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To cite this article: Thomas Schleicher & Martin Walker (2015) Are interim management statements redundant?, *Accounting and Business Research*, 45:2, 229-255, DOI: [10.1080/00014788.2014.1002444](https://doi.org/10.1080/00014788.2014.1002444)

To link to this article: <https://doi.org/10.1080/00014788.2014.1002444>



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Published online: 03 Mar 2015.



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# Are interim management statements redundant?

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In 2004 the Transparency Directive increased the reporting frequency by mandating the Interim Management Statement (IMS). However, only nine years later, the EU announced that it was making quarterly reporting voluntary again, arguing that IMSs are redundant as they are unlikely to contain any additional information not already required by the Market Abuse Directive (MAD). The current paper tests this argument empirically. For that it collects data on trading statements from a post-MAD pre-IMS year and uses these statements to predict which IMSs are genuinely incremental firm announcements ('incremental IMSs') and not simply substitutes for otherwise disclosed trading statements ('non-incremental IMSs'). It then calculates three-day abnormal return variability and abnormal trading volume associated with incremental and non-incremental IMSs and it makes three observations. First, the introduction of IMSs coincided with a substantial reduction in other trading statements consistent with a large substitution effect between IMSs and non-periodic trading statements. Second, incremental third-quarter IMSs, but not incremental first-quarter IMSs, exhibit significantly positive abnormal return variability and abnormal trading volume, suggesting that the withdrawal of IMSs will involve the loss of *some* relevant information. Third, higher abnormal return variability and trading volume for non-incremental IMSs, relative to incremental IMSs, are consistent with the argument that a MAD-only regime will ensure the release of *most* relevant information.

**Keywords:** abnormal return variability; abnormal trading volume; Market Abuse Directive; reporting frequency; Transparency Directive

## 1. Introduction

In late 2004 the EU adopted Directive 2004/109/EC ('Transparency Directive') (TD) and with it introduced, in Article 6, a new quarterly statement known as the Interim Management Statement (IMS). For a typical EU country like the UK, this introduction increased the annual reporting frequency from two to four statements. Specifically, listed companies on EU-regulated markets have to issue, for any period starting after 20 January 2007, an IMS in the first quarter and an IMS in the third quarter, in addition to an interim report and an annual report. The Commission of the

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European Communities (2003, p. 3) argued that the introduction of IMSs was necessary to increase investor protection and to close the transparency gap between the USA and the EU especially as the Securities and Exchange Commission (1970) has required quarterly reports from US-listed companies since 1971. However, unlike the quarterly report in the USA, the IMS does not need to include a set of financial statements. Instead, an IMS meets the TD's requirements by simply giving a general description of the financial position and performance since the last interim or annual report and by explaining any material events and transactions that have since taken place. These descriptions and explanations can be entirely narrative if the firm so wishes and they are typically no longer than two pages in length. Thus, in effect, IMSs are relatively short trading updates, not financial reports per se.

More recently, the Commission of the European Communities (2011) announced its intention to make quarterly reporting voluntary again. Specifically, the Commission of the European Communities (2011, p. 5) argued in 2011 that abolishing IMSs should not have any negative impact on investor protection as Directive 2003/6/EC ('Market Abuse Directive') (MAD) already requires, in Articles 1 and 6, the immediate, ad hoc release of price-sensitive information. This, the Commission argues, implies that IMSs are redundant, as they are unlikely to contain any incremental information, that is, any new information over and above the information already required by the MAD. Mandatory IMSs were formally abolished on 22 October 2013 via Directive 2013/50/EU and member states will have to implement the withdrawal of the IMS requirement within 24 months.

The current paper empirically tests the Commission's argument that quarterly IMSs are unlikely to contain any incremental information. For that we hand-collect information on trading statements, including IMSs, in 2009 and 2010. These are the two years for which, at the time of data collection, IMS publication dates were available from PI Navigator, a global corporate finance and capital market database, and which, unlike 2007 and 2008, are less likely to suffer from teething problems often associated with the implementation of a new reporting regime. We then compare the actual number of trading statements, including IMSs, in 2009 and 2010 against the number of trading statements predicted for a hypothetical disclosure regime that operates under the MAD but without mandatory IMSs. Comparing actual against predicted values allows us to divide IMSs into two types of statements, that is, IMSs that are likely to be genuinely incremental trading statements ('incremental IMS') and IMSs that are likely to be substitutes for otherwise disclosed non-periodic trading statements ('non-incremental IMS').

We obtain estimates of the expected number of trading statements under the hypothetical disclosure regime in two different ways, but with similar results. First, we regress the number of trading statements in 2006, a post-MAD pre-IMS year, on a large number of firm characteristics which have been suggested as determinants in the prior literature on reporting frequency and voluntary trading statements (e.g. Kasznik and Lev 1995, Miller and Piotroski 2000, Cuijpers and Peek 2010) and we use the estimated regression coefficients to predict values for 2009 and 2010. Second, for a subsample of firms which are listed on the London Stock Exchange in both 2006 and 2009 or 2010, we use the actual number of trading statements in 2006 to predict values under the MAD-only regime for 2009 and 2010. We selected 2006 as the benchmark year as the MAD came into effect in the UK on 1 July 2005. Thus, 2006 is a year which operated under the MAD, but not under the TD.

Next we test the argument that mandatory IMSs are redundant by following Beaver (1968) and Landsman et al. (2012) and by calculating three-day announcement period abnormal return variability and abnormal trading volume associated with incremental and non-incremental IMSs. The calculation of these two metrics follows the notions in Beaver (1968) and Lev (1989) who deem information to be relevant to investors if (a) fluctuations in stock prices and (b) trading volumes can be attributed to that information and who argue that the greater the relevance of the

information, the greater the associated price fluctuation and trading volume. The rationale is that the degree of price fluctuation and trading volume reflects the extent to which an investor reassesses the amount, timing and uncertainty of expected future cash flows, and the extent of this reassessment is argued to increase in the relevance of the information. For example, if mandatory IMSs are redundant, as argued by the EU, then incremental IMSs should exhibit no abnormal return variability and abnormal trading volume.

Our main findings can be summarised as follows. First, when we analyse the frequency of non-periodic trading statements pre- and post-IMS, we find that the introduction of IMSs coincides with a substantial reduction in the average per-firm number of non-periodic trading statements, especially in the first half of the financial year. This is consistent with a large substitution effect between periodic and non-periodic trading statements. In contrast, the substitution effect is smaller in the second half of the financial year, and, as a result, the majority of incremental IMSs are third-quarter IMSs, not first-quarter IMSs. Second, incremental third-quarter IMSs are associated with significant abnormal return variability and significant abnormal trading volume, consistent with the argument that abolishing mandatory IMSs will lead to *some* loss in relevant information. Third, when we compare abnormal return variability and abnormal trading volume between incremental and non-incremental IMSs, we observe consistently higher medians for non-incremental IMSs, and the observed differences are frequently significant, especially when we examine IMSs in the second half of the year, that is, third-quarter IMSs. If we interpret abnormal return variability and abnormal trading volume associated with non-incremental IMSs as proxying for the amount of relevant information that is disclosed even in the absence of a mandatory IMS regime, then the findings of higher medians for these statements suggest that the MAD, in its own right, is effective in ensuring the release of *most* relevant information, consistent with the Commission's arguments in 2011 and the formal withdrawal of mandatory IMSs in 2013.

In summary, we contribute to the literature in two ways. First, we provide evidence on the degree to which periodic and non-periodic disclosures interact with each other. In particular, our finding of a large substitution effect supports the idea in Gigler and Hemmer (1998) that a regulator's decision to increase reporting frequency can have a negative effect on a firm's other disclosures. Second, we provide evidence on the extent to which a disclosure regime based on mandatory ad hoc disclosures, rather than mandatory periodic disclosures, is sufficiently reliable to ensure the release of most relevant information. This evidence should be of interest to policymakers, both inside and outside the EU, who wish, in the future, to weigh up the cost and benefits of mandatory periodic disclosures versus mandatory non-periodic disclosures.

The remainder of the paper is organised as follows. The next section reviews the literature on reporting frequency. Section 3 reviews the history of the TD. Section 4 describes the sample selection and provides evidence on the type of disclosures that are routinely made in UK IMSs. Section 5 presents findings from pre- and post-IMS trading statement frequencies, pre-IMS trading statement choice models, and IMS abnormal returns variabilities and abnormal trading volumes. Section 6 concludes.

## 2. Literature on reporting frequency

Most prior work on reporting frequency is empirical in nature and studies the incentives and economic consequences of increased reporting frequency, often in a US context. For example, Leftwich et al. (1981) document that, over the period 1937–1948, US firms' choices on interim reporting frequency vary with the stock exchange listing, while Sivakumar and Waymire (1994) find no evidence that, over the period 1905–1910, industrial firms listed on the NYSE were more likely to report favourable information in voluntary interim reports. In terms of economic consequences, McNichols and Manegold (1983) show that the abnormal return variability around the annual

earnings release date is reduced for the 34 AMEX firms that change their reporting frequency from annual to semi-annual or quarterly reporting in the 1960s. In a European context, several studies find that voluntary and mandatory interim reports spur significant price and trading volume reactions (e.g. Schadewitz 1996, Alves and Teixeira Dos Sontos 2008), suggesting that interim reports in several European countries provide useful information to equity investors. However, IMSs are neither earnings announcements nor quarterly reports. Thus, it is unclear whether prior empirical findings on reporting frequency apply to the IMS regime.

Several recent studies investigate empirically how the introduction of voluntary or mandatory interim reporting affects stock price informativeness (Alford et al. 1993, Butler et al. 2007, Cuijpers and Peek 2010) or information asymmetry and the cost of equity (Fu et al. 2012). These studies account explicitly for the possible interaction effects between reporting frequency and other sources of public or private information. Specifically, it is possible that the beneficial effect of increased reporting frequency on price informativeness is moderated by the effect that the reporting frequency choice has on (a) investors' private information acquisition activities and (b) the firm's willingness to make voluntary disclosures.

Higher reporting frequency can lead to more informative prices if it increases the total amount of information available to investors. However, as Verrecchia (2001) points out, this assumes that investors' private information acquisition activities are exogenously given. Relaxing this assumption could mean that a higher reporting frequency coincides with a reduction in private information acquisition, which could partly or fully negate the effect of higher reporting frequency on the amount of available information to investors.<sup>1</sup>

Whether higher reporting frequency increases the total amount of publicly available information is also unclear since higher reporting frequency can reduce the incentive for firms to make voluntary disclosures. In particular, Gigler and Hemmer (1998) show that an increase in reporting frequency may induce firms to delay their voluntary disclosure until the next mandatory reporting date. Specifically, the increase shortens the average period between a price-relevant information event and the next mandatory reporting date, thereby reducing the potential cost of delaying the disclosure. Examples of costs that might be reduced are reputational and litigation costs (Cuijpers and Peek 2010). For example, the reduced time span between mandatory reporting dates makes it more difficult for outsiders to argue that managers possessed undisclosed private information over a lengthy period of time.

While the theoretical predictions in Gigler and Hemmer (1998) are frequently used to motivate empirical work on reporting frequency (e.g. Fu et al. 2012), there is little direct evidence on whether the interaction effects suggested in Gigler and Hemmer (1998) are empirically important. The only direct evidence comes from Cuijpers and Peek (2010) who, in a supplementary test, show that UK quarterly reporters make voluntary news announcements on 3.97 days per year, compared to 4.22 days by UK semi-annual reporters, and the difference is marginally significant in a multivariate regression.

Below we argue that IMSs are trading statements. It is then natural to focus the analysis of the interaction effect on trading statements, not on all news announcements more generally.<sup>2</sup> Formally, we make the following prediction:<sup>3</sup>

*H1:* The introduction of IMSs coincides with a reduction in non-periodic trading statements.

### 3. EU Transparency Directive

After two consultation rounds in 2001 and 2002, the Commission of the European Communities (2003) presented on 26 March 2003 its proposal for a new Directive on the harmonisation of

transparency requirements for issuers of securities on regulated markets. The idea was to ‘markedly improve the information made available to all investors about publicly traded companies’ as this was seen as ‘essential for the functioning of capital markets, enhancing their overall efficiency and liquidity’ and as ‘an appropriate response to developments in the US, including the Sarbanes-Oxley Act’ (Commission of European Communities 2003, pp. 2–3). Greater transparency was envisaged, as far as periodic financial reporting was concerned, through (a) mandating the timely publication of annual reports after the year-end, (b) the formulation of more stringent disclosure requirements for interim (i.e. half-yearly) financial reports, and most importantly (c) a new requirement, for issuers of shares, of ‘less-demanding’ quarterly financial information for the first and third quarters of the financial year. Demanding only ‘limited’ information for the first and third quarters was seen as a solution in the middle of two extreme positions. One extreme position was to demand full quarterly financial reports similar to the requirement in the USA. The other extreme was to continue as before and not to require any quarterly information at all (Commission of European Communities 2003, p. 3).

The TD was formally adopted on 17 December 2004. Some of the initial proposals had been watered down, presumably as a result of political negotiations between the Commission and Parliament/Council. For example, the final wording of the Directive no longer prescribes the disclosure of net turnover and profit or loss for quarterly statements. Instead, Article 6 of the TD simply requires, for the period between the beginning of the quarter and the publication date, (a) an explanation of material events and transactions and their impact on the financial position and (b) a general description of the financial position and performance.

The wording in Article 6 suggests that IMSs are very different from interim and annual reports and also very different from US-style quarterly reports. In effect, IMSs are lightly regulated trading statements with management retaining considerable control over form and content. For example, the issuer can choose which financial statement line item, if any, to comment on when discussing financial position and performance, and the management is free to present this information either in numerical or in narrative form. Also, there is no duty to indicate trends beyond the date the statement is published. Finally, management retains some control over the length of the reporting period as Article 6 only stipulates that it ‘shall be made in a period between ten weeks after the beginning and six weeks before the end of the relevant six-month period’.

The UK implemented the IMS provisions of the TD without any modifications, also known as the ‘copy-out’ approach. The new rules were implemented via the UK Listing Authority’s Disclosure and Transparency Rules (DTR) (which are part of the Financial Conduct Authority Full Handbook) and became effective for periods beginning on or after 20 January 2007. DTRs also implemented the new shorter deadlines for the publication of interim and annual reports, of two and four months, respectively, but, overall, the Directive had only limited implications for UK reports as the typical UK issuer continued to employ IFRS for (condensed) interim and (full) annual reports.

In early 2010 the Commission set out to report on the operation of the TD, in accordance with Articles 6(3), 27(3) and 33. In particular, Article 6(3) of the TD required the Commission to ‘provide a report [ . . . ] on the transparency of quarterly financial reporting’ and to ‘include an impact assessment on areas where the Commission considers proposing amendments’. Based on the advice received from a number of external studies, regarding stakeholder perceptions and compliance costs, the Commission of the European Communities (2010) initiated a debate, on 27 May 2010, by asking whether there was scope for the transparency rules to be adapted, with a view to increasing the attractiveness of the regulated market for smaller companies.

Following a formal consultation round in summer 2010, the Commission of the European Communities (2011) published its formal proposal for an amendment of the TD on 25 October 2011. In it the Commission reiterated that an '[i]mprovement of the regulatory environment for small and medium-sized issuers and their access to capital are high political priorities for the Commission' (Commission of the European Communities 2011, p. 3). In order to achieve this priority, the Commission proposed to abolish the obligation to publish IMSs for all companies listed on regulated markets as abolishing IMSs only for small and medium-sized issuers was argued to be confusing to investors and thus undesirable. The Commission of the European Communities (2011, p. 5) argued that abolishing IMSs 'enables the small and medium-sized issuers to redirect their resources' and that abolishing IMSs 'should not have negative impact on investor protection'.

The Commission's proposal to abolish mandatory quarterly information and to reverse an important change introduced by the TD is based, in part, on a reassessment of the amount of periodic information that is deemed necessary to guarantee investor protection. While the Commission argued in 2003 that periodic reporting, including quarterly information, and ad hoc disclosures are different ways of informing the public, it emphasised in 2011 that quarterly information is *not* needed as the MAD already requires important information to be disclosed without delay.

The above discussion suggests that any formal test of the Commission's 2011 position needs to differentiate between IMSs that are likely to be substitutes for disclosures made under the MAD and IMSs that are genuinely incremental disclosures. We refer to the latter as incremental IMSs. Consistent with the Commission's argument that mandatory IMSs are not needed for investor protection, we formulate the following null hypothesis:

*H2: Incremental IMSs do not contain relevant information for investors.*

We operationalise the concept of relevant information for investors in terms of both abnormal return variability and abnormal trading volume. Examining both types of stock-market reaction side by side is consistent with the information content literature – including Beaver (1968), Landsman and Maydew (2002), DeFond et al. (2007) and Landsman et al. (2012) – which argues that tests of abnormal return variability and abnormal trading volume complement each other. Specifically, we follow Beaver (1968) in arguing that a change in price reflects an average investor's reassessment of future cash flows, and in this way it measures one aspect of information relevance, namely the extent to which investors change their beliefs in aggregate. Note that return variability measures price change by abstracting from the sign of the price change as positive and negative price changes of the same size are interpreted as equally relevant and as positive and negative price changes can no longer cancel each other out (as is the case, for example, with abnormal returns). We follow Beaver (1968), Kim and Verrecchia (1991, 1997) and Landsman et al. (2012) and interpret trading volume as capturing another aspect of information relevance, namely as the extent to which an announcement generates diverse interpretations across investors. Specifically, it is argued that the greater the relevance of an announcement the more likely investors with different levels of private information and different abilities to interpret financial information will differ in their interpretations, and the more they will want to trade as a result of their dissimilar interpretations.<sup>4</sup>

For our third and final test, we calculate abnormal return variability and abnormal trading volume associated with non-incremental IMSs, that is, IMSs that our models predict to have replaced previously disclosed trading statements, and we use their abnormal return variability and abnormal trading volume as proxies for the amount of relevant information that is disclosed under the MAD but in the absence of a mandatory IMS regime. Specifically, if the MAD, in its

own right, is effective in ensuring the release of most relevant information, as argued by the Commission in 2011, then one would expect that the typical market reaction associated with a non-incremental IMS is higher than the typical market reaction associated with an incremental IMS. The reason is that non-incremental IMSs are frequently released with the intention to communicate relevant insider information as required by the MAD. In contrast, a relatively larger number of incremental IMSs would be expected to be full of uninformative information as the firm is forced to issue a trading statement despite having little relevant information to reveal. Formally, we make the following prediction:

*H3: Non-incremental IMSs contain more relevant information for investors than incremental IMSs.*

We test H3 by comparing abnormal return variability and abnormal trading volume between incremental and non-incremental IMSs. Finding evidence in favour of abnormal return variability and abnormal trading volume being higher for non-incremental IMSs would be consistent with the argument that most relevant information is released under the MAD and that mandatory IMSs are redundant.

#### **4. Sample selection and content analysis**

We begin our empirical analysis by collecting, for the years 2009 and 2010, trading statement release dates, including IMS release dates, for all non-financial firms included in the FTSE All Share Index in June 2009 and June 2010, respectively. We collect these dates from PI Navigator, a global corporate finance and capital market database with 15 million international company filings, including filings submitted via the London Stock Exchange's Regulatory News Service (RNS). We do not include in our sample period the years 2007 and 2008. The reason is that IMSs became effective only for periods beginning on or after 20 January 2007. Thus, many firms did not publish their first IMS before 2008. Given the potential for teething problems, including lower compliance rates, in the year of first-time implementation, we decided not to include 2008, either.<sup>5</sup> This leaves 2009 and 2010 for inclusion in our sample period as the years that were available from PI Navigator at the time of data collection. Note that 2009 represents a year from the financial crisis period while 2010 was characterised by a rebound and improving sales and profit performance. Thus, the two years represent, in terms of performance and uncertainty, different economic environments.

In order to predict whether IMSs are incremental or non-incremental, we need information on trading statements from a benchmark period. Our selection of a benchmark year was guided by the necessity to find a year which operated under the MAD, but not under the IMS regime. With the MAD becoming effective on 1 July 2005 and mandatory IMSs applying to any financial year starting after 20 January 2007, the only year that meets this criterion is 2006. Thus, 2006 is employed as the post-MAD, pre-IMS benchmark year for both 2009 and 2010.<sup>6</sup>

In all three years, the sample selection starts with the FTSE All Share Index list. The number of firms in the index is 685, 615 and 614 in 2006, 2009 and 2010, respectively. These are the number of constituents in June 2006, June 2009 and June 2010. Subsequently, we delete observations for four reasons. First, we remove all financial firms from our sample. Second, we exclude a small number of firms without matching codes on Datastream. Third, we delete firms where the preliminary earnings announcement date is missing on PI Navigator. Preliminary earnings announcement dates are typically missing when the firm cancels its listing throughout the financial year. Fourth, we delete firms with annual accounting periods of less than 359 or more than 371 calendar days. This results in initial samples, for a test of H1, of 388, 341 and 326 observations in 2006, 2009 and 2010, respectively. Note that in all three years the majority of deletions – more than 200 per year –



relate to financial firms. Removing financial firms is standard practice whenever accounting data are involved in estimation.<sup>7</sup>

Before we test our hypotheses, we provide some background information on the type of disclosures that are routinely made in UK IMSs. For that we randomly select 20 non-financial firms each from the three indices that make up the FTSE All Share Index, namely the FTSE 100, the FTSE 250 and the FTSE Small Capitalisation Index.<sup>8</sup> For each group of firms – and for the total of all firms – we report in Table 1 the percentages of IMSs that include information on (a) financial performance, (b) financial position, and (c) material events and transactions. This information is collected through manual, meaning-orientated, content analysis (e.g. Krippendorff 1980, Weber 1990) and is broadly similar to the analysis in Deloitte and Touche (2007, 2008) (which was for the year of first-time IMS implementation). However, our focus is on what type of information is typically conveyed in an IMS, not on whether IMSs comply with the DTR rulebook.

Table 1 allows us to make a number of initial observations. First, 90% of all IMSs meet the TD's requirement to give a general description of the financial performance by making statements about the recent sales performance since the last interim or annual report. Also, references to recent sales performance are higher for large and mid-cap firms than for small-cap firms (93% and 96% versus 80%). Second, 45% of all IMSs provide an indication of the recent earnings performance. Third, in most cases backward-looking sales and earnings information relates to the group, not an individual segment. This is in line with the Directive's requirement. At the same time, statements about recent sales and earnings performance are often voluntarily supplemented with quantitative data. For example,  $76\% = 68\% \div 90\%$  of backward-looking sales statements are point estimates. Fourth, when IMSs voluntarily provide an outlook for a period beyond the IMS publication date, then references to 'growth', 'progress', 'success' or 'outlook' dominate references to 'sales' and 'earnings' (83% versus 25% and 32%). This disclosure behaviour is understandable as referring to vague, non-verifiable performance indicators minimises the risk that the outlook statement is proved to be *ex post* inaccurate. Fifth, around half of all IMSs refer to material events and transactions. Finally, the median IMS statement is not particularly long as a median of 757 words and 21 sentences corresponds roughly to a two-page trading statement.

In Table 2 we reproduce Carpetright plc's 2010 third-quarter IMS. Consistent with the analysis in Table 1, the discussion in Carpetright plc's IMS focuses, to a large extent, on sales and earnings, and sales and earnings news is often benchmarked against prior periods or analysts' forecasts.

Overall, the impression we gain from Tables 1 and 2 is twofold. First, a description of the recent and future trading performance dominates the discussion in UK IMSs. Second, it is likely that UK IMSs are relevant to investors as sales and earnings news is precisely the type of information that assists in the calculation of intrinsic value changes (e.g. Palepu et al. 2010).

## 5. Hypotheses testing

We start our formal tests with H1. For that we need an operational definition of trading statements. In particular, we need a list of news headings typically associated with trading statements. To obtain this list, we downloaded, for around 100 pilot study firms, from PI Navigator, all RNS news announcements between two successive preliminary earnings announcement dates, and we manually assessed the contents of these announcements. We then judged trading statements to be confined to the following headings: 'AGM Statement', 'Chairman Statement', 'Trading Update', 'Trading Statement', 'Pre-Close Update', 'Pre-Close Trading Statement', 'Pre-Close Trading Update', and 'Interim Management Statement'.<sup>9</sup> While our manual assessment of

Table 1. IMS content analysis.

	All	FTSE 100	FTSE 250	Small cap
<i>Financial performance</i>				
Sales – backward-looking: up to publication date	90%	93%	96%	80%
Group	75%	76%	86%	63%
Quantitative	68%	78%	78%	50%
Sales – forward-looking: beyond publication date	25%	23%	24%	28%
Group	18%	12%	23%	20%
Quantitative	4%	10%	3%	0%
Earnings – backward-looking: up to publication date	45%	54%	41%	41%
Group	37%	49%	31%	31%
Quantitative	20%	30%	18%	13%
Earnings – forward-looking: beyond publication date	32%	29%	35%	31%
Group	26%	24%	30%	25%
Quantitative	4%	4%	5%	3%
Other – backward-looking: up to publication date	87%	91%	86%	83%
Group	75%	76%	80%	69%
Quantitative	47%	60%	55%	25%
Other – forward-looking: beyond publication date	83%	79%	93%	79%
Group	76%	66%	88%	74%
Quantitative	15%	28%	16%	1%
<i>Financial position</i>				
General statement	83%	76%	94%	78%
Individual assets	63%	65%	71%	51%
Individual liabilities	58%	63%	68%	45%
<i>Material events and transactions</i>				
Length				
Sentences				
Mean	25	35	26	14
Median	21	35	22	12
Words				
Mean	927	1200	1018	563
Median	757	1067	918	489
OBS	240	80	80	80

Notes: This table reports the percentages of IMSs that provide information about financial performance, financial position, and material events and transactions. In analysing financial performance, we separately record sales, earnings and any other information. Specifically, statements about ‘eps’ or ‘margin’ are coded as ‘earnings’ information, while references to ‘growth’, ‘progress’, ‘success’ or ‘outlook’ are classified as ‘other’ information. We record whether the performance indicator (a) is backward-looking or forward-looking, (b) relates to the group (rather than a segment), and (c) is quantitative in nature (where quantitative is interpreted narrowly, that is, as a point estimate only). All underlying definitions and coding rules follow Schleicher (2012). For example, we follow Schleicher (2012) in recording, for each performance indicator, only the highest-ranked statement. In terms of financial position, we differentiate between general statements and specific references to individual assets and liabilities, usually ‘cash’ and ‘debt’. We define material events and transactions in line with Deloitte and Touche (2007, 2008) as any information about (a) share buy-backs, (b) acquisitions of operations or assets, (c) new or extended loan facilities, (d) asset sales, (e) lease acquisitions, and (f) court cases. Percentages relate to a random sample of 20 non-financial firms from the FTSE 100, the FTSE 250, and the FTSE Small Capitalisation Index. Any randomly selected firm must have a complete set of four IMSs over the period 2009–2010.

relevant headings is independent of the classification supplied by PI Navigator, we note that choosing the PI category ‘Trading and Operating Updates’ returns the same RNS announcements as our manual list, with two exceptions, namely ‘AGM Statement’ and ‘Chairman Statement’, both of which are included in the PI category ‘Annual Results’. In particular, PI Navigator lists under the category ‘Trading and Operating Updates’ first-quarter and third-quarter IMSs, an indication that our classification of IMSs as trading statements is accepted by others.

Table 2. Example IMS: Carpetright plc.

1 February 2011

Carpetright plc  
Interim Management Statement

Carpetright plc, Europe's leading specialist carpet and floor coverings retailer, today announces a trading update for the 13 weeks ended 29 January 2011.

*Highlights*

- Group sales declined by 6.4%, with the year on year effect of closing our operations in Poland accounting for 0.4% of this decline.
- The Group's store base decreased by eight to 694<sup>2</sup> stores at the period end.
- UK and Republic of Ireland sales declined by 5.0%, with like-for-like sales<sup>3</sup> down 7.7%.
- In local currency terms, total sales in Rest of Europe (The Netherlands and Belgium) decreased by 3.5% with like-for-like sales down 5.0%. After allowing for the movement in exchange rates, this translates to a total sales decline of 11.2%.
- Full year profit to be below market expectations.

	13 weeks to 29 January 2011	39 weeks to 29 January 2011	26 weeks to 30 October 2010 (previously reported)
Group sales	(6.4%)	(4.6%)	(3.9%)
UK & RoI			
- Total	(5.0%)	(3.4%)	(2.7%)
- Like-for-like	(7.7%)	(6.2%)	(6.1%)
Rest of Europe (continuing businesses)			
- Total (in GBP)	(11.2%)	(7.5%)	(6.9%)
- Total (in local currency)	(3.5%)	(2.1%)	(2.4%)
- Like-for-like (in local currency)	(5.0%)	(3.1%)	(2.9%)

Lord Harris of Peckham, Chairman and Chief Executive, said:

"The tough trading conditions in the UK and Republic of Ireland have continued into the third quarter of our financial year, with adverse weather conditions and fragile consumer confidence producing a difficult floor coverings market."

"As we stated at our last update, we were expecting January trading to be boosted by the impact of snow in the comparative period. Although we have achieved an increase in sales year on year since Christmas, this has not been at the level expected. This causes us to remain cautious about the outlook for the remainder of the financial year."

"We expect the total UK & Republic of Ireland full year margin to be in line with previous guidance of a 50 basis point increase on last year. The focus on effective cost management has continued."

"Given the difficult trading conditions and the likely outturn for the balance of the year, the Board now expects profits for the year to 30 April 2011 will be below last year and below the current range of market expectations, although ahead of those achieved in the 2009 full year."

"There have been no significant changes to the Group's financial position during the period and the business remains well placed to capitalise on opportunities when economic conditions improve."

The Group will report its usual year-end pre-close trading update on Wednesday 27 April 2011 in advance of its year end on 30 April 2011.

*Analyst conference call*

Lord Harris will host a conference call for analysts at 8:30am today.

The dial in number is 0845 634 0041 with the passcode 4251417.

Thereafter, for further enquiries please contact:

Carpetright plc

Lord Harris of Peckham, Chairman and Chief Executive

Neil Page, Group Finance Director

Tel: 01708 802000

Citigate Dewe Rogerson

Kevin Smith / Lindsay Noton

Tel: 020 7638 9571

A copy of this trading statement will be available on our website [www.carpetright.plc.uk](http://www.carpetright.plc.uk) today from 7.00am [...]

Notes: This table reproduces Carpetright plc's 2010 third-quarter IMS. Not reproduced for reasons of brevity are four endnotes (with accounting variable definitions and a cautious note on forward-looking information) and an Appendix 1 (with numerical information (only) on the store portfolio, including number of sites and associated square feet, both by region).

Subsequently, we collect, from PI Navigator, all relevant trading statement release dates for all non-financial firms included in the FTSE All Share Index in 2006, 2009 and 2010, and we compare, in Table 3, the frequency of trading statements between the pre-IMS year, 2006, and the two post-IMS years, 2009 and 2010. This comparison is done for the first and the second halves of the financial year separately. Thus, we interpret IMSs as doubling the reporting frequency in each half of the financial year, and we examine the possible substitution effects separately for each six-month period. This is a natural focus given the notion in Gigler and Hemmer (1998) that information in trading statements, including IMSs, is fully subsumed in financial reports.

In order to facilitate a deeper understanding of the nature of the substitution effect, we record the frequency of trading statements released during the close period or in the 30 calendar days immediately prior to the close period, separately from trading statements made earlier in each reporting period.<sup>10</sup> We also separately record trading statements made at the Annual General Meeting (AGM). Finally, we include in Table 3 a frequency count for quarterly reports. We do this for two reasons. First, quarterly reports are typically voluntary, even for firms with a dual listing overseas.<sup>11</sup> Second, firms which publish quarterly reports are exempted by the TD 2004/109/EC, Article 6(2), from publishing a separate IMS.

Table 3, Panel A, reports, for the full sample, average per-firm trading statement frequencies and compares the frequencies in 2009 and 2010 against the frequencies in 2006, the benchmark year. It also reports  $p$ -values from a two-sample  $t$ -test and a two-sample Wilcoxon rank-sum test, to test for differences in the mean and the distribution, respectively, but we note that parametric and non-parametric  $p$ -values yield quite similar results in terms of significance levels. Specifically, we find that the publication of IMSs in 2009 and 2010 coincides with a large and highly significant reduction in AGM trading statements and this observation is consistent with our prediction in H1. For example, while 68% of sample firms issued a separate trading statement at their AGM in 2006, only 13% and 11% continue to do so in 2009 and 2010. What is the story behind this large substitution effect? Obviously, most firms feel that there is no longer any benefit in a separate AGM trading statement, especially given that AGMs in the UK are typically scheduled to coincide with the 10-week window during which IMSs must be published. Thus, most firms decided to publish the first-quarter IMS on the same day as the AGM trading statement. Clearly, publishing a joint AGM/IMS trading statement is facilitated by the flexibility that firms are given in the TD in choosing their IMS reporting date.

As far as the first half of the financial year is concerned, we also observe that the number of (pre-) close period trading statements is significantly lower post-IMS and this reduction, together with the large reduction in separate AGM trading statements, leads to a large substitution effect which effectively negates the entire increase in trading statements that comes from the introduction of first-quarter IMSs. Specifically, the change in the average number of trading statements, including IMSs, in the first half of the financial year is  $0.00 = 1.45 - 1.45$  in 2009 and  $0.05 = 1.50 - 1.45$  in 2010, with  $p$ -values of .49 and .29 in 2009 and .17 and .40 in 2010.<sup>12</sup>

The picture is different in the second half of the financial year. Specifically, the absence of AGM trading statements in the second half of the year leaves only (pre-) close period statements and trading statements to be withdrawn. While the withdrawal of trading statements issued earlier in the second half is, consistent with H1, significant and large, at least in terms of percentage change, it appears that firms are somewhat more reluctant to withdraw second half (pre-) close period trading statements. One can only speculate why. Perhaps earnings guidance at the very end of the annual reporting cycle is indispensable as analysts and investors demand clarification about the current year's earnings and as it is only at that time that firms feel they can give accurate guidance. Whatever the precise reason the increase in average per-firm trading statements in the second half of the year is more substantial at  $0.47 = 1.47 - 1.00$  and  $0.45 = 1.45 - 1.00$ .<sup>13</sup>

Table 3. Trading statement disclosure frequency: pre- and post-IMS.

	2006	2009	<i>t</i> -Test	Rank-sum	2006	2010	<i>t</i> -Test	Rank-sum
Panel A: Full sample								
<i>1st half</i>								
AGM	0.68	0.13	0.00	0.00	0.68	0.11	0.00	0.00
QR	0.10	0.06	0.02	0.02	0.10	0.05	0.00	0.00
IMS	0.00	0.93	0.00	0.00	0.00	0.94	0.00	0.00
Trading statement	0.09	0.03	0.00	0.00	0.09	0.10	0.46	0.33
(Pre-) close period	0.58	0.31	0.00	0.00	0.58	0.31	0.00	0.00
	1.45	1.45	0.49	0.29	1.45	1.50	0.17	0.40
<i>2nd half</i>								
QR	0.10	0.06	0.01	0.01	0.10	0.05	0.00	0.00
IMS	0.00	0.93	0.00	0.00	0.00	0.94	0.00	0.00
Trading statement	0.26	0.06	0.00	0.00	0.26	0.07	0.00	0.00
(Pre-) close period	0.64	0.42	0.00	0.00	0.64	0.39	0.00	0.00
	1.00	1.47	0.00	0.00	1.00	1.45	0.00	0.00
<i>1st and 2nd halves</i>	2.46	2.92	0.00	0.00	2.46	2.95	0.00	0.00
OBS	388	341			388	326		
Panel B: Constant sample								
<i>1st half</i>								
AGM	0.69	0.11	0.00	0.00	0.69	0.11	0.00	0.00
QR	0.11	0.06	0.02	0.02	0.10	0.05	0.02	0.02
IMS	0.00	0.92	0.00	0.00	0.00	0.93	0.00	0.00
Trading statement	0.12	0.03	0.00	0.00	0.11	0.09	0.18	0.05
(Pre-) close period	0.57	0.31	0.00	0.00	0.58	0.33	0.00	0.00
	1.49	1.44	0.16	0.08	1.49	1.51	0.36	0.46
<i>2nd half</i>								
QR	0.11	0.06	0.02	0.02	0.11	0.05	0.01	0.01
IMS	0.00	0.92	0.00	0.00	0.00	0.94	0.00	0.00
Trading statement	0.26	0.06	0.00	0.00	0.25	0.05	0.00	0.00
(Pre-) close period	0.65	0.43	0.00	0.00	0.65	0.40	0.00	0.00
	1.02	1.47	0.00	0.00	1.00	1.44	0.00	0.00
<i>1st and 2nd halves</i>	2.51	2.91	0.00	0.00	2.49	2.95	0.00	0.00
OBS	275	275			257	257		
Panel C: Large and mid-cap firms								
<i>1st half</i>								
AGM	0.68	0.12	0.00	0.00	0.68	0.12	0.00	0.00
QR	0.16	0.09	0.01	0.02	0.16	0.06	0.00	0.00
IMS	0.00	0.89	0.00	0.00	0.00	0.92	0.00	0.00
Trading statement	0.11	0.03	0.00	0.00	0.11	0.08	0.15	0.11
(Pre-) close period	0.63	0.29	0.00	0.00	0.63	0.30	0.00	0.00
	1.58	1.42	0.00	0.00	1.58	1.49	0.06	0.02
<i>2nd half</i>								
QR	0.16	0.09	0.01	0.01	0.16	0.06	0.00	0.00
IMS	0.00	0.89	0.00	0.00	0.00	0.93	0.00	0.00
Trading statement	0.30	0.06	0.00	0.00	0.30	0.05	0.00	0.00
(Pre-) close period	0.65	0.37	0.00	0.00	0.65	0.34	0.00	0.00
	1.12	1.41	0.00	0.00	1.12	1.38	0.00	0.00
<i>1st and 2nd halves</i>	2.70	2.83	0.07	0.19	2.70	2.86	0.04	0.13
OBS	219	210			219	202		
Panel D: Small-cap firms								
<i>1st half</i>								
AGM	0.68	0.13	0.00	0.00	0.68	0.09	0.00	0.00
QR	0.02	0.01	0.13	0.14	0.02	0.02	0.32	0.33

(Continued)

Table 3. Continued.

	2006	2009	<i>t</i> -Test	Rank-sum	2006	2010	<i>t</i> -Test	Rank-sum
IMS	0.00	0.99	0.00	0.00	0.00	0.97	0.00	0.00
Trading statement	0.07	0.03	0.05	0.06	0.07	0.12	0.12	0.20
(Pre-) close period	0.51	0.34	0.00	0.00	0.51	0.33	0.00	0.00
	1.29	1.50	0.00	0.00	1.29	1.52	0.00	0.00
<i>2nd half</i>								
QR	0.02	0.01	0.13	0.14	0.02	0.02	0.32	0.33
IMS	0.00	0.99	0.00	0.00	0.00	0.97	0.00	0.00
Trading statement	0.21	0.07	0.00	0.00	0.21	0.11	0.02	0.01
(Pre-) close period	0.62	0.50	0.02	0.02	0.62	0.47	0.01	0.00
	0.85	1.56	0.00	0.00	0.85	1.56	0.00	0.00
<i>1st and 2nd halves</i>								
OBS	169	131			169	124		

Notes: This table reports average, per-firm disclosure frequencies for quarterly reports, QR and four different classes of trading statements, namely, trading statements released during the AGM, IMS, trading statements issued during the firm's close or pre-close period, (Pre-) close period and trading statements issued more than 30 calendar days prior to the close period, Trading statement, and it compares these relative frequencies between pre- and post-IMS years. This comparison is done separately for the first and second halves of the financial year. The full sample results include all non-financial firms listed in the FTSE ALL Share Index on 30 June. The constant sample results include only firms which are listed in the FTSE ALL Share Index in both the pre-IMS and post-IMS year. Large and mid-cap firms are firms which are members of the FTSE 100 and FTSE 250 indices, respectively. All other firms in the FTSE All Share Index are defined as small-cap firms. *t*-Test and rank-sum indicate *p*-values for differences in the means and distributions, respectively, and are calculated from two-sample *t*-tests and two-sample Wilcoxon rank-sum tests. All *p*-values are one-tail test *p*-values. OBS, observations.

In Table 3, Panel B, we repeat the comparison of trading statement frequencies, but this time the sample composition is constant between the pre-IMS year and the post-IMS year, and we observe that the constant sample findings in Panel B are quite similar to the full sample findings in Panel A. This provides some assurance that the full sample results in Panel A are not likely to be driven by variations in the sample composition over time.

Finally, in Table 3, Panels C and D, we split the full sample into large and mid-cap firms, that is, firms that belong to the FTSE 100 or FTSE 250, and small-cap firms, and we observe that the substitution effect is generally greater for large and mid-cap firms than for small-cap firms. For example, we observe a larger reduction in the number of (pre-) close period trading statements for large and mid-cap firms than for small-cap firms, and this observation applies to both the first and the second halves of the year. This suggests that small-cap firms were the real losers of the TD in the sense that small-cap firms, more than large and mid-cap firms, were forced to issue additional trading statements that they had not wanted to issue otherwise. But this also means that it is the small-cap firms which are likely to benefit most from a withdrawal of the IMS regime. However, whether the associated cost saving is large is unclear, especially in the light of the evidence on the typical length of an IMS in Tables 1 and 2.

Before we test H2 and H3, we compare, in Table 4, abnormal return variability and abnormal trading volume associated with first- and third-quarter IMSs against abnormal return variability and abnormal trading volume associated with interim results and preliminary earnings announcements. For that we follow prior research, including Beaver (1968), Landsman and Maydew (2002), DeFond et al. (2007) and Landsman et al. (2012), and measure abnormal return variability as the ratio of the event window return variability to the non-event window return variability. Specifically, we start by calculating daily market-model adjusted returns,  $u_{it}$ , as:

$$u_{it} = R_{it} - (\alpha_i + \beta_i R_{Mt}), \quad (1)$$



Table 4. IMS abnormal return variability and abnormal trading volume.

Year	VAR	First-quarter IMS		Interim result		Third-quarter IMS		Annual result	
		Median	<i>p</i>	Median	<i>p</i>	Median	<i>p</i>	Median	<i>p</i>
Panel A: AVAR, POST-IMS									
2009	AVAR	0.30***	0.01	0.81***	0.00	0.46***	0.00	0.73***	0.00
	AVE[ $u_{it}^2$ ]	0.000856		0.001022		0.000542		0.000625	
	$\sigma_i^2$	0.000645		0.000483		0.000395		0.000309	
	OBS	313		321		324		325	
2010	AVAR	0.28*	0.07	0.60***	0.00	0.47***	0.00	0.80***	0.00
	AVE[ $u_{it}^2$ ]	0.000403		0.000612		0.000460		0.000635	
	$\sigma_i^2$	0.000315		0.000295		0.000265		0.000281	
	OBS	321		326		324		319	
Panel B: AVAR, PRE-IMS									
2006	AVAR			0.79***	0.00			0.72***	0.00
	AVE[ $u_{it}^2$ ]			0.000538				0.000474	
	$\sigma_i^2$			0.000231				0.000224	
	OBS			419				401	
Panel C: AVOL, POST-IMS									
2009	AVOL	0.23***	0.00	0.40***	0.00	0.25***	0.00	0.47***	0.00
	AVE[ $V_{it}$ ]	0.004085		0.004372		0.003337		0.004368	
	AVE[ $V_i$ ]	0.003052		0.002927		0.002604		0.002672	
	OBS	287		310		319		323	
2010	AVOL	0.25***	0.00	0.32***	0.00	0.29***	0.00	0.44***	0.00
	AVE[ $V_{it}$ ]	0.003604		0.003405		0.002743		0.003296	
	AVE[ $V_i$ ]	0.002567		0.002280		0.002268		0.002166	
	OBS	299		311		315		314	
Panel D: AVOL, PRE-IMS									
2006	AVOL			0.35***	0.00			0.38***	0.00
	AVE[ $V_{it}$ ]			0.006868				0.008501	
	AVE[ $V_i$ ]			0.004513				0.005374	
	OBS			410				396	

Notes: This table reports median abnormal return variability and median abnormal trading volume associated with IMSs and interim result and preliminary earnings announcements. Abnormal return variability, AVAR, is defined as  $\ln(\text{AVE}[u_{it}^2]/\sigma_i^2)$  where  $u_{it} = R_{it} - (\alpha_i + \beta_i R_{Mt})$  and  $R_{it}$  is the return of firm  $i$  on day  $t$  and  $R_{Mt}$  is the return of the FTSE All Share Index on day  $t$ , and  $R_{it}$  and  $R_{Mt}$  are calculated from Datastream Return Indices, RI.  $\alpha_i$  and  $\beta_i$  are firm  $i$ 's estimated market-model parameters as calculated from the non-event period. The non-event period runs from  $t - 60$  to  $t - 10$  and  $t + 10$  to  $t + 60$ , relative to announcement day  $t = 0$ . Average squared market-model residual,  $\text{AVE}[u_{it}^2]$ , is calculated over three-day windows,  $t = -1, 0, 1$ , relative to announcement day  $t = 0$ .  $\sigma_i^2$  is firm  $i$ 's daily market-model residual variance and is calculated from the non-event period. Abnormal trading volume, AVOL, is defined as  $\ln(\text{AVE}[V_{it}]/\text{AVE}[V_i])$  where  $\text{AVE}[V_{it}]$  and  $\text{AVE}[V_i]$  are, respectively, firm  $i$ 's average daily trading volume over the three-day event window,  $t = -1, 0, 1$ , and average daily trading volume over the non-event period,  $t - 60$  to  $t - 10$  and  $t + 10$  to  $t + 60$ , relative to announcement day  $t = 0$ . Daily trading volume,  $V_{it}$ , is defined as firm  $i$ 's number of shares traded on day  $t$  divided by the number of shares outstanding on day  $t$  and is calculated from Datastream items UVO and NOSH. Where  $t - 60$  to  $t + 60$  windows associated with an IMS and a result announcement overlap, we exclude, where necessary, days  $t - 10$  to  $t + 10$  associated with the overlapping window from the IMS and the result announcement non-event period. All values reported are medians and  $p$ -values,  $p$ , associated with median abnormal return variability and median abnormal trading volume are calculated from a one-sample sign test. Observations, OBS, are drawn from all non-financial firms in the FTSE ALL Share Index on the 30th June of the respective year. Announcements with less than 75 usable observations during the non-event period are deleted. For the calculation of the interim and annual result abnormal return variability and abnormal trading volume we delete firms which issue quarterly reports. All annual results are released via preliminary earnings announcements. VAR, Variable; OBS, Observations.

\*Significance at the 10% level.

\*\*Significance at the 5% level.

\*\*\*Significance at the 1% level.



abnormal return variability we exclude, where necessary, days  $t - 10$  to  $t + 10$  associated with an overlapping window from the IMS and the result announcement non-event period.

Table 4 Panels A and C show that in 2009 and 2010, median IMS abnormal return variability and median IMS abnormal trading volume are always positive and significant, or, in one case, positive and marginally significant, consistent with the idea that IMSs provide relevant information to investors. We also find that abnormal return variabilities and, to a lesser extent, abnormal trading volumes, associated with third-quarter IMSs tend to be higher than those associated with first-quarter IMSs, indicating that the information content is higher for IMSs released in the second half of the financial year. At the same time, we find that IMSs exhibit abnormal return variabilities and abnormal trading volumes that are lower than those associated with interim and annual result announcements. Perhaps this is not too surprising: While IMSs are typically short trading updates, interim and annual result announcements typically contain information on a much larger number of financial statement line items.

Following Cuijpers and Peek (2010) we also provide, in Table 4, Panels B and D, estimates of abnormal return variability and abnormal trading volume associated with interim and annual result announcements in 2006, and we observe that their magnitudes are similar to, and not significantly different from, the corresponding interim and annual result values in 2009 and 2010.<sup>15</sup> This observation is consistent with the finding in Cuijpers and Peek (2010) that increasing reporting frequency leads to more relevant information being released through periodic disclosures, relative to non-periodic disclosures. This is true because significantly positive IMS abnormal return variabilities and significantly positive IMS abnormal trading volumes are not accompanied by a significant reduction in abnormal return variability and abnormal trading volume at interim and annual result announcements dates.

Overall, Table 4 suggests that, in the UK, IMSs are important vehicles to communicate relevant information to equity investors. In order to investigate whether this information is likely to be disclosed in a regime without IMSs, we need an estimate of whether or not IMSs are incremental. We obtain this estimate in two stages. In the first stage, we regress, in 2006, the total number of trading statements in the first and in the second halves of the financial year on a number of firm characteristics which have been suggested as determinants in prior literature on reporting frequency and voluntary trading statements (e.g. Kasznik and Lev 1995, Miller and Piotroski 2000, Cuijpers and Peek 2010) and we use the estimated coefficients to predict values for 2009 and 2010. In a second stage, we compare the actual number of trading statements, including IMSs, in 2009 and 2010 against the number of trading statements predicted for 2009 and 2010 under a regime that operates under the MAD, but without mandatory IMSs, that is, a regime as in 2006. We then treat IMSs as incremental if the number of actual trading statements in 2009 and 2010 is higher than the number of predicted trading statements by a margin of 0.75.

Possible determinants of a firm's decision to issue a trading statement, either voluntary or ad hoc, are listed in Table 5. The first three classes of variables, information environment, agency cost and American depository receipt (ADR) status, are similar to the corresponding classes in Cuijpers and Peek (2010).<sup>16</sup> We include loss status as a further determinant as Hayn (1995) finds that earnings information is less relevant to loss firms than to profit firms. Hence loss firms might feel less obliged to issue earnings guidance.

Change in operating profit is our proxy for the amount of relevant earnings information that managers are likely to hold privately.<sup>17</sup> We include separate variables for positive and negative earnings changes as managers may have different incentives to pre-empt, via trading statements, the disclosure of positive and negative earnings surprises (e.g. Skinner 1994).

Special events, like restructuring, often have significant implications for sales and earnings. To the extent that special events-induced changes in sales and earnings are communicated via trading statements, the occurrence of special events should positively impact trading statement

frequency. On the other hand, if special events are communicated through news announcements other than trading statements, then one might expect a negative association between special events and trading statement frequency, as other news announcements render trading statements redundant. We use three proxies for special events, namely the size of (a) exceptional income, (b) exceptional charges, and (c) restructuring charges. Finally, we follow Kasznik and Lev (1995) and Miller and Piotroski (2000) and include industry sector dummies and dividend changes as additional determinants. For example, Kasznik and Lev (1995) show that firms in sectors with high regulation, like telecommunication and utilities, have a lower tendency to issue a fourth-quarter profit warning, while Miller and Piotroski (2000) find that dividend increases are associated with a lower incidence of forward-looking earnings statements.

Next, we use 2006 observations and regress the number of a firm's trading statements in the first and in the second halves of the year, respectively, on all variables in Table 5, and for each variable we present two coefficients in Table 6, namely one from a univariate regression, with only one variable at a time explaining trading statement frequency, and one from a multivariate regression, with all variables in Table 5 explaining trading statement frequency collectively. In Table 6 we estimate separate models for first- and second-half trading statement frequency and we do this for two reasons. First, Table 3 demonstrates that the average number of trading statements per firm varies considerably between the first and the second halves of the year, suggesting that different factors and incentives might be at work. Second, it is likely that a firm's decisions to issue (a) a first-half and (b) a second-half trading statement are correlated with each other meaning that pooling first- and second-half observations is likely to yield regression residuals which are no longer independent (a specification problem which would be difficult to rectify through the use of clustered standard errors given that each firm has only two observations).

Looking first at the univariate coefficients in Table 6 we find that several variables from Table 5 are significantly associated with a firm's decision to issue a trading statement. For example, analyst following and market value are positively associated with the number of first- and second-half trading statements, while loss status and R&D intensity are negatively associated with first- and second-half trading statements. The latter finding is inconsistent with the positive association in Cuijpers and Peek (2010) and suggests that R&D-intensive firms prefer not to talk about sales and earnings between interim and annual result reporting dates. In addition, the incentive to issue trading statements appears to vary across industry sectors, with firms in the consumer goods and consumer service industry typically issuing more trading statements than firms in other industries. Overall, it appears that the decision to issue trading statements is affected primarily by variables which change relatively little over time, like firm size, stock-market index and industry membership.

When we run multivariate regressions we notice that very few variables remain significantly associated with trading statement frequency. For example, in the first-half regression no variable remains significant at the 5% level. This means that, in our sample, the contribution of each individual variable, over and above the contribution of all other regression variables, is not significant. Nonetheless, for a test of H2 and H3, we still use the coefficients from the multivariate regression, and there are two reasons for this. First, in predicting which IMS is incremental and which IMS is non-incremental, we are concerned primarily with the overall explanatory power of the prediction model, as indicated in Table 6 by  $R^2$  and  $F$ -value, rather than with the significance of individual regressors, as indicated by the  $p$ -value. Second, any attempt to eliminate individual (insignificant) regressors from the multivariate regression could be criticised as an example of over-fitting the data.

For a formal test of H2 and H3 we use the multivariate regression coefficients in Table 6 to predict the number of trading statements that would be issued in 2009 and 2010 in the absence of a mandatory IMS regime, and we treat IMSs as incremental if the actual number of trading

Table 5. Trading statement choice model: variable definition and descriptive statistics.

Class	Variable	Definition	WC/DS item	Symbol	Descriptives: means		
					2006	2009	2010
Information environment	Analyst following	Natural logarithm of one plus the number of analysts that issued a one-year horizon eps forecasts at year-end $t - 1$	EPS1NE	AF	1.81	2.14	2.25
	Firm size	Natural logarithm of the firm's market capitalisation in £m at year-end $t - 1$	MV	MV	6.24	6.51	6.11
	FTSE 250 index member	Indicator variable that equals one if the firm is a member of the FTSE 250 index on 30 June		FTSE250	0.39	0.42	0.40
	FTSE small-cap index member	Indicator variable that equals one if the firm is a member of the FTSE Small-Cap index on 30 June		FTSESMCAP	0.44	0.38	0.38
Agency costs	Leverage	Non-current liabilities at year-end $t - 1$ scaled by total assets at year-end $t - 1$	03351, 03101, 02999	LT	0.26	0.28	0.27
	Dividends	Indicator variable that equals one if the firm has paid dividends in year $t - 1$	04551	DIV	0.83	0.87	0.76
	R&D intensity	Natural logarithm of one plus research and development expenditures in year $t - 1$ scaled by total sales in year $t - 1$	01201, 01001	RD	0.04	0.03	0.04
	Geographic concentration	Sum of squares of each geographic segment's sales as a fraction of total sales in year $t - 1$	19601, 19611, ... , 19691	GEOSUM	0.62	0.60	0.57
	Product line concentration	Sum of squares of each product segment's sales as a fraction of total sales in year $t - 1$	19501, 19511, ... , 19591	PRODSUM	0.66	0.66	0.64
	Free float	Percentage of shares that is not strategically held at year-end $t - 1$	NOSHFF	FF	0.54	0.75	0.75
	US listing	ADR	Indicator variable that equals one if the firm has an ADR listing	11496	ADR	0.19	0.19

(Continued)

Table 5. Continued.

Class	Variable	Definition	WC/DS item	Symbol	Descriptives: means		
					2006	2009	2010
Informativeness	Loss status	Indicator variables that equal one if year $t - 1$ operating profit is negative	01250	LOSS	0.07	0.05	0.08
Performance	Operating profit growth	Absolute change in year $t$ operating profit scaled by market capitalisation at year end $t - 1$ , with separate variables for positive and negative changes	01250, MV	OPUP	0.03	0.02	0.09
Special events	Exceptional items	Absolute size of exceptional income and exceptional charges, both scaled by market capitalisation at year end $t - 1$ .	01253, 01254, MV	OPDOWN EXINC	0.01 0.01	0.03 0.01	0.02 0.03
	Restructuring	Absolute size of the restructuring charge scaled by market capitalisation at year end $t - 1$	18227, MV	EXCOST RESTR	0.02 0.01	0.05 0.01	0.13 0.01
Financial signalling	Dividends	Indicator variable that equals one if the dividend per share changes in year $t$ , with separate variables for positive and negative changes	05101	DIVUP	0.72	0.49	0.63
Other variables	Interest cover	$1 - [\text{EBIT-INTEREST}] / \text{EBIT}$ in year $t - 1$	18191, 01251	DIVDOWN	0.07	0.26	0.09
				INTCOV	0.26	0.34	0.35
	Industry	Level 1 ICB Industry Sector	07040	ICB0	0.05	0.06	0.05
				ICB1	0.04	0.06	0.07
				ICB2	0.34	0.34	0.33
				ICB3	0.11	0.10	0.10
				ICB4	0.06	0.06	0.06
				ICB5	0.25	0.25	0.25
				ICB6	0.02	0.02	0.02
ICB7	0.03	0.02	0.03				
ICB9	0.11	0.08	0.09				

Notes: This table presents a list of possible determinants of a firm's decision to issue a trading statement, either voluntary or ad hoc. The underlying Worldscope, WC, or Datastream, DS, item is given under WC/DS ITEM. The regression variable abbreviations are given under SYMPOL. Descriptive statistics indicate sample means calculated from non-missing observations. Missing observations vary between regression variables. Samples are drawn from all non-financial firms in the FTSE ALL Share Index on the 30th of June in the respective year.

Table 6. Trading statement choice model: regression result.

Dependent variable	EXP	1st half trading statements				2nd half trading statements			
		Univariate		Multivariate		Univariate		Multivariate	
		EST	<i>p</i>	EST	<i>p</i>	EST	<i>p</i>	EST	<i>p</i>
INTERCEPT	(?)			1.36	0.016			0.54	0.285
AF	(?)	0.11	0.005	0.09	0.231	0.15	0.000	0.13	0.054
MV	(+)	0.07	0.003	-0.04	0.530	0.09	0.000	0.03	0.572
FTSE250	(?)	0.24	0.001	0.09	0.585	0.16	0.010	0.09	0.529
FTSESMCAP	(?)	-0.29	0.000	-0.13	0.596	-0.27	0.000	0.08	0.699
LT	(+)	0.18	0.289	0.07	0.737	0.16	0.281	0.01	0.958
DIV	(-)	0.29	0.002	0.13	0.324	0.13	0.106	-0.07	0.532
RD	(+)	-0.75	0.000	-0.58	0.074	-0.41	0.012	-0.31	0.294
GEOSUM	(-)	0.02	0.899	0.07	0.620	-0.09	0.397	-0.08	0.514
PRODSUM	(-)	0.00	0.977	0.03	0.823	0.00	0.988	0.02	0.897
FF	(+)	0.02	0.894	0.12	0.481	0.12	0.363	0.17	0.263
ADR	(+)	0.09	0.307	0.14	0.245	0.25	0.001	0.19	0.086
LOSS	(-)	-0.34	0.009	0.33	0.085	-0.22	0.049	-0.02	0.916
OPUP	(+)	-0.77	0.021	-0.43	0.302	-0.58	0.043	0.36	0.337
OPDOWN	(+)	0.05	0.955	0.96	0.377	0.78	0.324	2.50	0.011
EXINC	(?)	-1.02	0.399	-0.16	0.944	0.44	0.672	-3.78	0.068
EXCOST	(?)	-0.66	0.229	-1.49	0.167	-0.52	0.275	-2.54	0.009
RESTR	(?)	0.10	0.908	2.50	0.095	-0.55	0.451	2.41	0.072
DIVUP	(-)	0.11	0.156	-0.07	0.528	-0.01	0.848	-0.03	0.799
DIVDOWN	(?)	0.09	0.518	-0.10	0.544	0.21	0.085	0.15	0.325
INTCOV	(?)	-0.32	0.005	-0.15	0.353	-0.17	0.090	0.04	0.776
ICB0 = Oil & Gas	(?)	-0.01	0.954	0.08	0.675	-0.12	0.403	-0.19	0.256
ICB1 = Basic Materials	(?)	-0.10	0.591	0.08	0.742	-0.08	0.634	-0.21	0.312
ICB2 = Industrials	(?)	0.05	0.487	0.10	0.382	-0.11	0.088	-0.11	0.301
ICB3 = Consumer Goods	(?)	0.21	0.057	0.17	0.253	0.18	0.057	0.07	0.582
ICB4 = Healthcare	(?)	-0.58	0.000	-0.35	0.078	-0.29	0.024	-0.24	0.168
ICB5 = Consumer Service	(?)	0.19	0.020	0.17	0.172	0.20	0.005	0.08	0.491
ICB6 = Telecomm.	(-)	-0.21	0.394	-0.20	0.465	-0.39	0.068	-0.55	0.027
ICB7 = Utilities	(-)	-0.36	0.097	-0.45	0.096	-0.11	0.579	-0.21	0.393
$R^2$ [in %]				15.3				17.5	
$F$ -value				2.02	0.002			2.37	0.000
OBS				341				341	

Notes: This table presents, separately for first- and second-half trading statements, OLS regression coefficient estimates and associated  $p$ -values from (a) 28 univariate regressions and (b) one multivariate regression. The dependent variable is the number of a firm's trading statements, respectively, in the first half of the financial year and in the second half of the financial year, where trading statements are defined as AGM trading statements, quarterly reports, (pre-) close period trading statements, and trading statements issued prior to the pre-close period. All other regression variables are defined as in Table 5. The sample includes all non-financial firms in the FTSE All Share Index on 30 June 2006. The table indicates, under EXP, positive (+) and negative (-) sign predictions for coefficient estimates where arguments and/or prior evidence in Skinner (1994), Hayn (1995), Kasznik and Lev (1995), Miller and Piotroski (2000), Miller (2002), and Cuijpers and Peek (2010) point to a positive or negative coefficient. In all other cases we do not predict the coefficient sign.  $F$ -value is a test of the joint hypothesis that all regression coefficients are equal to zero. EXP, expected coefficient; COEF, coefficient;  $p$ ,  $p$ -value; OBS, observations.

statements, including IMSs, in 2009 and 2010, is higher than the predicted number by a margin of 0.75 though we notice that our findings remain qualitatively unchanged if we used margins of 0.50 or 1.00 instead.<sup>18</sup> We then calculate abnormal return variability and abnormal trading volume associated with incremental and non-incremental IMSs. This is done, in Table 7, separately for first-quarter IMSs and third-quarter IMSs, IMS1 and IMS3.

In Table 7, Panel A, we observe that the number of incremental IMS3s is larger than the number of incremental IMS1s. This is consistent with the evidence in Table 3 that the introduction of IMSs has increased the frequency of trading statements more in the second half of the financial year than in the first half of the financial year.

More importantly, in Table 7, Panel A, median abnormal return variability and median abnormal trading volume associated with incremental IMS3s are positive and significant, with medians of 0.23 and 0.19 and  $p$ -values of .039 and .002. In contrast, median abnormal return variability and median abnormal trading volume associated with incremental IMS1s are lower at 0.08 and 0.11, and, with  $p$ -values of 1.000 and .694, are not significantly different from zero. On that basis, we formally reject the argument of no loss of relevant information, as reflected in the null of H2, in favour of the alternative that the withdrawal of mandatory IMS3s, but not the withdrawal of mandatory IMS1s, will involve the loss of *some* relevant information.

So far we have identified incremental IMSs by calculating the difference between the number of actual and predicted trading statements and by assuming that any additional statement is the IMS, not one of the other trading statements. While the overall picture in Table 3 is consistent with this assumption, we cannot rule out that, for individual firms, the additional statement is *not* the IMS.

Thus, as an alternative prediction model, we examine, for each firm with a listing in both the post-IMS year and the pre-IMS year, the number of trading statements in the pre-IMS year, and

Table 7. Abnormal return variability and abnormal trading volume: incremental versus non-incremental IMSs.

VAR	Event	Incremental IMSs			Non-incremental IMSs			
		Median	$p$	OBS	Median	$p$	OBS	$p$
Panel A: Full sample								
AVAR	IMS1	0.08	1.000	61	0.30	0.002	465	0.139
	IMS3	0.23	0.039	198	0.51	0.000	353	0.029
AVOL	IMS1	0.11	0.694	58	0.26	0.000	429	0.128
	IMS3	0.19	0.002	193	0.29	0.000	347	0.016
Panel B: Constant sample								
AVAR	IMS1	-0.18	0.804	65	0.39	0.000	402	0.053
	IMS3	0.38	0.000	228	0.76	0.000	265	0.012
AVOL	IMS1	-0.02	0.519	60	0.27	0.000	377	0.001
	IMS3	0.22	0.000	223	0.41	0.000	263	0.001

Notes: This table reports median abnormal return variability, AVAR, and median abnormal trading volume, AVOL, associated with first-quarter and third-quarter IMSs, IMS1 and IMS3. The sample includes all non-financial firms in the FTSE All Share Index on 30 June 2009 and 30 June 2010, respectively. Non-incremental (incremental) IMSs are IMSs which are estimated to have (have not) replaced prior disclosures. In Panel A we define an IMS as incremental if the actual number of trading statements, including IMSs, in 2009 and 2010 is greater, by a margin of 0.75, than the predicted number of trading statements for 2009 and 2010 under a regime without mandatory IMSs. The predicted number of trading statements is determined, separately for IMS1 and IMS3, by multiplying the estimated coefficients from the multivariate regression in Table 6 with the corresponding variable values in 2009 and 2010. An IMS is defined as non-incremental if the actual number of trading statements, including IMSs, in 2009 and 2010 is smaller than the sum of predicted trading statement and margin. Panel B defines 'incremental' by examining, for each firm with a listing in 2006 and 2009 (2006 and 2010) the number of trading statements in 2006 and by defining an IMS in 2009 (2010) as incremental only if the number of announcements in each other class of trading statement during the six-month period is at least as great in 2009 (2010) as it is in 2006. This comparison is done separately for IMS1 and IMS3. AVAR and AVOL are defined as in Table 4.  $p$ -Values associated with one-sample medians are calculated from two-tailed sign tests.  $p$ -Values in the last column indicate significance levels for the difference in the median/distribution between incremental and non-incremental IMSs and, consistent with H3, are calculated from a one-tailed Wilcoxon rank-sum test.

IMS1, first-quarter IMS; IMS3, third-quarter IMS;  $p$ ,  $p$ -value; OBS, observations.

we define an IMS as incremental only if the number of announcements in each class of trading statement – that is, AGM trading statement, quarterly report, (early) trading statement, and (pre-) close period trading statement for IMS1, and quarterly report, (early) trading statement, and (pre-) close period trading statement for IMS3 – is at least as great in the post-IMS year as in the pre-IMS year. The median abnormal return variability and abnormal trading volume for this alternative definition of incremental IMSs is given in [Table 7](#), Panel B.

We find that the results in Panel B are qualitatively similar to the results in Panel A. First, the number of incremental IMSs is much higher in the second half of the year than in the first half of the year. Second, median abnormal return variability and median abnormal trading volume associated with incremental IMS3s continue to be significantly positive, while median abnormal return variability and median abnormal trading volume of incremental IMS1s are insignificantly negative. Thus, we continue to reject H2 for incremental IMSs in the second half of the year, but not for incremental IMSs in the first half of the year.

If a MAD-regime without IMSs is sufficient in ensuring that most relevant information is released to equity markets, then one would expect that the typical market reaction associated with a trading statement in the MAD-only regime, that is, non-incremental IMSs, is higher than the typical market reaction associated with trading statements that are only issued in a combined MAD/IMS regime, that is, incremental IMSs. In [Table 7](#) we test this prediction by comparing the abnormal return variability and abnormal trading volume between incremental and non-incremental IMSs. The corresponding one-tail test  $p$ -values for differences in median abnormal return variability and median abnormal trading volume are given in the last column of [Table 7](#).

We find that median abnormal return variability and median abnormal trading volume are consistently higher for non-incremental IMSs than for incremental IMSs, and the observed differences are always significant when we compare non-incremental third-quarter IMSs against incremental third-quarter IMSs. In contrast, for first-quarter IMSs the differences between non-incremental IMS1s and incremental IMS1s are significant, or marginally significant, for the constant sample in Panel B, but not for the full sample in Panel A.<sup>19</sup>

Collectively, the evidence in [Table 7](#) is supportive of the prediction in H3. In particular, the finding of consistently higher medians for non-incremental IMSs suggests that the MAD, in its own right, is effective in ensuring the release of *most* relevant information, consistent with the Commission's arguments in 2011 and the formal withdrawal of mandatory IMSs in 2013.

## 6. Conclusion

At the centre of debates about reporting frequency lie two key issues. First, to what extent does an increased reporting frequency lead to an increase in the total amount of corporate disclosures? Second, to what extent does any additional corporate disclosure lead to more relevant information being released early, for example, by bringing forward the disclosure of relevant information? The present paper attempts to answer both questions. It does this in the context of the newly mandated IMS whose formal withdrawal will have to be implemented by EU member states by late 2015.

Our empirical analysis proceeded in two stages. In the first stage, we collected information on trading statement frequency, including IMSs, in 2009 and 2010 and compared this frequency against trading statement frequency in 2006. This allowed us to evaluate how the introduction of mandatory IMSs has affected the frequency of non-periodic trading statements. Second, we used trading statement frequency in 2006 to estimate the number of trading statements that firms make in the absence of a mandatory IMS, and we used this number to predict which IMS is a genuinely incremental firm announcement, and not simply a substitute, and we calculated the event-period abnormal return variability and abnormal trading volume associated with these incremental and non-incremental IMSs.

Our findings suggest that, in the UK, the introduction of mandatory IMSs often coincided with the withdrawal of non-periodic trading statements, consistent with a large negative interaction effect between periodic and non-periodic disclosures. This substitution effect is more pronounced in the first half of the financial year when the existence of an AGM trading statement offers significant scope to substitute new disclosures for old disclosures. In contrast, the majority of non-periodic trading statements in the second half of the financial year come in the form of (pre-) close period trading updates which firms seem more reluctant to withdraw. Overall, our evidence suggests that the timing and nature of prior disclosures is an important determinant for the size of the substitution effect. To the extent that the timing and nature of prior disclosures vary across countries, one should also expect the substitution effect to vary. We believe that examining the substitution effect across other countries would be a natural extension of our analysis.

Consistent with the finding that mandatory IMSs have increased trading statement frequency more in the second half of the year than in the first half of the year, we find that third-quarter IMSs are more likely to be incremental than first-quarter IMSs. Crucially, incremental third-quarter IMSs exhibit significantly positive abnormal return variability and abnormal trading volume consistent with the idea that the withdrawal of IMSs will lead to *some* loss in investor protection. At the same time, we observe consistently higher abnormal return variabilities and abnormal trading volumes for non-incremental IMSs, relative to incremental IMSs, and this is consistent with the argument that a MAD-only regime, without mandatory IMSs, will ensure the release of *most* relevant information, a key argument in favour of the decision to formally withdraw IMSs by 2015.

### Acknowledgements

The authors would like to thank Vivien Beattie, Elisabeth Dedman, Chris Humphrey, Andy Stark, Steven Young, and an anonymous reviewer for helpful comments on earlier versions. Oxana Kiseleva and Sheehan Rahman provided valuable research assistance.

### Disclosure statement

No potential conflict of interest was reported by the authors.

### Funding

Financial support from the ESRC (Economic and Social Research Council) [grant number ES/J012394/1] is gratefully acknowledged.

### Notes

1. For example, shortening the time period between successive interim reporting dates limits the accumulation of undisclosed relevant information and reduces opportunities for investors to privately acquire such information. It also reduces the time between successive reporting dates available to investors to profit from their superior information, thus further reducing the incentive to engage in private acquisition activities (Welker 1995, Cuijpers and Peek 2010).
2. Cuijpers and Peek (2010) base their test on a much wider definition of news announcements including, in addition to 'trading statements', announcements on 'acquisition', 'disposal', 'joint venture' and 'regulatory application'.
3. Note that there are a number of differences between the setting in Gigler and Hemmer (1998) and the real-world setting in the UK. First, IMSs are not financial reports and they are not audited. Thus, it is doubtful whether IMS information is verifiable, a crucial feature of mandatory disclosures in Gigler and Hemmer (1998). Second, in Gigler and Hemmer (1998) non-periodic disclosures are always



- voluntary. In the UK, these disclosures can also come in the form of mandatory ad hoc disclosures required under the MAD. For that reason, our test focuses on the effect of IMSs on all types of trading statements. This focus is consistent with the arguments of the Commission in 2011.
4. In contrast, an uninformative announcement provides no reason for any investor to reassess their expectations and provides no basis to differ in interpretations. As a result, an uninformative announcement is predicted to generate a lower trading volume.
  5. At a pilot study stage, we found that only 83% of firms with an accounting period beginning after 20 January 2007 published an IMS in the first six-month period of their 2007/2008 financial year. This increased to 92% for their second IMS in 2007/2008 and never dropped below 96% in subsequent years. Furthermore, Deloitte and Touche (2007, 2008) report low initial compliance rates in relation to content requirements. Finally, one would expect the way a trading statement is unambiguously identified in its news heading (and main text) as an 'IMS' to increase over time.
  6. Throughout the paper, we allocate financial years to the calendar year in which the majority of months fall, with June year-ends allocated to the calendar year in which the financial year end falls. This means, for example, that 2006 observations have year-ends between June 2006 and May 2007 and implies that all 2006 observations are operating the full 12-month period under the MAD regime. At the same time, all 2006 observations have an annual reporting cycle which starts before 20 January 2007, the date IMSs became mandatory in the UK. Finally, as we will demonstrate below, no 2006 firm-year is adopting IMSs early.
  7. Accounting data are often perceived as not being comparable across financial and non-financial firms. Furthermore, untabulated results show that financial firms exhibit substantially lower IMS abnormal return variability and abnormal trading volume than non-financial firms, and that makes it difficult to reach common conclusions, even in the absence of concern about the comparability of accounting data. We leave it to future research to analyse the possible reasons for the differences in abnormal return variability and abnormal trading volume between financial and non-financial firms. Possible reasons for the lower reactions include higher pre-IMS disclosure frequency and/or higher predictability of income and assets when income and assets typically come from investments in listed firms.
  8. These three indices represent the largest 100 listed firms in the UK, the next 250 listed firms by market capitalisation and listed small capitalisation firms.
  9. For the calculation of trading statement frequencies, we ignore the following news headings: 'Director Shareholding', 'Total Voting Rights', 'Board Change', 'Drilling Update', 'Blocklisting Review', 'Resolution Passed at AGM', 'Letter of Intent', 'Admission to Official List', 'Holding', 'Agreement', 'Acquisition', 'Disposal', 'Placing of Rights Issue' and 'Purchase of Own Shares'.
  10. The *close period* is defined in the FCA Handbook under Listing Rule 9 Annex 1 as

(i) the period of 60 days immediately preceding a preliminary announcement of the listed company's annual results or, if shorter, the period from the end of the relevant financial year up to and including the time of announcement; or (ii) the period of 60 days immediately preceding the publication of its annual financial report or if shorter the period from the end of the relevant financial year up to and including the time of such publication; and (iii) if the company reports on a half yearly basis the period from the end of the relevant financial period up to and including the time of such publication [ ... ].

The close period is the period during which insiders are not allowed to trade in the firm's capital instruments. Many UK companies make it a house rule not to communicate, if possible, with the market during the close period, though this is not a formal requirement in the Listing Rules. We report trading statements during the close period together with trading statements in the 30 calendar days immediately prior to the close period as pre-close and close period trading statements are qualitatively similar in that the manager should have a good idea of the impending financial result. In particular, most of the uncertainty in relation to the impending financial result should have been resolved at that time.

11. For example, there is no requirement on foreign listed firms in the USA to produce quarterly reports. See Cuijpers and Peck (2010), especially note 12.
12. The total number of first-half trading statements, across all classes of first-half trading statements and across all firms, is 564, 496 and 489 in 2006, 2009 and 2010, respectively. With the total number of firms being 388, 341 and 326 in 2006, 2009 and 2010, this translates into an average number of first-

- half trading statements per firm of  $564 \div 388 = 1.45$ ,  $496 \div 341 = 1.45$  and  $489 \div 326 = 1.50$  in 2006, 2009 and 2010, respectively.
13. The total number of second-half trading statements, across all classes of second-half trading statements and across all firms, is 389, 501 and 472 in 2006, 2009 and 2010, respectively. With the total number of firms being 388, 341 and 326 in 2006, 2009 and 2010, this translates into an average number of second-half trading statements per firm of  $389 \div 388 = 1.00$ ,  $501 \div 341 = 1.47$  and  $472 \div 326 = 1.45$  in 2006, 2009 and 2010, respectively.
  14. We cannot exclude from the 2010 preliminary earnings announcement non-event period any days associated with the 2011 first-quarter IMS as 2011 dates are not part of our dataset. Readers who are concerned with this non-exclusion should use abnormal return variability and abnormal trading volume associated with interim results, not preliminary earnings, as their main reference point. Specifically, where necessary, we have deleted all  $t - 10$  to  $t + 10$  windows associated with first- and third-quarter IMSs from interim results non-event periods.
  15. The two-tailed test  $p$ -values for differences in median abnormal return variability (median abnormal trading volume) at annual result announcement dates between 2006 and 2009, and between 2006 and 2010, are .27 and .85 (.33 and .15). The corresponding  $p$ -values for interim result announcements are .88 and .16 (.50 and .98). None of these  $p$ -values are tabulated in Table 4.
  16. We only consider, as possible determinants, those variables in Cuijpers and Peek (2010) which do not require the calculation of EEA-wide financial variables.
  17. In particular, large changes in operating profit increase the likelihood that (a) insiders possess large amounts of relevant information and (b) the profit change is not fully anticipated by the market. We use the time-series change in profits, not analyst earnings forecast errors (e.g. Kasznik and Lev 1995) because not all sample firms have an analyst following. We do not use interim data as interim data on Datastream are restricted to a very small number of financial statement line items.
  18. The number of IMSs that are predicted to be 'incremental' and 'non-incremental' varies with the size of the margin. For example, requiring the number of trading statements to be higher by only 0.50 increases the number of IMSs that are estimated to be incremental and it reduces the number of IMSs that are estimated to be non-incremental. In Table 7 we employ a margin of 0.75 for two reasons. First, a margin of 0.75 can be interpreted as a 'compromise' between two equally 'natural' choices, namely the more 'lenient' cut-off point of 0.50 and the more 'stringent' cut-off point of 1.00. Second, with a margin of 0.75 the number of incremental IMSs is similar to the number of incremental IMSs under the other prediction model, that is, a model in which we use the *actual* number of trading statements in 2006 to predict values under the MAD-only regime for 2009 and 2010. The findings in Table 7 remain qualitatively unchanged if we employ margins of 0.50 and 1.00 instead.
  19. The Table 7, Panel A, results for alternative margins of 0.50 and 1.00 can be summarised as follows. First, for both margins incremental IMS3s continue to outnumber incremental IMS1s by between 2:1 and 3:1. Second, with two exceptions, abnormal return variability and abnormal trading volume for incremental IMS1s continue to be insignificantly positive, while abnormal return variability and abnormal trading volume for incremental IMS3s continue to be significantly positive. The two exceptions relate to (a) incremental IMS1s' abnormal trading volume which becomes significantly positive for a margin of 0.50, with a median of 0.17 and a  $p$ -value of .04, and (b) incremental IMS3s' abnormal return variability which becomes insignificantly positive for a margin of 1.00, with a median of 0.22 and a  $p$ -value of .23. Third, for both margins, median abnormal return variability and median abnormal trading volume continue to be consistently higher for non-incremental IMSs than for incremental IMSs. In particular, for third-quarter IMSs, the differences between non-incremental and incremental IMS3s continue to be significant, with one exception, namely the difference in median abnormal trading volume for a margin of 1.00 which is insignificantly positive. For first-quarter IMSs the differences between non-incremental and incremental IMS1s continue to be positive, but insignificant, with one exception, namely the difference in median abnormal return variability which is marginally significant for a margin of 0.50.

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