The Impact of Corporate Governance and the Adoption of IFRS on Earnings Quality in Different Legal Jurisdictions: a Comparison between Italy and the UK

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ABSTRACT

We use a matched sample to investigate the impact of corporate governance on earnings quality in a country with a weak legal system (Italy) and in a country with a strong legal system (the UK). We report that the efficacy of corporate governance in enhancing earnings quality is affected by the legal context in which the firm operates. In particular, governance has a larger effect on earnings quality when the legal system is weak. These results are unaffected by the introduction of IFRS. However the introduction of the new accounting standards has had a differential effect on earnings quality in the UK and in Italy. Earnings quality has remained unchanged in Italy post IFRS but has declined in the UK to such an extent that UK earnings quality is now inferior to that of Italy.
1. Introduction

There is an extensive corpus of literature which provides evidence that a higher standard of corporate governance can improve earnings quality (Beasley, 1996; Dechow et al. 1996; Klein, 2002; Peasnell et al. 2005; Sivaramakrishnan et al. 2008). There is also evidence that the quality of accounting earnings varies across different legal jurisdictions (Ali and Hwang 2000; Ball et al. 2000; Leuz et al. 2003). The general finding here is that firms from common law countries have higher quality earnings. However, there is little or no evidence pertaining to how a firm’s earnings quality is affected by the interaction of its corporate governance architecture and the legal system in which it operates. This study uses a matched sample of Italian and UK companies to address this issue. The choice of the UK and Italy allows us to (1) compare a common law country with strong investor protection and a code law country with weak investor protection; (2) compare two EU countries where corporate governance regulation, but perhaps not practice, has tended to converge; (3) compare two countries with different GAAP before the adoption of IFRS and (4) compare two countries which use the same GAAP since 2005.¹

There are three possible results from the research: (1) governance has a larger affect on earnings quality in the UK: in this case we would conclude that in order to be effective that governance requires strong legal and regulatory support; (2) governance

¹ Eun and Resnick (2004) compare Italy and the UK as examples of countries with weak and strong investor protection and note that La Porta et al. award Italy the lowest score and the UK the highest in terms of their shareholder rights index.
has a bigger impact in Italy: in this scenario we would conclude that where there is a greater need for good governance it has a greater impact; (3) the impact is the same in both: the conclusion here would be that the effect of corporate governance on earnings quality is independent of the legal system.

Prior to 2005, Italy and the UK employed different GAAP. Both countries adopted IFRS in 2005. Accordingly, any comparison of earnings quality pre-2005 may be confounded by differences in GAAP. Also, the introduction of IFRS may have altered the relative quality of earnings in Italy and the UK. As well as examining if the introduction of IFRS impacts on our results pertaining to corporate governance, we also examine how IFRS impacts on the quality of earnings in both jurisdictions.

The primary measure of earnings quality used in the study is the DeFond and Park (2001) approach to estimate discretionary working capital accruals. As such it is a measure of earnings management using current discretionary accruals, we supplement this measure with a modified measure of the DeFond and Park, introduced by Francis and Wang (2008), which also includes some non-current discretionary accruals. In our analysis of the impact of IFRS on earnings quality we also use three measures of income smoothing (see Barth et al., 2008). Our results are consistent across all the measures of earnings quality.

This paper contributes to the literature in three main dimensions. First, it extends the literature on the relation between corporate governance and earnings quality to determine if the former’s ability to mitigate earnings management is affected by the
legal system and it is the first that, to the best knowledge of the authors, investigates the impact of the IFRS adoption on this relation. Secondly, it contributes to the literature on the effect of the legal system on earnings quality by employing an alternative methodology to most of the prior literature. In particular, our approach gives greater assurance that we are not merely capturing differences in the fundamental earnings process across countries but are capturing differences in how accounting choices are made. For example, countries will differ in the range of industries from which firms quoted on their stock markets are drawn. It is well known that the accounting process captures the fundamentals of some industries better than others. Our matched sample approach which not feasible, at least without cost, in studies which use many countries provides an additional control for the ability of the accounting system to measure the fundamental earnings process. Thirdly, the paper contributes to the controversial literature on the effect of the introduction of the IFRS on the quality of the accounting earnings by simultaneously examining how earnings quality across a number of dimensions changes in a common and a code law country with samples that are matched on industry, size and GAAP. This gives novel insights into the relative influence of IFRS in both countries.
2. Literature review

2.1 Corporate Governance and Earnings Quality

The importance of corporate governance in mitigating earnings management activity is an extensive area of research especially during the last decade where several business failures (e.g. Enron, Worldcom, AOL, Parmalat, Cirio, etc.) shocked markets and investors. The literature, thus far has treated the relation between corporate governance and earnings management and the relation between the legal environment and earnings management separately. Authors provide evidence that setting up a proper governance structure helps to prevent accounting manipulation using two main approaches. Some of them focus on the overall structure of corporate governance of a firm while others concentrate on one or more individual corporate governance mechanisms. Carcello, Hollingsworth and Klein (2006) use a governance index following the DeFond et al. (2005) approach and provide evidence of a negative and significant relation between a strong corporate governance structure and the natural logarithm of the absolute value of performance-adjusted discretionary accruals. Sivaramakrishnan and Yu (2008), using the Gompers’ index (Gompers et al., 2003) as a measure of the strength of corporate governance, investigate whether accrual quality, earnings persistence and earnings predictive ability are affected by the adequacy of the governance structure. Their results suggest that: (1) as the corporate governance is adequate, earnings quality is high; (2) firms with adequate governance tend to have high accrual quality, high earnings persistence, and high earnings predictive ability; (3) the
adequacy of corporate governance is a significant determinant of earnings quality. Duh, Lee and Lin (2009) use a governance index based on six corporate governance attribute. These include board size, independent directors, independent supervisors, institutional investors, foreign institutional investors and the difference between control rights and cash flow rights. They reports that effective corporate governance restrains earnings management using reversals of impairment losses in a sample of firms listed in Taiwan.

As far as the single corporate governance attributes are concerned, other empirical studies show that companies’ boards influence earnings management and the quality of financial statements and the extent of such influence depends on board characteristic and structure. The connection between earnings management and board size is not straightforward. Jensen (1993) argues that small boards are more effective in monitoring CEO’s actions, as large boards place a greater emphasis on “politeness and courtesy” and are therefore easier for the CEO to control. Yermack (1996) also concludes that small boards are more effective in monitoring than larger boards. If small boards enhance monitoring, they would also be associated with less use of earnings management. Chtourou, et al. (2001), find a negative relation between discretionary accruals and board size in their 1996 sample that is significant when the discretionary accruals are income decreasing. Xie et al. (2003) also find a negative relation between the level of abnormal working-capital accruals and board size, while Larcker et al. (2007) show a positive relation between discretionary accruals and board size but a negative association between the absolute value of accruals and board size. Thus, while
it is possible for boards to be too small, most governance problems appear to be associated with larger boards.

There is a considerable literature pertaining to the impact of the composition of the board of directors, specifically, inside versus outside directors. An outside director is defined as a director who is not employed in the company’s business activities and whose role is to provide an outsider’s contribution and oversight in the board of directors (Hanrahan et al., 2001). An outside director who is entirely independent from management is expected to offer the shareholders the greatest protection in monitoring management (Baysinger and Butler, 1985). Fama and Jensen (1983) posit that the superior monitoring ability of non-executives can also be attributed to the incentive to maintain their reputation in the external labour market. Beasley (1996) provides evidence that the presence of independent directors on the board reduces the likelihood of financial statement fraud and Dechow et al. (1996) report that firms with a greater proportion of non-executive directors are less likely to be subject to SEC enforcement actions for violating US GAAP. Both Peasnell et al. (2005) and Chtourou et al. (2001) predict that board independence is also likely to be associated with a reduction in earnings management: while the former find empirical support for their prediction with respect to UK firms, Chtourou et al. (2001) fail to find an association between earnings management and board independence for a sample of US firms.
Another important characteristic of boards is the separation between the role of the Chairperson and the Chief Executive Officer (CEO). CEO/Chair duality can lead to a concentration of power and possible conflicts of interest, potentially allowing for more management discretion, reducing the level of monitoring. The dual office structure permits the CEO to effectively control information available to other board members as well as board meetings and thus may impede effective monitoring (Jensen, 1993). If CEO/Chair duality does impede effective monitoring, it would also be associated with greater use of discretionary accruals. Dechow et al. (1996) provide evidence that firms engaging in earnings management are more likely to have a CEO who is the company founder and/or the Chairman of the board.

As far as the board’s committees are concerned, many studies link the structure of the audit committee to earnings management practices. An audit committee plays an important monitoring role to assure the quality of financial reporting and corporate accountability (Carcello and Neal, 2000). Carcello and Neal (2000) provide evidence that a greater percentage of affiliated directors on the audit committee is associated with a lower the probability that the auditor issues a going-concern report. Klein (2002) indicates that reductions in audit committee independence are accompanied by large increases in abnormal accruals. In addition, she shows that firms with fully independent audit committee and with at least one financial expert are negatively associated with aggressive earnings management. Xie et al. (2003) find that audit committee meeting frequency is associated with reduced levels of discretionary current accruals. Carcello et
al. (2006), studying the importance of a skilled audit committee, affirm that both accounting and certain types of non-accounting financial expertise reduce earnings management for firms with weak alternate corporate governance mechanisms and that independent audit committee members with financial expertise are most effective in mitigating earnings management. They also find that alternate corporate governance mechanisms are an effective substitute for audit committee financial expertise in constraining earnings management. Overall findings agree that audit committee is a good mechanism that prevents earnings management but its structure is important: it is effective only when composed of independent directors with financial background.

Ownership structure also affects the extent of earnings management. Many studies investigating discretionary accruals examine only one aspect of the ownership structure: insider ownership (e.g. Warfield et al. 1993). Others deal with ownership concentration, measuring this variable as a fraction owned by the largest or by significant shareholders (e.g. McConnell and Servaes, 1990; Agrawal and Knoeber, 1996; Demsetz and Villalonga, 2001; De Miguel et al., 2004; Boubraki et al., 2005). Ownership concentration reduces the free-rider problem and encourages monitoring, so the majority of the empirical studies find that ownership concentration implies less opportunity for accruals management or earnings manipulation. Bos and Donker (2004) also show that ownership concentration is an effective corporate governance mechanism in monitoring the accounting decisions of incumbent management, such as voluntary accounting changes. Similarly, closer monitoring of managers by block holders implies higher
earnings quality. The ability of managers to opportunistically manage reported earnings is also constrained by the effectiveness of external monitoring by stakeholders such as institutional investors. Institutional investors have the opportunity, resources and ability to monitor, discipline and influence managers of firms (Monks and Minow, 1995). Whether institutions use these powers is partially a function of the size of their individual or collective shareholdings. If shareholdings are high, they will be less marketable (Maug, 1998) and typically held for longer periods of time. In these circumstances, institutions have less opportunity to exit quickly and greater incentives to collect information, monitor management actions and urge better performance.

The choice of a firm’s auditor is another governance mechanism that is likely to be associated with earnings management. DeAngelo (1981) finds that larger audit firms have greater incentives to detect and reveal management misreporting. Using US data, DeFond and Jiambalvo (1991) show that non fraudulent clients of Big 4 auditors are less likely to have errors or irregularities, which are considered to be proxies for earnings management. In a subsequent study, DeFond and Jiambalvo (1993) provide evidence that auditor-client disagreements, resulting from incentives to manage earnings, are more likely to occur in the case of a Big 4 auditor. Similarly, Becker et al. (1998) provided evidence that clients of non-Big 4 auditors report discretionary accruals that increase income relatively more than the discretionary accruals reported by clients of Big 4 auditors. Krishnan (2003) argues that, not only do the large audit firms have more resources and expertise to detect earnings management, but they also have a greater
incentive to protect their reputation because of their larger client base. Johl et al. (2007) seek to provide evidence of audit quality differentiation among Malaysian firms by testing one of the observable outcomes of auditing, the audit opinion. Because it is argued that high levels of abnormal accruals should be associated with an audit qualification, they find that the absolute level of abnormal accruals is positively and significantly associated with qualifications only in presence of a Big 5 auditor.

2.2 The Legal framework, Earnings Quality and Governance

Corporate governance is not the only influence on the propensity to manage earnings. Prior studies document systematic differences in income smoothing, conservatism, and timeliness of earnings across countries with different institutional characteristics (Ali and Hwang 2000; Ball et al. 2000; Ball et al. 2003; Leuz et al. 2003). Ball et al. (2000) suggest that the demand for accounting earnings is systematically different in code law countries compared to common law countries. Common law countries are characterised by transactions at arms-length, a diverse base of investors and a relatively high risk of litigation. In code law countries, capital markets are less active, companies are more financed by banks, other financial institutions and the government, which results in less need for public disclosure. This situation also affects the quality of the accounting information. Leuz et al. (2003) analyse earnings management and investor protection across 31 countries affirming that legal systems that effectively protect outside investors reduce insiders’ need to conceal their activities and that earnings management appears to be lower in economies with large stock markets,
dispersed ownership, strong investor rights, and strong legal enforcement. They therefore proposed that earnings management is more pervasive in countries where the legal protection of outside investors is weak, because in these countries insiders enjoy greater private control benefits and hence have stronger incentives to obfuscate firm performance; these countries are all regulated by a code law legal system. García Lara et al. (2006) corroborate the evidence provided by Ball et al., (2000) and Leuz et al., (2003) that firms in code law countries tend to smooth earnings to a much higher degree than their common law counterparts. Hence, earnings management and loss avoidance practices appear to be more prevalent in companies from code law countries compared to companies from common law countries. Francis and Wang (2008) provided further evidence that earnings are of relatively higher quality in countries with stronger legal systems and investor protection environments but only when the auditor is one of the Big 4 firms. The overall thrust of the evidence indicates that accounting quality is expected to be higher in common law countries relative to code law countries. Analyzing the effect of corporate governance in different legal context, Iliev et al. (2010) suggest that institutional investors are more interested in exercising corporate governance through the voting mechanism against entrenched management when their portfolio firms are from countries with weak external governance where it is more likely that minorities can be expropriated.

The impact of the legal system on the structure of the corporate governance has been discussed by La Porta et al. (1998). They document significant differences among
countries regulated by different legal systems with regard to (1) corporate ownership structure, (2) depth and breadth of capital market, (3) access of firms to external financing and (4) dividend policies. They argue that these differences can be explained mainly by how well investors are protected by law from expropriation by the managers and controlling shareholders of firms. Their data support the hypothesis that countries develop substitute mechanisms for poor investor protection. Some of these mechanisms are even statutory, as in the case of remedial rules such as mandatory dividends or legal reserve requirements. They document the higher incidence of such adaptive legal mechanisms in code law countries.

All these findings from the literature lead to the following hypothesis:

**H1: The impact of corporate governance on earnings quality differs in different legal contexts.**

2.3 The adoption of IFRS and Earnings Quality

The quality of the accounting numbers in Italy and the UK is also potentially affected by the introduction, of a new set of accounting standards in 2005: the IFRS. The literature is quite controversial about the effects of the introduction of IFRS on the quality of the financial statement information. Some studies provide evidence of an improvement in the quality of the earnings after IFRS introduction (Cai et al., 2008;
Christensen et al., 2008; Paananen et al., 2009; Ismail et al., 2010; Tsalavoutas et al., 2010). However, most report very limited improvements, ambiguous evidence or even no differences in earnings quality between IFRS and local GAAP (Van Tendeloo et al., 2005; Aussenegg et al., 2008; Paglietti, 2009; Guenther et al., 2010; Houqe et al., 2010; Jarva and Lantto, 2010). There is also evidence that earnings quality decreased following IFRS adoption (Capkun et al. 2008; Paananen, 2008; Ahmed et al., 2010; Balsari et al., 2010, Callao and Jarne, 2010).

There may be systematic differences in the effects of IFRS adoption in strong enforcement versus weak enforcement countries. However, it is very difficult to make definitive predictions because the change in accounting quality also depends on the level of pre-adoption quality. Strong enforcement countries may be expected to show the largest improvements in accounting quality after IFRS adoption. The intuition is that in countries with strong enforcement abuse of managerial discretion is less likely than in countries with weak enforcement. However, there are two reasons why earnings quality may not show an improvement post IFRS adoption in such countries. First, if these countries already have high quality accounting, there may be less rooms for improvement. Second, if IFRS provide greater flexibility to managers in general, regulators or enforcement agencies may find it more difficult to curtail managerial discretion because it could fall within the broader acceptable exercise of judgment (Nelson, 2003). It has been observed by Ahmed et al. (2010) that earnings quality
decreases after IFRS introduction and that this finding is more pronounced for firms from countries with a strong rule of law.

Our second hypothesis is the following:

\[ H2: \text{IFRS introduction has a different effect on earnings quality in different legal contexts.} \]

3. Corporate governance: differences between Italy and the UK

Differences in the legal system, the origin and the development of the financial markets in Italy and in the UK have resulted in significant differences in corporate governance practices in the respective countries. The dispersion of the ownership in the Anglo-Saxon countries and the separation of ownership and control have led to shareholder control of companies being achieved via market means. The primary form of discipline is said to be the market for corporate control: underperforming companies are subject to shareholder exit and consequent changes in ownership and control (Easterbrook and Fischel, 1991). The fear among incumbent management of being replaced leads them to pursue shareholders' objectives. This type of regime is typically described in the Financial Economics literature as a market or “outsider” system of corporate governance (Moerland, 1995; Prowse, 1995; Mayer, 1997; Weimer and Pape, 1999). It can be contrasted with continental European systems where a much greater
concentration of ownership facilitates direct owner control. The central role of institutional investors is also peculiar to Anglo-Saxon regimes.

Italian industrial organization and corporate governance is characterized by the combination of several important features which, taken together, do not conform to either the “market-based” model that can be observed in the UK or the “relation-based” model, that is prevalent in Germany. Ownership of large firms is highly concentrated with family ownership being especially important and the concentration is even higher than in other European countries known for their high ownership concentration structure such as France, Germany or Spain. A notable feature of Italian corporate ownership has been the pyramidal form whereby a small number of owners in effect control a large number of companies through other companies. La Porta et al. (1999) define a firm’s ownership structure as a pyramid if (1) the firm has an ultimate owner and (2) there is at least one publicly traded company between it and the ultimate owner in the chain of 20 percent voting rights. Bianchi et al. (1997) report that 99.19% of Italian firms employing more than 1,000 people belong to a pyramid group, while Bianco et al. (1996) document that over 57% of manufacturing firms with more than 200 employees have a hierarchical control structure. In this system, the interests of minority shareholders have been weakly protected and this has further contributed to the limited development of Italian equity markets. The other major difference in corporate governance between Italy and other industrial countries is the lack of financial institutions exercising monitoring via share or debt capital. The role of banks in Italian corporate governance is very limited: Bottasso
and Sembenelli (2004) state that it is unusual for bankers to sit on the boards of directors of manufacturing firms. The failure of financial and non-financial institutions to act as advisers or intermediaries and the high concentration of ownership, as well as the lack of rules concerning public offers, have prevented this development. Company law, securities law and investment regulation do not provide a framework for institutional investors to play a lead role in corporate governance. Minority shareholders’ interests are not strongly supported and accounting and company information available to shareholders can be inadequate. Moreover, little or no independent monitoring has been exercised by corporate bodies. Finally, the board of directors in Italian companies is generally fully identified with the controlling shareholders; this body, whose members are chosen by the majority shareholders, also lacks adequate enforcement power.

Clearly, Italy and the UK are at extreme ends of the spectrum in terms of institutional supports (Eun and Resnick, 2004). Thus they provide an interesting setting to investigate how the legal framework influences the efficacy of corporate governance in managing earnings. As pointed out by La Porta et al. (1998) code law countries develop mechanisms to compensate for poor investor protection. The main research question in this study pertains whether or not corporate governance can work at the level of the individual firm to constrain earnings management in these different jurisdictions and thus be one of the adaptive mechanisms described by La Porta et al. (1998).
4. Data and Research Methods

The initial sample comprises matched pairs of Italian and UK companies covering the period 2003-2008. First, the six sectors which have the greatest number of firms in the Italian stock market are selected. Data for all active and delisted Italian and UK companies in these six FTSE 2 digit sectors are collected for each year 2003-2008. All firms of the country with the lower number of firms in each sector are initially included in the sample. This procedure provides us with 864 Italian and UK firms that require to be matched with firms in the other country so we have potentially 1,728 firm/years in the sample on the basis of sector and size. To enter the sample firms had to have a match in the other country on the basis of sales revenue and the required accounting data in the three years centred on the matching year. In addition, all firms with dual listings have been excluded to avoid situations where their governance structure is affected by other legal jurisdictions. This process yields a sample of 525 matched pairs or 1,050 observations in total.

In order to evaluate the impact of the introduction of IFRS on our results two sub-samples which also match the above firms on GAAP (either IFRS or local GAAP) are constructed from our initial sample. These samples comprise 294 firm/years using local GAAP up to 2005 and 600 firm/years using IFRS after 2005.
Earnings management, in this study, is analysed by the abnormal accruals. There are several suggested models to estimate discretionary accruals. Jones-type abnormal accrual measures (Jones, 1991; Dechow, Sloan & Sweeney, 1995; Kothari, Leone & Wasley, 2005) are more frequently used to measure earnings management. However, when the number of observations per year/industry is limited such these models are unreliable (Wysocki, 2004). As the latter being the case for Italian companies, in the current paper we use De Fond and Park (2001) model to estimate Abnormal Working Capital Accruals (AWCA) as a proxy for earnings management. They test inferences about the market’s pricing of abnormal accruals using an abnormal accruals measure that captures the difference between reported working capital and a proxy for the market’s expectations of the level of working capital required to support current sales (St) levels. This difference represents working capital accruals that are unlikely to be sustained in the future and, therefore, are likely to reverse against future earnings.

DeFond and Park (2001) estimate abnormal working capital accruals using the following formula:

\[
AWCA_t = WC_t - (WC_{t-1}/S_{t-1}) \cdot S_t
\]

Where:

\(WC\) is the operating working capital and it has been calculated as Current Assets (DataStream code: WC02201), after subtracting Cash and Cash Equivalent (WC02005),
less Current Liabilities (WC03101) net of the Current Portion of Long Term Debt (WC18232);

$S$ stands for sales. They are the Net Sales or Revenue (WC01001).

AWCAs have been divided by the Total Assets (WC02999) to control for firm size.

For robustness tests, we also use a measure of accruals that includes depreciation (Francis and Wang, 2008) because earnings management can be found both in working capital and depreciation. Manipulation of earnings through working capital seems to be easier because manipulation of depreciation is more traceable even if it cannot be excluded.

Data on the corporate governance of all the sample companies is hand-collected from their annual reports. Additional investigation using sources such as other company reports, directors’ curriculum vitae and the internet have been perused to assist in classifying directors as independent or not independent of management. Ownership details for the Italian companies comes from “Italy’s SEC” Consob website (www.consob.it). For UK companies the annual report was used for this information. Because a company’s corporate governance system is made up of a number of individual and interrelated mechanisms we adopt the approach of previous research (e.g. Brown and Caylor, 2006) and construct a corporate governance score or index for each company. Nine aspects of governance are examined and given a score of 1 or 0 depending on whether the company is deemed to have strong or weak governance as it
pertains to that mechanism. Table 1 below outlines how the governance score is constructed.

<table>
<thead>
<tr>
<th>Ownership Concentration</th>
<th>The top three owners own &gt; 40% of the company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional Shareholding</td>
<td>The proportion of the company’s shares owned by institutional investors is &gt; 25% of the company</td>
</tr>
<tr>
<td>Board Size</td>
<td>The number of directors sitting on the board is between 5 and 11 inclusive.</td>
</tr>
<tr>
<td>CEO Duality</td>
<td>The roles of CEO and Chairman of the board are held by different individuals</td>
</tr>
<tr>
<td>Audit Firm</td>
<td>A big four auditor</td>
</tr>
<tr>
<td>Audit Committee Independence and Expertise</td>
<td>The audit committee comprises only independent directors at least one of whom has the requisite financial expertise</td>
</tr>
<tr>
<td>Chairman Independence</td>
<td>The chairman of the board was independent on appointment</td>
</tr>
<tr>
<td>Non-Executive Directors</td>
<td>The proportion of the board comprised of independent non-executive directors is more than 50% and less than 70%</td>
</tr>
<tr>
<td>Independent Non-executive Directors</td>
<td>The percentage of independent directors in the non-executive directors is greater than 75% *</td>
</tr>
</tbody>
</table>

* if the percentage of independent directors in the non-executive directors is less than 33% 0 is scored; if it is between 33% and 75% 0.5 is scored. For all other rows 0 is scored if the condition in the second column is not fulfilled.

A preliminary univariate analysis is first undertaken to establish that corporate governance does mitigate earnings management and thus enhances earnings quality in both Italy and the UK. The model outlined in equation (1) is then used to test the primary research question of this study: how do different legal systems impact on the efficacy corporate governance in reducing earnings management?
\[ AWCA_{it} = \alpha + \beta_1 Gov-Score_{it} + \beta_2 (Gov-Score \times Codelaw_{it}) + \beta_3 \text{Leverage}_{it} + \]
\[ + \beta_4 \text{CFO}_{it} + \beta_5 \text{ROA}_{it} + \beta_6 \text{SPOS}_{it} + \beta_7 \text{SINCR}_{it} + \beta_8 \text{Size}_{it} + \varepsilon \quad (1) \]

AWCA is the absolute value of the abnormal working capital accrual (DeFond and Park, 2001) scaled by Total Assets;

Gov-Score is a score given to each firm based on the 9 attributes of corporate governance;

Codelaw is a dummy variable that takes 1 for code law system, 0 otherwise;

Leverage is calculated as total debt over Total Assets;

CFO is the Cash flow from operations scaled by Total Assets;

ROA is calculated as operating profit divided by Total Assets year;

SPOS is a dummy variable that takes 1 in presence of a small profit (profit divided by Total Assets positive and lower than 0.02) and 0 otherwise;

SINCR is a dummy variable that takes 1 in presence of a small increase in profit (variation in profit positive and lower than 0.01) and 0 otherwise;

Size is the natural logarithm of total sales.

The coefficient \( \beta_1 \) represents the effect of the corporate governance structure in constraining earnings management in the UK, while the sum of \( \beta_1 \) and \( \beta_2 \) represents the effect in Italy. Better corporate governance should be able to prevent managers’ opportunistic manipulation of earnings using discretionary accruals. For this reason, a negative relation is expected between abnormal accruals and both the corporate
governance, so both $\beta_1$ and the sum of $\beta_1$ and $\beta_2$ should be negative and significant. To test the statistical significance of the sum of two coefficients a Wald test is used. However, the coefficient that is of most interest for the current study is $\beta_2$. If $\beta_2$ is significantly positive then this would imply that in Italy corporate governance is not as efficient as it is in the UK at restricting earnings management. If $\beta_2$ is significantly negative this suggests that corporate governance has a greater impact in Italy in restricting earnings management using discretionary working capital accruals. Finally, if $\beta_2$ is insignificant this suggests that corporate governance in Italy and the UK perform equally well in mitigating earnings management. A similar equation is estimated with Board-Score substituted for Gov-score to confirm the impact of board structure on the efficacy of governance. This board score is based on the six governance characteristics in Table 1 that pertain to board structure.

The introduction of IFRS in both countries in 2005 may have had a differential influence on earnings quality. Accordingly, we re-estimate equation (1) having refined our matched sample so that we have a sub-sample that reports using local GAAP and another sub-sample that reports using IFRS. As well as confirming the earlier results with respect to the efficacy of corporate governance, this allows us to extend the analysis in two further ways: first we examine how IFRS affected earnings quality in both countries and secondly we extend and further test the robustness of our earlier results using the methods of Barth et al. (2008).
To examine how IFRS affected earnings quality in Italy and the UK we estimate equation (2) below:

\[
AWCA_{it} = \alpha + \beta_1 IFRS_{it} + \beta_2 (IFRS \ast Code_{it}) + \beta_3 \text{Gov-Score}_{it} + \beta_4 \text{Leverage}_{it} + \\
+ \beta_5 \text{CFO}_{it} + \beta_6 \text{ROA}_{it} + \beta_7 \text{SPOS}_{it} + \beta_8 \text{SINCR}_{it} + \beta_9 \text{Size}_{it} + \epsilon
\]  

(2)

IFRS is a dummy variable that takes the value one for the period after IFRS adoption and zero otherwise. The sign of \( \beta_1 \) shows the relation between IFRS adoption and abnormal accruals in the UK. If it is positive and significant, we conclude that earnings management increased after the international standards have been introduced and if it is negative the opposite is inferred. The coefficient \( \beta_2 \) reveals any differences between Italy and the UK in the affect of IFRS on AWCA and \( \beta_1 + \beta_2 \), measures the affect of international accounting standards on the abnormal accruals in Italy. Corporate governance score, leverage, cash flow from operations, return on assets, the presence of small positive earnings and small positive increase in profits as well as the firms’ size are the other regressors.

We then turn our attention to testing if the results from the estimation of equation (2) are consistent with those from different methods of estimating earnings quality in the literature. This will provide additional evidence that AWCA is a reliable measure of earnings quality as well as yielding some insights into the changes in earnings quality in both countries post the adoption of IFRS.
Three different measures of income smoothing are computed: a) the variability of annual changes in net income; b) the variability of annual changes in net income relative to the variability of annual changes in cash flows; c) the correlation between accruals and cash flows.

The first measure of earnings smoothing evaluates earnings variability as the standard deviation of the residuals of the regression of annual change in net income on some control factors, that is:

\[
\Delta N_i = \alpha + \beta_1 SIZE_i + \beta_2 GROWTH_i + \beta_3 EISSUE_i + \beta_4 LEV_i + \\
+ \beta_5 DISSUE_i + \beta_6 TURN_i + \beta_7 CF_i + \beta_8 BIG4_i + \epsilon \tag{3}
\]

where:
\( \Delta N_i \) is the annual change in net income, with Ni expressing net income scaled by end-of-year Total Assets;
\( SIZE \) is the natural logarithm of the end-of-year market value of equity;
\( GROWTH \) is the annual change in sales;
\( EISSUE \) is the annual change in common stock;
\( LEV \) is end-of-year total liabilities divided by Total Assets;
\( DISSUE \) is annual change in total liabilities;
\( TURN \) is sales divided by end-of-year Total Assets;
*CF* is annual operating cash flow from operating activities divided by end of year Total Assets;

*BIG4* is a dummy variable that equals one if the firm’s auditor is Deloitte&Touche, Ernst&Young, KPMG or PwC;

The residuals of the model specified above, denoted as $\Delta Ni^*$, and their standard deviation $\sigma \Delta Ni^*$, is the first metric used for earnings smoothing. Lower values of $\sigma \Delta Ni^*$ are evidence of increasing earnings smoothing, and vice versa.

The second metric considers the ratio between $\Delta Ni^*$ and $\Delta CF^*$; the latter corresponds to the residuals of the model:

$$
\Delta CF_i = \alpha + \beta_1 SIZE_i + \beta_2 GROWTH_i + \beta_3 EISSUE_i + \beta_4 LEV_i + \\
+ \beta_5 DISSUE_i + \beta_6 TURN_i + \beta_7 BIG4_i + \varepsilon
$$

(4)

Where:

* $\Delta CF$ is the change in annual operating cash flow.

The ratio $\Delta Ni^* / \Delta CF^*$ measures the relationship between annual changes in net income relative to the annual changes in cash flows. The standard deviation of this ratio expresses the variability of annual changes in net income relative to the variability of annual changes in cash flows. The rationale behind the use of this metric is that firms might use accruals to manage earnings so that the resulting variability of earnings is reduced compared to that of cash flow (Paglietti, 2009).
Finally, income smoothing is also assessed by considering the interdependence between accruals and cash flows. Also in this case, to control for the possible influence of endogenous factors, the following regression equations are estimated:

\[
\begin{align*}
CF_{it} &= \alpha + \beta_1 \text{SIZE}_{it} + \beta_2 \text{GROWTH}_{it} + \beta_3 \text{EISSUE}_{it} + \beta_4 \text{LEV}_{it} + \\
&+ \beta_5 \text{DISSUE}_{it} + \beta_6 \text{TURN}_{it} + \beta_7 \text{BIG4}_{it} + \epsilon \\
\end{align*}
\]

(5)

\[
\begin{align*}
\text{ACC} &= \alpha + \beta_1 \text{SIZE}_{it} + \beta_2 \text{GROWTH}_{it} + \beta_3 \text{EISSUE}_{it} + \beta_4 \text{LEV}_{it} + \\
&+ \beta_5 \text{DISSUE}_{it} + \beta_6 \text{TURN}_{it} + \beta_7 \text{BIG4}_{it} + \epsilon \\
\end{align*}
\]

(6)

ACC indicates accruals, obtained by subtracting CF from Ni. Earnings smoothing is measured by the Spearman correlation coefficient between the residuals of the two models described above and it is denoted by $\rho(\text{CF}^*, \text{ACC}^*)$. Prior literature (Leuz et al., 2003; Ball and Shivakumar, 2005) reports that income smoothing is increasing in the negative correlation between cash flows and accruals, $\rho(\text{CF}^*, \text{ACC}^*)$. This is due to the possible increase of accruals made by managers to smooth earnings when cash flow is low.

5. Results

Our descriptive statistics and preliminary analysis are reported in table 2.
### Table 2

**Panel A: Descriptive Statistics – Abnormal Working Capital Accruals (AWCA)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Country</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>Variance</th>
<th>Median</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWCA</td>
<td>ITA+UK</td>
<td>0.0645</td>
<td>0.0000</td>
<td>7.8583</td>
<td>0.0676</td>
<td>0.0308</td>
<td>26.27</td>
</tr>
<tr>
<td>AWCA_w</td>
<td>ITA+UK</td>
<td>0.0547</td>
<td>0.0000</td>
<td>0.4261</td>
<td>0.0049</td>
<td>0.0308</td>
<td>2.89</td>
</tr>
<tr>
<td>AWCA</td>
<td>ITA</td>
<td>0.0707</td>
<td>0.0000</td>
<td>7.8583</td>
<td>0.1293</td>
<td>0.0292</td>
<td>19.85</td>
</tr>
<tr>
<td>AWCA_w</td>
<td>ITA</td>
<td>0.0509</td>
<td>0.0000</td>
<td>0.3137</td>
<td>0.0040</td>
<td>0.0292</td>
<td>2.49</td>
</tr>
<tr>
<td>AWCA</td>
<td>UK</td>
<td>0.0583</td>
<td>0.0001</td>
<td>0.7449</td>
<td>0.0061</td>
<td>0.0342</td>
<td>4.09</td>
</tr>
<tr>
<td>AWCA_w</td>
<td>UK</td>
<td>0.0550</td>
<td>0.0001</td>
<td>0.2654</td>
<td>0.0036</td>
<td>0.0342</td>
<td>1.85</td>
</tr>
</tbody>
</table>

**Panel B: Descriptive Statistics – Abnormal Working Capital Accruals (AWCA) before and after IFRS**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Country</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>Variance</th>
<th>Median</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWCA_w</td>
<td>ITA before</td>
<td>0.0559</td>
<td>0.0000</td>
<td>0.5177</td>
<td>0.0058</td>
<td>0.0318</td>
<td>3.76</td>
</tr>
<tr>
<td></td>
<td>IFRS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AWCA_w</td>
<td>UK before</td>
<td>0.0505</td>
<td>0.0007</td>
<td>0.2684</td>
<td>0.0032</td>
<td>0.0279</td>
<td>2.05</td>
</tr>
<tr>
<td></td>
<td>IFRS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AWCA_w</td>
<td>ITA after</td>
<td>0.0468</td>
<td>0.0000</td>
<td>0.3242</td>
<td>0.0035</td>
<td>0.0270</td>
<td>2.61</td>
</tr>
<tr>
<td></td>
<td>IFRS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AWCA_w</td>
<td>UK after</td>
<td>0.0538</td>
<td>0.0002</td>
<td>0.2855</td>
<td>0.0033</td>
<td>0.0364</td>
<td>1.91</td>
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<tr>
<td></td>
<td>IFRS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Panel C: Descriptive Statistics – Governance and Board Scores**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Country</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>Variance</th>
<th>Median</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gov-Score</td>
<td>ITA</td>
<td>4.6943</td>
<td>1</td>
<td>8.5</td>
<td>1.4784</td>
<td>4.5</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td>UK</td>
<td>5.4914</td>
<td>1</td>
<td>9.0</td>
<td>2.0462</td>
<td>5.5</td>
<td>-0.47</td>
</tr>
<tr>
<td>Board-Score</td>
<td>ITA</td>
<td>2.4695</td>
<td>0</td>
<td>6.0</td>
<td>1.0239</td>
<td>2.5</td>
<td>0.52</td>
</tr>
<tr>
<td></td>
<td>UK</td>
<td>3.3076</td>
<td>0</td>
<td>5.5</td>
<td>1.2873</td>
<td>3.5</td>
<td>-0.35</td>
</tr>
</tbody>
</table>

**AWCA:** Absolute abnormal working capital accruals (DeFond and Park, 2001) scaled by Total Assets.

**AWCA_w:** Winsorised absolute abnormal working capital accruals (DeFond and Park, 2001) scaled by Total Assets.

**Gov-Score:** score given to the firm based on 9 attributes of the corporate.

**Board-Score** is a score given to each firm based on the 6 attributes of the board structure.

The distribution of AWCA is skewed to the right, particularly for the Italian sample. Thus the Italian sample includes the most extreme observations. In view of the
skewness in both samples AWCA is winsorised at the 98th percentile. Further analysis reveals that the level of AWCA in Italy is not significantly different from that of the UK before the introduction of IFRS. However, since the introduction of IFRS the level of AWCA has increased in the UK to such an extent that it is significantly larger than that of Italy (Table 2, panel B) as result of a Mann-Whitney test on the medians. Accordingly, the study will address the influence of the introduction of IFRS on its results below.

It is also clear from Table 2, panel C that our UK sample has superior overall governance compared with the Italian sample. This difference is statistically significant and is replicated for a sub-index based on board structure. This evidence is also consistent with Klapper and Love (2004). All of the individual corporate governance mechanisms are significantly different in the Italian and UK samples. The standard of governance attributes is superior in the UK in all cases except for ownership concentration and the percentage of the board comprised of non-executive directors.

These preliminary results are surprising: for most of the period studied, the level of AWCA and thus earnings manipulation is lower in Italy while the legal system and corporate governance is stronger in the UK. A possible explanation for this is that corporate governance is more effective in Italy since it has a greater agency deficit to overcome.

---

2 The Mann-Whitney test is based on the original data not the winsorised data.
Before addressing the central research question of the study we test to establish that discretionary accruals are declining as corporate governance improves in both countries. Our three samples Italy, UK and both countries are divided into quartiles based on their governance score. ANOVA and its non-parametric alternative the Kruskal-Wallis test are then used to test the equality of AWCA across these quartiles. Table 3 shows that AWCA is declining in governance quality and there are statistically significant differences in AWCA across the governance standards in both countries. However, the relationship is monotonic only for average (median) returns in the UK (entire sample).

<table>
<thead>
<tr>
<th>Quartile</th>
<th>Gov-Score Average</th>
<th>AWCA Average [Median]</th>
<th>AWCA Average [Median]</th>
<th>AWCA Average IT+UK</th>
<th>AWCA Average ITA+UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worst</td>
<td>3.4851</td>
<td>0.0593 [0.0293]</td>
<td>3.6071</td>
<td>0.0669 [0.0449]</td>
<td>3.4158 [0.0649]</td>
</tr>
<tr>
<td>2nd</td>
<td>4.500</td>
<td>0.0636 [0.0405]</td>
<td>5.2552</td>
<td>0.0545 [0.0305]</td>
<td>4.8026 [0.0543]</td>
</tr>
<tr>
<td>3rd</td>
<td>5.2038</td>
<td>0.0431 [0.0301]</td>
<td>6.3188</td>
<td>0.0468 [0.0261]</td>
<td>5.6987 [0.0430]</td>
</tr>
<tr>
<td>Best</td>
<td>6.4949</td>
<td>0.0359 [0.0221]</td>
<td>7.4066</td>
<td>0.0462 [0.0365]</td>
<td>6.9119 [0.0450]</td>
</tr>
</tbody>
</table>

ANOVA Test (P-Value) Kruskal-Wallis Test (P-Value)

(0.002***)

(0.003***)

(0.000***)

(0.019**)

*, **, *** Significant at a 10%, 5%, 1% respectively.

**AWCA:** Absolute abnormal working capital accruals (DeFond and Park, 2001) scaled by Total Assets. Winsorised data have been used for the T-test and the ANOVA while raw data have been used for the Mann-Whitney and Kruskal-Wallis Test.

**Gov-Score:** score given to the firm based on 9 attributes of the corporate governance structure.
Having established that corporate governance impacts on earnings management in the anticipated fashion in both countries we proceed to test the main hypothesis: is the efficacy of governance affected by the legal system?

The results of estimating equation (1) are outlined in Table 4.
Table 4
Corporate Governance and earnings management in Italy and the UK

\[ AWCA_{it} = \alpha + \beta_1 \text{Gov-Score}_{it} + \beta_2 (\text{Gov-Score} \times \text{Codelaw}_{it}) + \beta_3 \text{Leverage}_{it} + \beta_4 \text{CFO}_{it} + \beta_5 \text{ROA}_{it} + \beta_6 \text{SPOS}_{it} + \beta_7 \text{SINCR}_{it} + \beta_8 \text{Size}_{it} + \epsilon \]

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted sign</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \alpha )</td>
<td>+</td>
<td>0.183982</td>
<td>10.12250</td>
<td>0.0000</td>
</tr>
<tr>
<td>Gov-Score</td>
<td>-</td>
<td>-0.005109</td>
<td>-3.099725</td>
<td>0.0010</td>
</tr>
<tr>
<td>(Gov-Score + Gov-Score*Codelaw)</td>
<td>-</td>
<td>-0.008563</td>
<td>-4.593884</td>
<td>0.0000</td>
</tr>
<tr>
<td>Gov-Score*Codelaw</td>
<td>?</td>
<td>-0.003454</td>
<td>-4.442710</td>
<td>0.0000</td>
</tr>
<tr>
<td>Leverage</td>
<td>+</td>
<td>0.035136</td>
<td>2.624825</td>
<td>0.0044</td>
</tr>
<tr>
<td>CFO</td>
<td>-</td>
<td>-0.063372</td>
<td>-1.714794</td>
<td>0.0434</td>
</tr>
<tr>
<td>ROA</td>
<td>?</td>
<td>0.026744</td>
<td>0.921552</td>
<td>0.3570</td>
</tr>
<tr>
<td>SPOS</td>
<td>+</td>
<td>0.041182</td>
<td>5.358096</td>
<td>0.0000</td>
</tr>
<tr>
<td>SINCR</td>
<td>+</td>
<td>-0.006089</td>
<td>-1.034029</td>
<td>0.3014</td>
</tr>
<tr>
<td>Size</td>
<td>-</td>
<td>-0.009829</td>
<td>-6.939296</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-squared 0.137731  F-statistic 20.78505
Adjusted R-squared 0.131105  Prob (F-statistic) 0.000000

The value and the significance of sums of coefficients are calculated using a Wald test.
P-Values are White-Heteroskedasticity robust and one-tailed in presence of a clear predicted sign and two-tailed otherwise.

EM is the absolute value of the abnormal working capital accruals (DeFond & Park, 2001) winsorised and scaled by total assets;
Gov-Score is a score given to each firm based on the 9 attributes of corporate governance;
Codelaw is a dummy variable that takes 1 for code law system, 0 otherwise;
Leverage is calculated as total debt over total assets;
CFO is the cash flow from operation scaled by total assets;
ROA is calculated as operating profit divided by total assets;
SPOS is a dummy variable that takes 1 in presence of a small profit (profit divided by total assets positive and lower than 0.02) and 0 otherwise;
SINCR is a dummy variable that takes 1 in presence of a small increase in profit (variation in profit positive and lower than 0.01) and 0 otherwise;
Size is the natural logarithm of the total of the sales.

The coefficient on Gov-Score is significantly negative confirming that earnings management declines as corporate governance improves in the UK. The sum of \( \beta_1 \) and \( \beta_2 \) is also significantly negative confirming that relation between corporate governance
and earnings management is similar in Italy. The crucial result is that $\beta_2$ is significantly negative implying that there is a stronger negative relation between corporate governance and earnings management in Italy. This implies while it is important for a UK company to have good governance to curb earnings management it is even more important in Italy. It appears that if the legal system is deficient with respect to investor protection corporate governance becomes even more important, broadly consistent with Iliev et al. (2010).

Ownership is far more concentrated in Italy than in the UK: a rational response to the relatively weak investor protection provided by the Italian legal system. To provide evidence that the result reported in Table 4 is not solely due to ownership concentration a variation on equation (1) is estimated with Board-Score replacing Gov-Score.
Table 5
Board Structure and earnings management
In Italy and the UK

\[ AWCA_t = \alpha + \beta_1\text{Board-Score}_t + \beta_2(\text{Board-Score}\times\text{Codelaw})_t + \beta_3\text{Leverage}_t + \]
\[ + \beta_4\text{CFO}_t + \beta_5\text{ROA}_t + \beta_6\text{SPOS}_t + \beta_7\text{SINCR}_t + \beta_8\text{Size}_t + \epsilon \]

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted sign</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \alpha )</td>
<td>+</td>
<td>0.173967</td>
<td>10.29849</td>
<td>0.0000</td>
</tr>
<tr>
<td>Board-Score</td>
<td>-</td>
<td>-0.007441</td>
<td>-3.577228</td>
<td>0.0002</td>
</tr>
<tr>
<td>(Board-Score + Board-Score*Codelaw)</td>
<td>-</td>
<td>-0.014581</td>
<td>-5.601613</td>
<td>0.0000</td>
</tr>
<tr>
<td>Board-Score*Codelaw</td>
<td>?</td>
<td>-0.007140</td>
<td>-5.465627</td>
<td>0.0000</td>
</tr>
<tr>
<td>Leverage</td>
<td>+</td>
<td>0.036660</td>
<td>2.748632</td>
<td>0.0031</td>
</tr>
<tr>
<td>CFO</td>
<td>-</td>
<td>-0.065445</td>
<td>-1.763423</td>
<td>0.0392</td>
</tr>
<tr>
<td>ROA</td>
<td>?</td>
<td>0.022551</td>
<td>0.786577</td>
<td>0.4317</td>
</tr>
<tr>
<td>SPOS</td>
<td>+</td>
<td>0.040147</td>
<td>5.417220</td>
<td>0.0000</td>
</tr>
<tr>
<td>SINCR</td>
<td>+</td>
<td>-0.005909</td>
<td>-1.020849</td>
<td>0.3076</td>
</tr>
<tr>
<td>Size</td>
<td>-</td>
<td>-0.009281</td>
<td>-6.624421</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>R-squared</th>
<th>F-statistic</th>
<th>Prob (F-statistic)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.151978</td>
<td>23.32038</td>
<td>0.000000</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.145461</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The value and the significance of sums of coefficients are calculated using a Wald test.
P-Values are White-Heteroskedasticity robust and one-tailed in presence of a clear predicted sign and two-tailed otherwise.

**EM** is the absolute value of the abnormal working capital accruals (DeFond & Park, 2001) winsorised and scaled by total assets;

**Board-Score** is a score given to each firm based on the 6 attributes of the board structure;

**Codelaw** is a dummy variable that takes 1 for code law system, 0 otherwise;

**Leverage** is calculated as total debt over total assets;

**CFO** is the cash flow from operation scaled by total assets;

**ROA** is calculated as operating profit divided by total assets;

**SPOS** is a dummy variable that takes 1 in presence of a small profit (profit divided by total assets positive and lower than 0.02) and 0 otherwise;

**SINCR** is a dummy variable that takes 1 in presence of a small increase in profit (variation in profit positive and lower than 0.01) and 0 otherwise;

**Size** is the natural logarithm of the total of the sales.
Table 5 reports that the inferences are completely unaffected when Board-Score is used so the efficacy of corporate governance in restraining earnings management is not solely due to ownership concentration. The remaining coefficients in Tables 4 and 5 have the expected signs and most are significant. The most interesting is the dummy variable indicating a small positive profit, SPOS. This is of the same magnitude and very significantly negative in both Tables 4 and 5. It indicates that AWCA is likely to be larger when a firm returns a small positive profit. This is as predicted and corroborates AWCA as a plausible measure of earnings management.

The coefficient on SPOS itself can be interpreted as a measure of earnings management. Accordingly, an additional test (Appendix, Table 1) is done using another variation of equation (1) where SPOS is interacted with Codelaw and Gov-Score and demonstrates that corporate governance reduces earnings management to avoid losses to a greater extent in Italy than in the UK.

It was noted earlier that average AWCA is lower in the Italian sample than in the UK sample post the introduction of IFRS in 2005. It can also be argued that using post IFRS data is a better test since the results cannot be confounded by differences in GAAP. Accordingly, equation (1) was estimated before and after the harmonization of the accounting standards (Appendix, Table 2 and 3). The results outlined in Table 4 are confirmed.
Our samples of Italian and UK firms which are matched on industry, size and also on GAAP afford us an opportunity to examine any differential effects of IFRS in Italy and in the UK as well as providing a test of the robustness of our results above to alternative measures of earnings quality. First we estimate equation (2) and report the results of this estimation in Table 6.
Table 6
The differential influence of IFRS on earnings management in Italy and the UK

\[ AWCA_{it} = \alpha + \beta_1 \text{IFRS}_{it} + \beta_2 (\text{IFRS} \times \text{Codelaw}_{it}) + \beta_3 \text{Gov-Score}_{it} + \beta_4 \text{Leverage}_{it} + \beta_5 \text{CFO}_{it} + \beta_6 \text{ROA}_{it} + \beta_7 \text{SPOS}_{it} + \beta_8 \text{SINCR}_{it} + \beta_9 \text{Size}_{it} + \epsilon \]

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted sign</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \alpha )</td>
<td>+</td>
<td>0.192052</td>
<td>7.753843</td>
<td>0.0000</td>
</tr>
<tr>
<td>IFRS</td>
<td>?</td>
<td>0.013860</td>
<td>2.488876</td>
<td>0.0065</td>
</tr>
<tr>
<td>(IFRS + IFRS*Codelaw)</td>
<td>?</td>
<td>-0.005929</td>
<td>-0.919035</td>
<td>0.3583</td>
</tr>
<tr>
<td>IFRS*Codelaw</td>
<td>?</td>
<td>-0.019789</td>
<td>-3.763647</td>
<td>0.0001</td>
</tr>
<tr>
<td>Gov-Score</td>
<td>-</td>
<td>-0.008281</td>
<td>-3.322112</td>
<td>0.0005</td>
</tr>
<tr>
<td>Leverage</td>
<td>+</td>
<td>0.044924</td>
<td>2.167992</td>
<td>0.0151</td>
</tr>
<tr>
<td>CFO</td>
<td>-</td>
<td>-0.034132</td>
<td>-0.944723</td>
<td>0.1726</td>
</tr>
<tr>
<td>ROA</td>
<td>?</td>
<td>0.048325</td>
<td>1.451451</td>
<td>0.1470</td>
</tr>
<tr>
<td>SPOS</td>
<td>+</td>
<td>0.046226</td>
<td>4.173473</td>
<td>0.0000</td>
</tr>
<tr>
<td>SINCR</td>
<td>+</td>
<td>-0.006754</td>
<td>-0.440253</td>
<td>0.6599</td>
</tr>
<tr>
<td>Size</td>
<td>-</td>
<td>-0.010913</td>
<td>-5.094297</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-squared: 0.123784  F-statistic: 13.87591  Prob. (F-statistic): 0.000000

The value and the significance of sums of coefficients are calculated using a Wald test. P-Values are White-Heteroskedasticity robust and one-tailed in presence of a clear predicted sign and two-tailed otherwise.

**EM** is the absolute value of the winsorized abnormal working capital accrual (DeFond & Park, 2001) scaled by total assets;  
**IFRS** is 1 if the annual report is prepared under IFRS and 0 otherwise;  
**Gov-Score** is a score based on the 9 attributes of corporate governance;  
**Codelaw** is a dummy variable that takes 1 for code law system, 0 otherwise;  
**Leverage** is calculated as total debt over total assets;  
**CFO** is the cash flow from operation scaled by total assets;  
**ROA** is calculated as operating profit divided by total assets;  
**SPOS** is a dummy variable that takes 1 in presence of a small profit (profit divided by total assets positive and lower than 0.02) and 0 otherwise;  
**SINCR** is a dummy variable that takes 1 in presence of a small increase in profit (variation in profit positive and lower than 0.01) and 0 otherwise;  
**Size** is the natural logarithm of the total of the sales.

The coefficient on the IFRS dummy, \( \beta_1 \), is positive and significant, providing evidence that average abnormal accruals became larger in the UK following IFRS
adoption. This finding is also supported by the literature that provides evidence of some worsening or no improvement following the introduction of the IFRS in those countries where the local GAAP already guaranteed high-quality accounting information (eg. Ahmed et al., 2010). The coefficient on IFRS*Codelaw shows that the adoption of IFRS had a significantly different effect in Italy than in the UK. Furthermore a Wald test shows that $\beta_1 + \beta_2$ is not significantly different from zero indicating that the average size of AWCA has not changed post IFRS in Italy. The results here are entirely consistent with the preliminary results outlined in Table 2.

The sign and significance of the other variables are in line with expectations: Gov-score is negative and significant at the 1% level, so strong corporate governance restrains earnings management. Leverage and the presence of small positive earnings are positively related to AWCA while the opposite sign has been observed as far as Cash flow from operations and firms’ size are concerned.

To this point all of our empirical results depend on the DeFond and Park (2001) being a good method of estimating earnings management/earnings quality. We now adopt alternative measures of earnings management as tests of robustness of our results and further evidence of the influence of IFRS on earnings quality in Italy and the UK. First, we used the method adopted by Francis and Wang (2008) that modify the DeFond and Park estimation to take account of some non-current accruals and re-estimate equation (1) and (2). The results (Appendix, Table 4 and 5) are unchanged.
Then using equations (3) to (6), we compute three measures of income smoothing. We consider that more income smoothing is consistent with lower quality of earnings. The results of this analysis are outlined in Table 7 and are consistent with the results using AWCA in Table 6.

### Table 7

**Panel A: Measure of Income smoothing in the UK before and after IFRS adoption**

<table>
<thead>
<tr>
<th>Sample</th>
<th>$\sigma_{\Delta Ni^*}$</th>
<th>$\sigma_{\Delta Ni^<em>/\Delta CF^</em>}$</th>
<th>$\rho_{(CF^<em>,ACC^</em>)}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local GAAP</td>
<td>0.1842</td>
<td>7.1194</td>
<td>-0.498</td>
</tr>
<tr>
<td>IFRS</td>
<td>0.0579***</td>
<td>4.8679***</td>
<td>-0.482</td>
</tr>
</tbody>
</table>

**Panel B: Measures of income smoothing in Italy before and after IFRS adoption**

<table>
<thead>
<tr>
<th>Sample</th>
<th>$\sigma_{\Delta Ni^*}$</th>
<th>$\sigma_{\Delta Ni^<em>/\Delta CF^</em>}$</th>
<th>$\rho_{(CF^<em>,ACC^</em>)}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local GAAP</td>
<td>0.0576</td>
<td>1.7514</td>
<td>-0.646</td>
</tr>
<tr>
<td>IFRS</td>
<td>0.0518</td>
<td>2.2297*</td>
<td>-0.715</td>
</tr>
</tbody>
</table>

The symbols *, **, *** indicate the statistical significance of the difference in standard deviations or in the correlation at 0.10, 0.05, and 0.01, respectively. Differences in the standard deviation have been calculated by an ANOVA test, using the Levene’s Test because it is more robust and it does not require the distribution to be normally distributed. Differences in the correlation have been calculated by a Fisher Z-test.

Income smoothing, measured both as changes in net income and as variability of change in earnings in relation to the changes in cash flow, show a significant increase in the UK after the IFRS adoption providing evidence of a decrease in earnings quality (see Table 7, Panel A). In Italy there is no increase in the level of income smoothing post IFRS adoption. One of the measures $\sigma_{\Delta Ni^*/\Delta CF^*}$ actually suggests there is less smoothing in Italy post IFRS. Overall, the evidence from the three measures of income smoothing suggests that earnings quality declined in the UK following the introduction of IFRS but
was unaffected in Italy. This is entirely consistent with the evidence from AWCA_w above.

6. Conclusion

Prior literature provides evidence that stronger corporate governance and legal enforcement are effective in mitigating earnings management. This study contributes to this literature by considering these topics jointly and investigating if the effect of the governance on earnings quality is affected by the legal jurisdiction. Using a sample of firms operating in Italy and in the UK, matched as far as size, industry and then also accounting rules are concerned, we report that corporate governance mitigates earnings management in both the countries and, furthermore, it has a larger effect on abnormal accruals in Italy which suggests that it is more important for a firm to have strong corporate governance when the legal protection for investors is weak. The negative relation between governance and earnings management and the stronger effect, in Italy, have been confirmed before and after the mandatory introduction of the IFRS. In addition, before the adoption of IFRS the level of earning management is on average the same in Italy and the UK. Thus, it would appear that, at least insofar as earnings management using discretionary accruals is concerned, corporate governance in Italy has fully compensated for the weak legal system. After the adoption of IFRS in both countries, we find that earnings quality in the UK has declined such that it is inferior to
Italy in terms of abnormal working capital accruals. It is also found to have declined in terms of two of the three measures of income smoothing used in the study. By contrast there is no evidence of a decline in the quality earnings in Italy after the introduction of IFRS. This evidence is in line with that part of the literature that reports no improvement in earnings quality with the adoption of IFRS. In particular, earnings quality has been shown to decrease in those countries where IFRS replace of a set of accounting standards that already help ensure reliable financial statements.

The findings of this study highlight the importance to firms of a strong corporate governance structure particularly when legal protection is weak. They should encourage governments, firms and market regulators operating in countries with a lower legal enforcement to promote and ensure the application of proper corporate governance codes. The analysis of the impact of IFRS on the quality of the earnings provides evidence that the application of a new set of accounting rules, \textit{per se}, is not enough to increase the reliability of the annual reports because it also depends on other factors such as the legal and economic environments.

Finally, readers should be aware of some limitations of this research. The fact that the results come from an in depth study of one common law country and one code law country significantly increase their reliability but at the expense of the generalizability.


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APPENDIX

Table 1
Abnormal accruals and the effect of corporate governance score on Small Positive Earnings

\[ AWCA_t = \alpha + \beta_1 \text{Gov-Score}_t + \beta_2 \text{SPOS}_t + \beta_3 \text{SPOS} \times \text{Gov-Score}_t + \]
\[ + \beta_4 \text{SPOS} \times \text{Codelaw}_t + \beta_5 \text{SPOS} \times \text{Gov-Score} \times \text{Codelaw}_t + \beta_6 \text{Leverage}_t + \]
\[ + \beta_7 \text{CFO}_t + \beta_8 \text{ROA}_t + \beta_9 \text{SINCR}_t + \beta_{10} \text{Size}_t + \epsilon \]

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted sign</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \alpha )</td>
<td>+</td>
<td>0.153414</td>
<td>8.353901</td>
<td>0.0000</td>
</tr>
<tr>
<td>\text{Gov-Score}</td>
<td>-</td>
<td>-0.002047</td>
<td>-1.515191</td>
<td>0.0650</td>
</tr>
<tr>
<td>\text{SPOS}</td>
<td>+</td>
<td>0.122473</td>
<td>3.248594</td>
<td>0.0006</td>
</tr>
<tr>
<td>\text{SPOS} \times \text{Gov-Score}</td>
<td>-</td>
<td>-0.010891</td>
<td>-1.603723</td>
<td>0.0545</td>
</tr>
<tr>
<td>\text{SPOS} \times \text{Codelaw}</td>
<td>?</td>
<td>0.023019</td>
<td>0.395851</td>
<td>0.6923</td>
</tr>
<tr>
<td>\text{SPOS} \times \text{Gov-Score} \times \text{Codelaw}</td>
<td>-</td>
<td>-0.015190</td>
<td>-1.399145</td>
<td>0.0810</td>
</tr>
<tr>
<td>\text{Leverage}</td>
<td>+</td>
<td>0.032924</td>
<td>2.519732</td>
<td>0.0059</td>
</tr>
<tr>
<td>\text{CFO}</td>
<td>-</td>
<td>-0.056228</td>
<td>-1.490508</td>
<td>0.0682</td>
</tr>
<tr>
<td>\text{ROA}</td>
<td>?</td>
<td>0.029945</td>
<td>1.061474</td>
<td>0.2887</td>
</tr>
<tr>
<td>\text{SINCR}</td>
<td>+</td>
<td>-0.007957</td>
<td>-1.397339</td>
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</tr>
<tr>
<td>\text{Size}</td>
<td>-</td>
<td>-0.009169</td>
<td>-6.449813</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-squared: 0.161541  F-statistic: 20.01773
Adjusted R-squared: 0.153471  Prob (F-statistic): 0.000000

The value and the significance of sums of coefficients are calculated using a Wald test.
P-Values are White-Heteroskedasticity robust and one-tailed in presence of a clear predicted sign and two-tailed otherwise.

EM is the absolute value of the abnormal working capital accruals (DeFond & Park, 2001) winsorised and scaled by total assets;
Gov-Score is a score given to each firm based on the 9 attributes of corporate governance;
Codelaw is a dummy variable that takes 1 for code law system, 0 otherwise;
Leverage is calculated as total debt over total assets;
CFO is the cash flow from operation scaled by total assets;
ROA is calculated as operating profit divided by total assets;
SPOS is a dummy variable that takes 1 in presence of a small profit (profit divided by total assets positive and lower than 0.02) and 0 otherwise;
SINCR is a dummy variable that takes 1 in presence of a small increase in profit (variation in profit positive and lower than 0.01) and 0 otherwise;
Size is the natural logarithm of the total of the sales.
Table 2  
Corporate Governance and earnings management in Italy and the UK before IFRS adoption

$$AWCA_{it} = \alpha + \beta_1 Gov-Score_{it} + \beta_2 (Gov-Score\times Codelaw_{it}) + \beta_3 \text{Leverage}_{it} + \beta_4 \text{CFO}_{it} + \beta_5 \text{ROA}_{it} + \beta_6 \text{SPOS}_{it} + \beta_7 \text{SINCR}_{it} + \beta_8 \text{Size}_{it} + \epsilon$$

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted sign</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\alpha$</td>
<td>+</td>
<td>0.208951</td>
<td>9.108837</td>
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</tr>
<tr>
<td>Gov-Score</td>
<td>-</td>
<td>-0.005666</td>
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<tr>
<td>(Gov-Score + Gov-Score* Codelaw)</td>
<td>-</td>
<td>-0.008867</td>
<td>-3.439862</td>
<td>0.0003</td>
</tr>
<tr>
<td>Gov-Score* Codelaw</td>
<td>-</td>
<td>-0.003201</td>
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<td>0.0051</td>
</tr>
<tr>
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<td>+</td>
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<td>1.286835</td>
<td>0.0995</td>
</tr>
<tr>
<td>CFO</td>
<td>-</td>
<td>-0.099961</td>
<td>-2.031739</td>
<td>0.0215</td>
</tr>
<tr>
<td>ROA</td>
<td>?</td>
<td>0.053492</td>
<td>1.121106</td>
<td>0.2630</td>
</tr>
<tr>
<td>SPOS</td>
<td>+</td>
<td>0.063433</td>
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<tr>
<td>SINCR</td>
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<td>-0.795354</td>
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</tr>
<tr>
<td>Size</td>
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<td>-5.806634</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-squared 0.279008 F-statistic 17.55915
Adjusted R-squared 0.263119 Prob (F-statistic) 0.000000

The value and the significance of sums of coefficients are calculated using a Wald test.

P-Values are White-Heteroskedasticity robust and one-tailed in presence of a clear predicted sign and two-tailed otherwise.

**EM** is the absolute value of the winsorized abnormal working capital accruals (DeFond & Park, 2001) scaled by total assets;

**Gov-Score** is a score given to each firm based on the 9 attributes of corporate governance;

**Codelaw** is a dummy variable that takes 1 for code law system, 0 otherwise;

**Leverage** is calculated as total debt over total assets;

**CFO** is the cash flow from operation scaled by total assets;

**ROA** is calculated as operating profit divided by total assets;

**SPOS** is a dummy variable that takes 1 in presence of a small profit (profit divided by total assets positive and lower than 0.02) and 0 otherwise;

**SINCR** is a dummy variable that takes 1 in presence of a small increase in profit (variation in profit positive and lower than 0.01) and 0 otherwise;

**Size** is the natural logarithm of the total of the sales.
Table 3
Corporate Governance and earnings management in Italy and the UK after IFRS adoption

\[
AWCA_t = \alpha + \beta_1 Gov-Score_t + \beta_2 (Gov-Score*Codelaw_t) + \beta_3 \text{Leverage}_t + \\
+ \beta_4 \text{CFO}_t + \beta_5 \text{ROA}_t + \beta_6 \text{SPOS}_t + \beta_7 \text{SINC}_t + \beta_8 \text{Size}_t + \epsilon
\]

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted sign</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\alpha)</td>
<td>+</td>
<td>0.146861</td>
<td>6.845942</td>
<td>0.0000</td>
</tr>
<tr>
<td>Gov-Score</td>
<td>-</td>
<td>-0.004255</td>
<td>-2.220329</td>
<td>0.0134</td>
</tr>
<tr>
<td>(Gov-Score + Gov-Score*Codelaw)</td>
<td>-</td>
<td>-0.007439</td>
<td>-3.312110</td>
<td>0.0005</td>
</tr>
<tr>
<td>Gov-Score*Codelaw</td>
<td>-</td>
<td>-0.003184</td>
<td>-3.503092</td>
<td>0.0003</td>
</tr>
<tr>
<td>Leverage</td>
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<td>0.028636</td>
<td>1.826472</td>
<td>0.0342</td>
</tr>
<tr>
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<td>-</td>
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<tr>
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</tr>
<tr>
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<td>SINC</td>
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<td>0.4196</td>
</tr>
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<td>Size</td>
<td>-</td>
<td>-0.006994</td>
<td>-4.189869</td>
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</tbody>
</table>

R-squared 0.086158 F-statistic 6.965009
Adjusted R-squared 0.073788 Prob (F-statistic) 0.000000

The value and the significance of sums of coefficients are calculated using a Wald test.
P-Values are White-Heteroskedasticity robust and one-tailed in presence of a clear predicted sign and two-tailed otherwise.

EM is the absolute value of the winsorized abnormal working capital accruals (DeFond & Park, 2001) scaled by total assets;
Gov-Score is a score given to each firm based on the 9 attributes of corporate governance;
Codelaw is a dummy variable that takes 1 for code law system, 0 otherwise;
Leverage is calculated as total debt over total assets;
CFO is the cash flow from operation scaled by total assets;
ROA is calculated as operating profit divided by total assets;
SPOS is a dummy variable that takes 1 in presence of a small profit (profit divided by total assets positive and lower than 0.02) and 0 otherwise;
SINC is a dummy variable that takes 1 in presence of a small increase in profit (variation in profit positive and lower than 0.01) and 0 otherwise;
Size is the natural logarithm of the total of the sales.
**Table 4**

Corporate Governance and earnings management in Italy and the UK

\[ ABACC_{it} = \alpha + \beta_1 \text{Gov-Score}_{it} + \beta_2 (\text{Gov-Score} \times \text{Codelaw}_{it}) + \beta_3 \text{Leverage}_{it} + \beta_4 \text{CFO}_{it} + \beta_5 \text{ROA}_{it} + \beta_6 \text{SPOS}_{it} + \beta_7 \text{SINCR}_{it} + \beta_8 \text{Size}_{it} + \epsilon \]

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted sign</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
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<td>8.219839</td>
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</tr>
<tr>
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<td>-</td>
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</tr>
<tr>
<td>(Gov-Score + Gov-Score*Codelaw)</td>
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</tr>
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</tr>
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<td>1.698407</td>
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</tr>
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</tr>
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<td>0.187722</td>
<td>1.611720</td>
<td>0.1073</td>
</tr>
<tr>
<td>SPOS</td>
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<td>0.057585</td>
<td>3.160601</td>
<td>0.0008</td>
</tr>
<tr>
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<td>0.050655</td>
<td>0.746962</td>
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</tr>
<tr>
<td>Size</td>
<td>-</td>
<td>-0.026548</td>
<td>-6.148156</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-squared 0.104097  F-statistic 15.11946
Adjusted R-squared 0.097212  Prob (F-statistic) 0.000000

The value and the significance of sums of coefficients are calculated using a Wald test.
P-Values are White-Heteroskedasticity robust and one-tailed in presence of a clear predicted sign and two-tailed otherwise.

**ABACC** is the absolute value of the abnormal accruals (Francis & Wang, 2008) winsorised and scaled by total assets;

**Gov-Score** is a score given to each firm based on the 9 attributes of corporate governance;

**Codelaw** is a dummy variable that takes 1 for code law system, 0 otherwise;

**Leverage** is calculated as total debt over total assets;

**CFO** is the cash flow from operation scaled by total assets;

**ROA** is calculated as operating profit divided by total assets;

**SPOS** is a dummy variable that takes 1 in presence of a small profit (profit divided by total assets positive and lower than 0.02) and 0 otherwise;

**SINCR** is a dummy variable that takes 1 in presence of a small increase in profit (variation in profit positive and lower than 0.01) and 0 otherwise;

**Size** is the natural logarithm of the total of the sales.
Table 5
Board structure and earnings management in Italy and the UK

\[ ABACC_{it} = \alpha + \beta_1 \text{Board-Score}_{it} + \beta_2 (\text{Board-Score} \times \text{Codelaw}_{it}) + \beta_3 \text{Leverage}_{it} + \beta_4 \text{CFO}_{it} + \beta_5 \text{ROA}_{it} + \beta_6 \text{SPOS}_{it} + \beta_7 \text{SINCR}_{it} + \beta_8 \text{Size}_{it} + \epsilon. \]

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted sign</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\alpha)</td>
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<td>0.478801</td>
<td>8.488871</td>
<td>0.0000</td>
</tr>
<tr>
<td>Board-Score</td>
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<td>-0.010411</td>
<td>-2.215240</td>
<td>0.0135</td>
</tr>
<tr>
<td>(\text{Board-Score} \times \text{Codelaw})</td>
<td>-</td>
<td>-0.027676</td>
<td>-4.616123</td>
<td>0.0000</td>
</tr>
<tr>
<td>(\text{Board-Score} \times \text{Codelaw})</td>
<td>-</td>
<td>-0.017265</td>
<td>-4.642340</td>
<td>0.0000</td>
</tr>
<tr>
<td>Leverage</td>
<td>+</td>
<td>0.070328</td>
<td>2.021707</td>
<td>0.0218</td>
</tr>
<tr>
<td>CFO</td>
<td>-</td>
<td>-0.352002</td>
<td>-2.815799</td>
<td>0.0025</td>
</tr>
<tr>
<td>ROA</td>
<td>?</td>
<td>0.188064</td>
<td>1.626303</td>
<td>0.1042</td>
</tr>
<tr>
<td>SPOS</td>
<td>+</td>
<td>0.056567</td>
<td>3.158970</td>
<td>0.0008</td>
</tr>
<tr>
<td>SINCR</td>
<td>+</td>
<td>0.050323</td>
<td>0.752255</td>
<td>0.2261</td>
</tr>
<tr>
<td>Size</td>
<td>-</td>
<td>-0.027193</td>
<td>-6.127857</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-squared 0.104014 F-statistic 15.10603
Adjusted R-squared 0.097128 Prob (F-statistic) 0.000000

The value and the significance of sums of coefficients are calculated using a Wald test. P-Values are White-Heteroskedasticity robust and one-tailed in presence of a clear predicted sign and two-tailed otherwise.

**ABACC** is the absolute value of the abnormal accruals (Francis & Wang, 2008) winsorised and scaled by total assets; **Board-Score** is a score given to each firm based on the 6 attributes of the board structure; **Codelaw** is a dummy variable that takes 1 for code law system, 0 otherwise; **Leverage** is calculated as total debt over total assets; **CFO** is the cash flow from operation scaled by total assets; **ROA** is calculated as operating profit divided by total assets; **SPOS** is a dummy variable that takes 1 in presence of a small profit (profit divided by total assets positive and lower than 0.02) and 0 otherwise; **SINCR** is a dummy variable that takes 1 in presence of a small increase in profit (variation in profit positive and lower than 0.01) and 0 otherwise; **Size** is the natural logarithm of the total of the sales.