i,t-12m}$	4794	0.023	0.504	1.690	0.039	–1.694	–0.136	1.048
$logMV_{i,t-1}$	5996	1.789	0.893	3.769	1.789	–0.42	0.077	–0.588
$BTMV_{i,t-1}$	5925	0.831	1.093	10	0.543	–2.273	3.579	18.512
$DtoEq_{i,t-1}$	4765	43.824	79.163	524.140	22.880	–302.53	1.821	9.393
$OItNTA_{i,t}$	4931	0.11	0.92	10.520	0.146	–16.928	–4.763	97.759
$AR_{i,t}$	5102	0.014	0.498	2.215	–0.038	–1.131	0.974	2.021
$Fq_{i,t}$	1642	0.139	0.229	1.146	0	0	1.634	2.120
$FRV_{i,t}^{t}$	1395	–0.009	0.035	0.161	–0.003	–0.136	–0.283	4.103
$FRV_{i,t}^{t+1}$	1216	–0.01	0.035	0.166	–0.004	–0.134	–0.107	3.343
$Er_{i,t}^{t}$	1705	–0.015	0.055	0.225	–0.003	–0.272	–1.162	5.012
$Er_{i,t}^{t+1}$	1418	–0.027	0.071	0.228	–0.013	–0.286	–0.667	2.129
$MAE_{i,t}^{t}$	1705	0.038	0.054	0.334	0.017	0	2.652	7.930
$MAE_{i,t}^{t+1}$	1418	0.063	0.085	0.66	0.032	0.0002	3.027	11.891
$RMSE_{i,t}^{t}$	1705	0.038	0.054	0.335	0.018	0	2.633	7.810
$RMSE_{i,t}^{t+1}$	1418	0.054	0.06	0.324	0.032	0.0002	1.859	3.476
$TPRV_{i,t}^{t}$	533	0.088	0.519	2.276	0.023	–1.092	1.007	2.351
Panel C: Industry variables								
$Hindex_{d,i,t}$	33838	0.106	0.121	0.556	0.041	0.020	1.450	0.949
$RECESS_{t-12m}$				1		0		

Table 5. The association between analysts' forecast revisions and refocusing announcements

The association between forecast revisions and refocusing announcements is examined in the following model:

$$FRV_{i,t}^{t} = \vartheta + \lambda_1 OI_{i,t} + \lambda_2 UNEXP_{i,t} + \lambda_3 UNEXP_{i,t} OI_{i,t} + \sum_{f=-2}^{2} \rho_f D_f + \sum_{f=-2}^{2} \delta_f D_f OI_{i,f} + \sum_{f=-2}^{2} \varphi_f D_f UNEXP_{i,f}$$

$$+ \sum_{f=-2}^{2} \gamma_f D_f UNEXP_{i,f} OI_{i,f} + \lambda_4 AR_{it,} + \lambda_5 RECESS_{t-12m} + \lambda_6 Hindex_{d,i,t} + \sum_{y=98}^{2010} \upsilon_y D_y + \varepsilon_{i,t}$$

where $FRV_{i,t}^{t}$ denotes current year earnings forecast revision for firm *i* issued in year *t* by analysts. It is replaced by one-year-ahead forecast revision ($FRV_{i,t}^{t+1}$) and target price revision ($TPRV_{i,t}^{t}$) to derive related results. Other variables are defined in Table 1. Results for years (D_y) are not tabulated due to limited space. *, **, and *** indicate statistical significance at the 5%, 1% and 0.1% respectively.

	$FRV_{i,t}^{t}$	*t-test*	$FRV_{i,t}^{t+1}$	*t-test*	$TPRV_{i,t}^{t}$	*t-test*
$OI_{i,t}$	–0.0097**	(–3.12)	–0.0097***	(–4.06)	–0.0670	(–1.33)
$UNEXP_{i,t}$	0.1107***	(4.42)	0.4678***	(12.93)	0.1876	(0.45)
$UNEXP_{i,t}OI_{i,t}$	0.0027	(0.05)	–0.2106***	(–3.77)	0.1242	(0.13)
D_{-2}	–0.0016	(–0.84)	–0.0012	(–0.97)	–0.0457	(–1.09)
D_{-1}	–0.0006	(–0.35)	–0.0022	(–1.70)	–0.1059*	(–2.51)
D_0	–0.0036*	(–1.97)	–0.0032*	(–2.34)	–0.0054	(–0.19)
D_1	0.0008	(0.48)	–0.0029*	(–2.08)	–0.0584*	(–2.06)
D_2	–0.0005	(–0.31)	–0.0055**	(–3.30)	–0.0478	(–1.61)
$D_{-2}OI_{i,-2}$	0.0134*	(1.97)	0.0013	(0.24)	–0.1817	(–1.84)
$D_{-1}OI_{i,-1}$	–0.0012	(–0.16)	–0.0015	(–0.30)	–0.1866	(–1.77)
$D_0OI_{i,0}$	0.0017	(0.17)	0.0060	(1.36)	–0.2109*	(–2.07)
$D_1OI_{i,1}$	0.0069	(0.78)	–0.0023	(–0.40)	–0.1114	(–1.75)
$D_2OI_{i,2}$	–0.0158	(–1.01)	0.0057	(0.84)	0.0278	(0.23)
$D_{-2}UNEXP_{i,-2}$	0.0220	(0.25)	–0.0394	(–0.55)	–1.2143	(–0.71)
$D_{-1}UNEXP_{i,-1}$	0.0458	(0.50)	0.0217	(0.31)	5.8944*	(2.13)
$D_0UNEXP_{i,0}$	0.0683	(1.07)	–0.1727**	(–2.58)	0.9140	(1.11)
$D_1UNEXP_{i,1}$	–0.0070	(–0.12)	0.0039	(0.05)	–0.4106	(–0.28)
$D_2UNEXP_{i,2}$	0.0773	(0.98)	–0.2259*	(–2.32)	1.0956	(1.07)
$D_{-2}OI_{i,-2}UNEXP_{i,-2}$	0.3574*	(2.23)	0.0480	(0.45)	–8.3559*	(–2.22)
$D_{-1}OI_{i,-1}UNEXP_{i,-1}$	–0.2414	(–1.65)	0.0006	(0.01)	–7.8712	(–1.74)
$D_0OI_{i,0}UNEXP_{i,0}$	–0.0713	(–0.38)	0.1340	(1.33)	–4.5812*	(–2.27)
$D_1OI_{i,1}UNEXP_{i,1}$	–0.1177	(–0.88)	–0.1140	(–0.91)	4.6752*	(2.55)
$D_2OI_{i,2}UNEXP_{i,2}$	–0.5112**	(–2.69)	0.0694	(0.49)	–4.2916*	(–2.09)
$AR_{i,t}$	0.0217***	(14.08)	0.0008	(0.72)	0.4763***	(12.29)
$RECESS_{t-12m}$	0.0019	(0.62)	0.0039	(1.12)	–0.2496***	(–6.70)
$Hindex_{d,i,t}$	0.0074	(1.73)	0.0061	(1.41)	0.1281	(1.54)
Year dummies	Yes		Yes		Yes	
ϑ	–0.0063*	(–2.54)	–0.0069***	(–4.51)	0.0440	(1.51)
N	3435		3541		1201	
adj. R^2	0.167		0.321		0.383	

Table 6. The association between analysts' forecast errors and refocusing announcements due to models (7) and (8).

The association between analysts' forecast errors and refocusing announcements is examined in the following models:

$$Er_{i,t} = \varphi + \gamma_1 Er_{i,t-1} + \gamma_2 R_{i,t-1} + \gamma_3 Fq_{i,t} + \sum_{f=-2}^{2} \psi_f D_f + \sum_{f=-2}^{2} \phi_f D_f Er_{i,f-1} + \sum_{f=-2}^{2} \theta_f D_f R_{i,f-1} + \sum_{f=-2}^{2} \varpi_f D_f Fq_{i,f} + \gamma_4 RECESS_{t-12m} + \gamma_5 Hindex_{d,i,t} + \sum_{y=98}^{2010} \upsilon_y D_y + \varepsilon_{i,t}$$

$$\left|Er_{i,t}\right| = \varphi + \gamma_1 \left|Er_{i,t-1}\right| + \gamma_2 \left|R_{i,t-1}\right| + \gamma_3 Fq_{i,t} + \sum_{f=-2}^{2} \psi_f D_f + \sum_{f=-2}^{2} \phi_f D_f Er_{i,f-1} + \sum_{f=-2}^{2} \theta_f D_f R_{i,f-1} + \sum_{f=-2}^{2} \varpi_f D_f Fq_{i,f} + \gamma_4 RECESS_{t-12m} + \gamma_5 Hindex_{d,i,t} + \sum_{y=98}^{2010} \upsilon_y D_y + \varepsilon_{i,t}$$

where $Er_{i,t}$ is a common term and denotes current year earnings forecast errors ($Er_{i,t}^{t}$) for firm *i* in year *t.* It can be replaced by one -year-ahead earnings forecast errors ($Er_{i,t}^{t+1}$). $\left|Er_{i,t}\right|$ denotes current year mean absolute forecast errors ($MAE_{i,t}^{t}$), and root mean square forecast errors ($RMSE_{i,t}^{t}$). It can be replaced by one-year-ahead forecast errors $MAE_{i,t}^{t+1}$, $RMSE_{i,t}^{t+1}$. Other variables are defined in Table 1. Results for years (D_y) are not tabulated due to limited space. *, **, and *** indicate statistical significance at the 5%, 1% and 0.1% respectively.

	$Er_{i,t}^{t}$	$MAE_{i,t}^{t}$	$RMSE_{i,t}^{t}$	$Er_{i,t}^{t+1}$	$MAE_{i,t}^{t+1}$	$RMSE_{i,t}^{t+1}$
$Er_{i,t-1}$; $\left\|Er_{i,t-1}\right\|$	0.1806***	0.4074***	0.4200***	0.3832***	0.4495***	0.5229***
$R_{i,t-1}$; $\left\|R_{i,t-1}\right\|$	0.0088***	–0.0002	–0.0006	0.0336***	0.0157***	0.0125***
$Fq_{i,t}$	0.0093***	–0.0177***	–0.0169***	0.0095**	–0.0213***	–0.0147***
D_{-2}	–0.0037	–0.0011	–0.0018	–0.0096	0.0091	0.0163
D_{-1}	–0.0170***	0.0111*	0.0108	–0.0047	0.0097	0.0154
D_0	–0.0120*	0.0118	0.0114	–0.0045	0.0006	0.0057
D_1	0.0023	–0.0040	–0.0045	–0.0026	–0.0036	0.0010
D_2	0.0034	0.0080	0.0061	0.0033	–0.0066	–0.0035
$D_{-2}Er_{i,-3}$; $D_{-2}\left\|Er_{i,-3}\right\|$	0.1790	–0.0520	–0.0431	–0.0929	–0.1381	–0.1885
$D_{-1}Er_{i,-2}$; $D_{-2}\left\|Er_{i,-2}\right\|$	–0.0481	–0.1187	–0.1206	0.1399	0.0179	–0.0518
$D_0Er_{i,-1}$; $D_0\left\|Er_{i,-1}\right\|$	0.1068	0.0177	0.0115	–0.0826	–0.1723	–0.2139*
$D_1Er_{i,0}$; $D_1\left\|Er_{i,0}\right\|$	–0.0760	–0.1666*	–0.1521*	0.0507	0.0934	0.0310
$D_2Er_{i,1}$; $D_2\left\|Er_{i,1}\right\|$	0.0434	0.0295	–0.0025	0.1502	0.1364	0.0888
$D_{-2}R_{i,-3}$; $D_{-2}\left\|R_{i,-3}\right\|$	0.0043	0.0009	0.0009	–0.0079	–0.0129	–0.0127
$D_{-1}R_{i,-2}$; $D_{-1}\left\|R_{i,-2}\right\|$	0.0100	–0.0040	–0.0035	–0.0134	–0.0343**	–0.0308*
$D_0R_{i,-1}$; $D_0\left\|R_{i,-1}\right\|$	–0.0086	–0.0065	–0.0054	0.0019	0.0029	0.0066
$D_1R_{i,0}$; $D_1\left\|R_{i,0}\right\|$	0.0037	–0.0032	–0.0005	–0.0041	–0.0149	–0.0097
$D_2R_{i,1}$; $D_2\left\|R_{i,1}\right\|$	–0.0016	–0.0111	–0.0121	–0.0062	0.0026	0.0065
$D_{-2}Fq_{i,-2}$	0.0081	–0.0028	–0.0021	0.0068	–0.0058	–0.0110
$D_{-1}Fq_{i,-1}$	0.0227***	–0.0139*	–0.0134*	–0.0024	0.0072	0.0022
$D_0Fq_{i,0}$	0.0181*	–0.0108	–0.0101	0.0020	0.0122	0.0051
$D_1Fq_{i,1}$	–0.0068	0.0116*	0.0102	0.0002	0.0094	0.0042
$D_2Fq_{i,2}$	–0.0049	–0.0029	0.0009	0.0026	0.0017	–0.0016
$RECESS_{t-12m}$	–0.0088	–0.0016	–0.0020	–0.0088	0.0228*	0.0246**
$Hindex_{d,i,t}$	0.0056	–0.0065	–0.0061	0.0080	–0.0016	–0.0112
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
φ	–0.0031	0.0253***	0.0254***	–0.0134***	0.0165***	0.0127***
N	3817	3853	3858	3174	3186	3163
adj. R^2	0.098	0.175	0.178	0.269	0.240	0.267

Table 7. The association between analysts' forecast errors and refocusing announcements die to models (9) and (10).

The following models examine the association between analysts' forecast errors and restructuring charges:

$$Er_{i,t+1} = \varphi + \gamma_1 Er_{i,t-1} + \gamma_2 Restruct_{i,t} + \gamma_3 R_{i,t} + \gamma_4 Fq_{i,t+1} + \gamma_5 RECESS_{t+1-12m} + \gamma_6 Hindex_{d,i,t+1} + \sum_{y=98}^{2010} \upsilon_y D_y + \varepsilon_{i,t+1}$$

$$\left|Er_{i,t+1}\right| = \varphi + \gamma_1 \left|Er_{i,t-1}\right| + \gamma_2 Restruct_{i,t} + \gamma_3 \left|R_{i,t}\right| + \gamma_4 Fq_{i,t+1} + \gamma_5 RECESS_{t+1-12m} + \gamma_6 Hindex_{d,i,t+1} + \sum_{y=98}^{2010} \upsilon_y D_y + \varepsilon_{i,t+1}$$

where $Er_{i,t+1}$ denotes current year earnings forecast errors ($Er_{i,t+1}^{t+1}$) for firm *i* issued at time *t+1*. It can be replaced by one-year-ahead forecast errors ($Er_{i,t+1}^{t+2}$). $\left|Er_{i,t+1}\right|$ denotes current year mean absolute forecast errors ($MAE_{i,t+1}^{t+1}$) and root mean square forecast errors ($RMSE_{i,t+1}^{t+1}$). It can be replaced by one-year-ahead forecast errors $MAE_{i,t+1}^{t+2}$, $RMSE_{i,t+1}^{t+2}$. $Restruct_{i,t}$ denotes the restructuring charges divided by total sales of firm *i* at the end of financial year end *t*. Other variables are defined in Table 1 and Section 3.2. The *t* statistics are given in parentheses below the coefficients. Results for years (D_y) are not tabulated due to limited space. *, **, and *** indicate statistical significance at the 5%, 1% and 0.1% respectively.

	$Er_{i,t+1}^{t+1}$	$MAE_{i,t+1}^{t+1}$	$RMSE_{i,t+1}^{t+1}$	$Er_{i,t+1}^{t+2}$	$MAE_{i,t+1}^{t+2}$	$RMSE_{i,t+1}^{t+2}$
$Er_{i,t-1}$; $\left\|Er_{i,t-1}\right\|$	0.1132**	0.2782***	0.2995***	0.1574***	0.2415***	0.2613***
	(3.09)	(7.11)	(7.99)	(5.45)	(5.82)	(6.58)
$Restruct_{i,t}$	0.0762	0.4498	0.5028	–0.0237	0.0366	0.0539
	(0.30)	(1.39)	(1.54)	(–0.24)	(0.29)	(0.39)
$R_{i,t}$; $\left\|R_{i,t}\right\|$	0.0160***	0.0037	0.0063*	0.0493***	0.0237***	0.0231***
	(7.03)	(1.25)	(2.22)	(14.79)	(5.33)	(5.43)
$Fq_{i,t+1}$	0.0111***	–0.0190***	–0.0178***	0.0111***	–0.0166***	–0.0150***
	(4.67)	(–6.43)	(–6.43)	(3.66)	(–4.95)	(–4.51)
$RECESS_{t-12m}$	0.0043	–0.0044	–0.0088	–0.0253*	–0.0022	0.0014
	(0.79)	(–0.59)	(–1.32)	(–2.50)	(–0.20)	(0.12)
$Hindex_{d,i,t}$	–0.0027	–0.0140	–0.0132	–0.0082	–0.0167	–0.0109
	(–0.35)	(–1.73)	(–1.66)	(–0.84)	(–1.59)	(–1.02)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
φ	–0.0183***	0.0354***	0.0348***	–0.0244***	0.0513***	0.0494***
	(–5.10)	(7.21)	(7.06)	(–7.07)	(8.15)	(7.95)
N	2442	2326	2463	1969	1971	1964
adj. R^2	0.096	0.106	0.113	0.214	0.121	0.126

Table 8. Analysts' responses to good and bad news at deriving their earnings forecast revisions and target price revisions

The association between analysts' earnings forecast revisions and good and bad news is examined in the following model:

$$FRV_{i,t}^{t} = \alpha + \omega AR_{i,t} + \alpha_B B + \omega_B BAR_{i,t} + \alpha_r Rf + \omega_r RfAR_{i,t} + \alpha_{B,r} RfB + \omega_{B,r} RfBAR_{i,t}$$
$$+ \sum_{f=-2}^{2}(\alpha_f D_f + \omega_f D_f AR_{i,t} + \alpha_{B,f} D_f B + \omega_{B,f} D_f BAR_{i,f}) + \sum_{yr=98}^{2010}(\alpha_y D_y + \omega_y D_y AR_{i,t} + \alpha_{B,y} D_y B + \omega_{B,y} D_y BAR_{i,t}) + \varepsilon_{i,t}$$

where $FRV_{i,t}^{t}$ can be replaced by one-year-ahead earnings forecast revisions ($FRV_{i,t}^{t+1}$) and target price revision ($TPRV_{i,t}^{t}$). There are 14 D_y year dummy variables for 1998 to 2011. D_{2011} is treated as a base year for the above model. To save space, year dummies are not tabulated. Other variables are defined in Table 1. The *t* statistics are given in the parentheses below the coefficients. [a], [b], and [c] indicate statistical significance at the 10%, 5%and 1% respectively.

	Adj R-Sq	F-value	Obs.	α	$AR_{i,t}$	B	$BAR_{i,t}$	Rf	$RfAR_{i,t}$	RfB	$RfBAR_{i,t}$
$FRV_{i,t}^{t}$	16.67%	11.58	4,180	–0.0012	0.0105	–0.0024	0.0663[c]	–0.0001	–0.0011	0.0023	0.0100
				(–0.17)	(0.97)	(–0.20)	(2.45)	(–0.06)	(–0.28)	(0.67)	(1.21)
$FRV_{i,t}^{t+1}$	7.01%	4.73	3,706	–0.0064	0.0060	0.0061	0.0109	–0.0012	–0.0038	0.0053	0.0148
				(–0.88)	(0.56)	(0.50)	(0.42)	(–0.49)	(–0.85)	(1.41)	(1.59)
$TPRV_{i,t}^{t}$	17.67%	42.95	1,307	–0.0302	1.0078[c]	0.0246	–0.3314	0.1053[b]	–0.4125[c]	–0.0472	0.5841[c]
				(–0.31)	(8.31)	(0.16)	(–0.86)	(2.50)	(–5.19)	(–0.67)	(2.93)
		D_{-2}	D_{-1}	D_0	D_1	D_2	$D_{-2}AR_{i,-2}$	$D_{-1}AR_{i,-1}$	$D_0AR_{i,0}$	$D_1AR_{i,1}$	$D_2AR_{i,2}$
$FRV_{i,t}^{t}$		0.0012	0.0026	–0.0026	0.0069	0	–0.0156[a]	–0.0157[a]	–0.0066	–0.0165[a]	–0.0060
		(0.30)	(0.63)	(–0.61)	(1.61)	(0)	(–1.85)	(–1.65)	(–0.63)	(–1.71)	(–0.63)
$FRV_{i,t}^{t+1}$		0.0029	–0.0061	–0.0061	–0.0048	–0.0070	–0.0121	0.0099	0.0050	0.0101	0.0071
		(0.67)	(–1.39)	(–1.38)	(–1.10)	(–1.55)	(–1.22)	(0.90)	(0.50)	(1.03)	(0.80)
$TPRV_{i,t}^{t}$		–0.1550	–0.0558	–0.205[b]	–0.0771	–0.0186	0.1379	–0.3607	–0.0162	0.2508	–0.0497
		(–1.54)	(–0.55)	(–2.00)	(–0.74)	(–0.24)	(0.43)	(–1.26)	(–0.05)	(0.89)	(–0.23)
		$D_{-2}B$	$D_{-1}B$	D_0B	D_1B	D_2B	$D_{-2}BAR_{i,-2}$	$D_{-1}BAR_{i,-1}$	$D_0BAR_{i,0}$	$D_1BAR_{i,1}$	$D_2BAR_{i,2}$
$FRV_{i,t}^{t}$		0.0014	–0.0029	0.0013	0.0045	–0.0051	–0.0013	0.0276[a]	0.0557[c]	0.0336[a]	0.0300
		(0.09)	(–0.47)	(0.20)	(0.68)	(–0.78)	(–0.19)	(1.71)	(2.85)	(1.67)	(1.35)
$FRV_{i,t}^{t+1}$		0.0047	–0.0058	0.0087	0.0126[a]	0.0005	0.0106	0.0205	0.0475[b]	0.0013	0.0200
		(0.27)	(–0.85)	(1.24)	(1.90)	(0.08)	(1.41)	(1.02)	(2.55)	(0.07)	(1.04)
$TPRV_{i,t}^{t}$		–0.4647	0.0410	0.0790	0.2770[a]	0.0663	0.0223	0.9362[b]	0.4975	0.0431	0.2101
		(–0.99)	(0.27)	(0.58)	(1.76)	(0.50)	(0.19)	(2.46)	(0.99)	(0.11)	(0.53)