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To cite this article: Kamran Malikov & Silvia Gaia (2021): Do CEO social connections promote corporate malpractices? Evidence from classification shifting, Accounting Forum, DOI: [10.1080/01559982.2021.1975616](https://doi.org/10.1080/01559982.2021.1975616)

To link to this article: <https://doi.org/10.1080/01559982.2021.1975616>



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Published online: 06 Oct 2021.



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# Do CEO social connections promote corporate malpractices? Evidence from classification shifting

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## ABSTRACT

This paper examines the effect of CEOs' external social connections with other executives and directors on classification shifting, a widespread malpractice that inflates core earnings by altering the presentation of income statement line items without affecting bottom-line income. Using a sample of 995 UK listed firms in the period 2005 to 2016 and relying on the assumptions of social capital theory and the rent-extraction perspective, we find that CEOs with a larger number of external connections are more likely to engage in classification shifting. Further results indicate that this phenomenon occurs particularly when well-connected CEOs are local and/or are in the early years of their service. Collectively, the results suggest that social connections promote corporate malpractices that are unlikely to cause reputational losses. Overall, we contribute to the literature by providing evidence that the social capital of the CEO is an important driver of classification shifting.

## ARTICLE HISTORY

Received 16 April 2020  
Accepted 30 August 2021

## KEYWORDS

Classification shifting; CEO social connections; CEO locality; earnings management

## ACCEPTED BY

Giovanna Michelon

## 1. Introduction

Classification shifting is the practice of misclassifying core expenses as income-decreasing special items within the income statement. The result of this misclassification is an increase in core earnings with no effect on net income. Classification shifting research has attracted growing interest since the study of McVay (2006). Previous studies in this area have examined what drives the misclassification of income statement line items (e.g. Athanasakou et al., 2009; Boahen & Mamatzakis, 2020; Fan et al., 2010; Fan et al., 2019), considering the widespread use of this practice (e.g. Haw et al., 2011; Zalata & Roberts, 2017). For example, they have documented that equity market incentives (Athanasakou et al., 2009; Fan et al., 2010), EBITDA-based debt covenants (Fan et al., 2019), and religious social norms (Boahen & Mamatzakis, 2020) affect the use of classification shifting. Although these studies have identified several important drivers of classification shifting, the role that CEO social connections play in classification shifting is still an unexplored research question.

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Social connections play a key role in human life; they can influence human beings' behaviour and ultimately their physical and mental well-being. Despite this, the accounting and finance literature has just begun to research the effects that social connections have on corporate practices (e.g. El-Khatib et al., 2015; Engelberg et al., 2013; Goergen et al., 2019; Renneboog & Zhao, 2011, 2014). To our knowledge, only two studies have investigated the relationship between CEO social connections and financial reporting quality (Bhandari et al., 2018; Griffin et al., 2021). These studies document that CEO social connections decrease accrual earnings management (Bhandari et al., 2018) while increasing real earnings management (Griffin et al., 2021). These contrasting findings raise the question of whether CEO social connections increase or decrease classification shifting, which is empirically investigated in our study.

In the context of CEO social connections, both the assumptions of the optimal contacting perspective, used by Bhandari et al. (2018) in relation to accrual earnings management, and those of the rent extraction perspective, used by Griffin et al. (2021) in relation to real earnings management, can potentially explain the use of classification shifting. According to the optimal contracting perspective, well-connected CEOs avoid the use of corporate practices that can undermine their reputation (Francis et al., 2008). These assumptions could explain the use of classification shifting: it is a malpractice aimed at inflating core earnings to show them in a better light than warranted and, if detected, CEOs could suffer from reputational losses. Furthermore, similar to accrual earnings management, classification shifting is likely to have a negative impact on future reported core earnings (Liu & Wu, 2021; McVay, 2006). Well-connected CEOs might therefore avoid using classification shifting because it could undermine their reputation as good performers in the following financial years. However, different from accrual earnings management, classification shifting does not have any impact on current/future bottom-line income, is difficult to detect, and, as such, is unlikely to cause any reputational harm (Alfonso et al., 2015; Athanasakou et al., 2009; McVay, 2006). Thus, the pre-emptive effect of social connections on the use of corporate malpractices could be limited in relation to classification shifting.

The assumptions of the rent-extraction perspective could also explain the use of classification shifting. According to this perspective, well-connected CEOs tend to use more earnings management as they are visible actors under great pressure to meet market expectations and undermining these expectations could harm their reputation (Francis et al., 2008; Malmendier & Tate, 2009). Classification shifting could therefore be appealing for well-connected CEOs to employ as, similar to real earnings management, it is difficult to detect and thereby helps them to meet market expectations with limited reputational harm. However, different from real earnings management, classification shifting is likely to be negatively associated with the subsequent period's operating performance (Gunny, 2010; Jiang et al., 2018; Liu & Wu, 2021; McVay, 2006). Since well-connected CEOs are subject to expectations to achieve good performance not only in the current period but also in the subsequent periods (Malmendier & Tate, 2009), the incentive to inflate earnings via classification shifting might be limited for well-connected CEOs. Our empirical examination is therefore important as, *ex-ante*, there are no clear predictions on the association between classification shifting and CEO social connections. This is because classification shifting has peculiar characteristics that make it a unique form of earnings management. Thus, the results of other studies on the association between accruals/real earnings management and social connections do not readily apply to the use of classification shifting.

Our empirical analysis measures CEO social connections as the number of the CEO's external connections with other executives and board members following Bhandari et al. (2018), Engelberg et al. (2013), and Griffin et al. (2021). Classification shifting is defined using the methodology developed by McVay (2006). Using a sample of 995 UK public firms listed in the period 2005–2016 and a total number of 5,391 firm-year observations, our results show that firms with well-connected CEOs are associated with higher levels of classification shifting, in line with the assumptions of the rent-extraction perspective. Interestingly, our findings also show that well-connected CEOs are more likely to employ classification shifting when they are local and/or in the early years of their service as CEOs. All the results hold when we conduct additional analyses considering only firms where CEOs are striving to meet earnings targets and thus have incentives to employ classification shifting, and when we attempt to address potential endogeneity issues.

Overall, our findings are important as we identify CEO social connections as a key factor affecting the use of classification shifting. Providing evidence on what drives classification shifting is important as this widespread malpractice misleads investors and lenders about the core performance of the firm by altering the presentation of different elements within the income statement (e.g. Fan et al., 2019; Haw et al., 2011; Liu & Wu, 2021). As emphasised by the US Security Exchange Commission (SEC) “the appropriate classification of amounts within the income statement is as important as the appropriate measurement or recognition of such amounts” (SEC, 2000). In this sense, our results are interesting as they suggest that capital providers need to have an awareness of the possibility of the CEO using expense misclassification when he/she has a large number of social connections. Furthermore, our results help to provide a more comprehensive picture of the effect of CEO social connections on financial reporting quality. They also reconcile the contrasting findings of Bhandari et al. (2018) and Griffin et al. (2021) in relation to accrual and real earnings management by considering the roles that CEO reputation and the ability to detect corporate malpractices play in promoting/preventing the use of corporate misreporting by well-connected CEOs. Finally, our findings add to the broader literature on social connections, suggesting that social connections do not act as a disciplinary mechanism when corporate malpractices are not likely to produce reputational losses. Instead, they show that social connections encourage the use of these types of malpractices, particularly when CEOs have greater incentives to manage earnings; these include local CEOs who are more rooted in the institutional context of the social network and CEOs in the early years of their service.

The rest of the article is organised as follows. The following section discusses the literature review and develops the hypotheses of the study. Then the research design of the study is described, followed by the empirical results and robustness checks. Finally, the last section discusses the main contributions of the study and outlines its conclusions.

## **2. Literature review and hypothesis development**

### **2.1. Literature review**

This study speaks to two main streams of literature: the literature on social capital that focuses on CEO social connections and the accounting literature on classification shifting.

According to the literature on social capital, social connections affect the probability of success of individuals and corporations in their respective competitive environments (Adler & Kwon, 2002). Social connections provide individuals and corporations with access to valuable resources, knowledge, and information that they could otherwise not access (Uzzi, 1997). Previous research has shown that social connections help managers to access information that allows them to identify innovation opportunities (Faleye et al., 2014; Whittington et al., 2009), investment opportunities (Akbas et al., 2016; Goergen et al., 2019), and optimal corporate governance practices (Bouwman, 2011).

Very recently, researchers have started applying the concept of social connections to the analysis of corporate malpractices. Most of this literature has highlighted the role of social connections as a disciplinary mechanism able to promote the adoption of positive behaviours and prevent malpractices. Social connections improve the flow of information, cooperation, and the exchange of knowledge among directors. They help, in this way, to reduce information asymmetries within the boards and enable more informed decision-making (Lin, 2001). Social connections also expose individuals to the social norms of the social network to which they belong (Granovetter, 2005). These norms affect individual behaviour as the social network has expectations of how individuals should behave in respect of these norms. Infringement of these norms exposes them to potential reputational losses arising from the detection of any misbehaviour (Spagnolo, 1999). However, it has also been noted that social connections do not necessarily lead to optimal decisions (Larcker et al., 2013), and they have been found to be associated with the use of corporate malpractices (e.g. Chiu et al., 2013; Khanna et al., 2015). The emerging literature that has investigated the role that CEO social connections play in financial reporting quality has provided supporting evidence for both these contrasting views. On the one hand, Bhandari et al. (2018) found CEO social connections to be negatively associated with accrual earnings management and financial restatements, suggesting that well-connected CEOs demand higher financial reporting quality. On the other hand, Griffin et al. (2021) found CEO social connections to be positively associated with real earnings management, implying that social ties reduce financial reporting quality.

We extend the literature by examining whether CEO social capital is a driver of a malpractice known as classification shifting. This malpractice inflates core earnings without changing bottom-line income by deliberately misclassifying income-statement line items. McVay (2006) is the first to analyse the possibility of shifting items intentionally within the income statement. By employing a US-based sample, she finds that firms shift core expenses to income-decreasing special items. This reduces firms' operating expenses and so improves their core earnings, which are the main indicators for investors and analysts when analysing a company's performance. Studies document evidence of firms using classification shifting in various jurisdictions. Athanasakou et al. (2009) and Zalata and Roberts (2017) find that UK firms engage in classification shifting, while Haw et al. (2011) and Nagar and Sen (2016) show the same results for East Asian and Indian firms, respectively. Considering the pervasive use of classification shifting, extant research investigates the determinants of firms' use of this form of malpractice. Overall, this research indicates that meeting core earnings benchmarks (e.g. Athanasakou et al., 2009; Fan et al., 2010) and avoiding debt covenant violations (Fan et al., 2019) trigger the use of classification shifting. At the same time, the religious social norms of

the firm environment (Boahen & Mamatzakis, 2020) and internal corporate governance characteristics, such as board independence and outside directors' tenure (Zalata & Roberts, 2016), have been shown to mitigate the misclassification of core expenses as income-decreasing special items.

## **2.2. Hypothesis development**

The concept of reputation is at the core of the theory of social capital. Well-connected CEOs are exposed to social norms and expectations about their behaviour that are embedded in the social network to which they belong (Spagnolo, 1999). Reputational capital is a crucial asset for well-connected CEOs. They need to preserve it to maintain their status within their network and avoid any kind of misbehaviour that could potentially damage their social capital (Lin, 2001). Given that reputation is key for well-connected individuals, the optimal contracting perspective suggests that well-connected CEOs are less likely to engage in corporate malpractices (Burt, 2005; Fama, 1980; Francis et al., 2008). Under this perspective, it could be argued that classification shifting is unlikely to be used by well-connected CEOs. This malpractice aims at inflating core earnings to show them in a better light than warranted and, if detected, CEOs could suffer from reputational losses. Furthermore, classification shifting is likely to have a negative effect on reported core earnings in the future (Liu & Wu, 2021; McVay, 2006). This is because non-recurring items are not likely to occur every year and therefore the misclassification of core expenses as transitory items is unlikely to be sustained on a continuous basis without attracting scrutiny (Anagnostopoulou et al., 2021). It is possible that well-connected CEOs avoid employing classification shifting for these reasons.

In contrast, from a rent-extraction perspective, it could be argued that classification shifting is likely to be used more by well-connected CEOs as they are more visible and under a greater market pressure to meet earnings targets and therefore are more likely to manage earnings because underperforming on these expectations can harm their reputation (Francis et al., 2008; Malmendier & Tate, 2009). Classification shifting is a method of earnings management that is difficult to detect as the classification of some expenses can be subjective due to the flexibility afforded by accounting standards, which may limit auditors' and regulators' ability to challenge the management's classification (Alfonso et al., 2015; Athanasakou et al., 2009; Zalata & Roberts, 2017). Furthermore, classification shifting does not change the total amount of expenses and income, and because of this it attracts less auditor and public scrutiny (e.g. Athanasakou et al., 2009; McVay, 2006). These characteristics of classification shifting are important in the context of social connections given that social capital theory suggests well-connected CEOs are likely to avoid misbehaviours that could be easily detected and lead to reputational losses (Lin, 2001).

In summary, the above arguments suggest that CEOs with large social connections have incentives to inflate earnings. At the same time, they suggest that well-connected CEOs should not engage in misbehaviours that may undermine their reputation. For these reasons, we expect that classification shifting should be an attractive earnings management method for well-connected CEOs. Despite the possibility that it may negatively affect future operating performance, this form of malpractice does not affect the future bottom-line profit and is difficult to detect; it thereby helps such CEOs to inflate earnings

to meet current-year market expectations without harming their reputation. We therefore make our first hypothesis as follows:

**H1:** The use of classification shifting increases with CEO social connections.

In addition to investigating the overall effect of CEO social connections on classification shifting, we examine two conditional effects: CEO locality and CEO tenure. First, we investigate the effect of CEO locality on the predicted positive relationship between CEO social connections and classification shifting as discussed in Hypothesis 1. The locality of CEOs affects the strength of their social network as stronger networks exist close to individuals' home places (Relph, 1976; Yonker, 2017). As such, the pressure that the social network exerts on managerial decisions is likely to be greater for local than foreign CEOs (Lai et al., 2020). Thus, under the rent-extraction perspective, one can expect local well-connected CEOs to be under greater pressure to meet market expectations when compared to foreign well-connected CEOs and, as such, to have a greater incentive to manage earnings. Local well-connected CEOs have a greater incentive to perform well: they are under greater pressure to satisfy market expectations as a result of being well-connected, and, being local, they are also under greater pressure to perform well in the local context where maintaining a good reputation is fundamental (Relph, 1976). Therefore, to the extent that the locality of CEOs influences their incentives to inflate earnings to show that they are better performers, it is reasonable to expect that the effect of CEO social connections on classification shifting is more pronounced among CEOs who are local. This leads to our second hypothesis:

**H2:** The use of classification shifting increases with CEO social connections when CEOs are local.

Finally, we examine the effect of CEO tenure on the predicted positive association between CEO social connections and classification shifting as discussed in Hypothesis 1. Prior research shows that CEOs' incentive to manage earnings is greater in the early, rather than in the late, years of their service in the company (Ali & Zhang, 2015; Hazarika et al., 2012). During the early years of CEOs' service, the market is uncertain about their ability to manage the business and uses the earnings reported at that time in order to assess their ability (e.g. Fama, 1980; Holmström, 1999). This provides CEOs with a greater incentive to inflate earnings in the early years of their service to favourably influence perceptions of their ability (Ali & Zhang, 2015). Under a rent-extraction perspective, one can argue that well-connected CEOs who are also in the early years of their service in a firm have a greater incentive to manage earnings upwards when compared to well-connected CEOs who have been serving a firm for longer time. Well-connected CEOs with a short tenure have a greater incentive to inflate earnings: they are under greater pressure to satisfy market expectations as a result of being well-connected, and they also need to prove their ability as managers in the business as a result of being in the early years of their service. Based on this discussion, it is reasonable to expect that the effect of CEO social connections on classification shifting is stronger among CEOs who are in the early years of their service. This leads to our final hypothesis:

**H3:** The use of classification shifting increases with CEO social connections when CEOs are in the early years of their service.

### 3. Research design and data

#### 3.1. Measuring unexpected core earnings

Classification shifting is tested by examining the association between unexpected core earnings and income-decreasing special items (McVay, 2006).<sup>1</sup> If firms employ classification shifting, then unexpected core earnings in year  $t$  should increase with special items in year  $t$ . To measure unexpected core earnings, expected levels of such earnings need to be estimated. Following McVay (2006), we measure expected core earnings as follows:

$$CE_{i,t} = \beta_0 + \beta_1 CE_{i,t-1} + \beta_2 ATO_{i,t} + \beta_3 ACCRUALS_{i,t-1} + \beta_4 ACCRUALS_{i,t} + \beta_5 GROWTH_{i,t} + \beta_6 NEG\_GROWTH_{i,t} + \varepsilon_{i,t} \quad (1)$$

where  $CE$  is core earnings, calculated as sales minus cost of goods sold minus selling, general, and administrative expenses divided by sales;  $ATO$  is asset turnover ratio, calculated as sales divided by average net operating assets, where the latter is calculated as the difference between operating assets and operating liabilities;  $ACCRUALS$  is total accruals, calculated as the difference between income before extraordinary items and cash flows from operations divided by sales;  $GROWTH$  is the percentage change in sales;  $NEG\_GROWTH$  is the percentage change in sales if the latter is negative, and zero otherwise. We estimate the model cross-sectionally for each industry-year. Unexpected core earnings are defined as the difference between reported and expected core earnings where the latter are estimated using the coefficients from the model.

#### 3.2. Measuring CEO social connections

CEO social connections are measured as the number of the CEO's external connections with other executives and directors following Bhandari et al. (2018), Engelberg et al. (2013), and Griffin et al. (2021). We define CEOs' connections by examining their employment ties as it appears that connections formed in professional environments have more impact on firms' financial reporting quality than other types of connections, such as the education or other social connections that occur through, for example, military service and civic institutions (e.g. Bhandari et al., 2018).<sup>2</sup> Employment connections occur when the CEO and another executive or director worked at the same company during or prior to the current year. We exclude the CEO's connections in the firm in which he or she is currently employed. CEOs' employment connections are measured by using their past and current employment history in public and private firms.

<sup>1</sup>Income-decreasing special items capture the major types of non-recurring expenses including operating exceptional ones.

<sup>2</sup>In the form of a robustness check, we examine the effect of CEOs' education connections and other social ties on classification shifting. The results show that these types of connections do not affect expense misclassification and thereby financial reporting quality, thus supporting Bhandari et al. (2018), who find similar results for accrual earnings management.

### 3.3. Regression model

To examine the effect of classification shifting on CEO social connections (Hypothesis 1), we use the following regression equation:

$$\begin{aligned}
 UE\_CE_{i,t} = & \alpha_0 + \alpha_1 SI_{i,t} + \alpha_2 LCEO\_NET_{i,t} + \alpha_3 SI_{i,t} \times LCEO\_NET_{i,t} \\
 & + \alpha_4 LCEO\_AGE_{i,t} + \alpha_5 CEO\_LOCAL_{i,t} + \alpha_6 CEO\_ETEN_{i,t} \\
 & + \alpha_7 BIG4_{i,t} + \alpha_8 B\_INDEP_{i,t} + \alpha_9 B\_TEN_{i,t} + \alpha_{10} B\_OUT_{i,t} + \alpha_{11} REM_{i,t} \quad (2) \\
 & + \alpha_{12} AEM_{i,t} + \alpha_{13} LEV_{i,t} + \alpha_{14} GROWTH_{i,t} + \alpha_{15} SIZE_{i,t} + \alpha_{16} ROA_{i,t} \\
 & + Year\ Fixed\ Effects + Industry\ Fixed\ Effect + \varepsilon_{i,t}
 \end{aligned}$$

In the regression model,  $UE\_CE$  is unexpected core earnings.  $SI$  is income-decreasing special items scaled by sales, multiplied by negative one. The regression of  $UE\_CE$  on  $SI$  provides the basis for examining the misclassification of expense items.  $LCEO\_NET$  is our test variable, which is measured as the logarithm of the number of CEO employment connections.<sup>3</sup> The interaction of  $SI$  with  $LCEO\_NET$  indicates the effect of CEO social connections on classification shifting. Hypothesis 1 predicts that the coefficient of the interaction term  $SI \times LCEO\_NET$  will be positive and significant in the regression model (2).

The model includes several corporate governance- and firm characteristics-related control variables. We control for CEO age ( $LCEO\_AGE$ ), CEO locality ( $CEO\_LOCAL$ ), and CEOs' early years of service ( $CEO\_ETEN$ ) as CEO connectedness and the use of classification shifting may be correlated with these CEO characteristics (Ali & Zhang, 2015; Hazarika et al., 2012; Lai et al., 2020). Haw et al. (2011) document that the use of classification shifting decreases with the presence of Big-4 auditors. Therefore, we control for this external monitoring by adding an indicator variable,  $BIG4$ , which is equal to one if the firm hires a Big-4 auditing firm, and zero otherwise. We also control for board independence ( $B\_INDEP$ ), average tenure of independent directors on the board ( $B\_TEN$ ), and average number of outside directorships held by independent directors ( $B\_OUT$ ) since Zalata and Roberts (2016) find that these corporate governance variables affect companies' expense misclassification practices. In addition, firms' real ( $REM$ ) and accrual earnings management ( $AEM$ ) practices are controlled for to ensure that our results are incremental to the ability of these earnings manipulation methods to explain expense shifting. Fan et al. (2010) document that firms employ classification shifting and accrual earnings management as substitutes, while Fan and Liu (2017) find some evidence that firms use real activities manipulation and expense misclassification simultaneously. Furthermore, we include leverage ( $LEV$ ), sales growth ratio ( $GROWTH$ ), firm size ( $SIZE$ ), and return-on-assets ( $ROA$ ) to control for profitability and scale effects (Boahen & Mamatzakis, 2020; Zalata & Roberts, 2016). Lastly, year and industry fixed effects are included to control for timing and industry effects, respectively. Complete variable definitions are given in Appendix A.

<sup>3</sup>Our main results remain unchanged if, instead of the log transformation, we use the actual number of CEO social connections.

To test whether the use of classification shifting increases with CEO social connections when CEOs are local (Hypothesis 2), we expand model (2) by interacting special items (*SI*) and CEO social connections (*LCEO\_NET*) with CEO locality (*CEO\_LOCAL*):

$$\begin{aligned}
 UE.CE_{i,t} = & \alpha_0 + \alpha_1 SI_{i,t} + \alpha_2 LCEO_{NET}_{i,t} + \alpha_3 SI_{i,t} \times LCEO_{NET}_{i,t} \\
 & + \alpha_4 SI_{i,t} \times CEO_{LOCAL}_{i,t} + \alpha_5 LCEO_{NET}_{i,t} \times CEO_{LOCAL}_{i,t} \\
 & + \alpha_6 SI_{i,t} \times LCEO_{NET}_{i,t} \times CEO_{LOCAL}_{i,t} + \alpha_7 LCEO_{AGE}_{i,t} \\
 & + \alpha_8 CEO_{LOCAL}_{i,t} + \alpha_9 CEO_{ETEN}_{i,t} + \alpha_{10} BIG4_{i,t} + \alpha_{11} BINDEP_{i,t} \\
 & + \alpha_{12} B.TEN_{i,t} + \alpha_{13} B.OUT_{i,t} + \alpha_{14} REM_{i,t} + \alpha_{15} AEM_{i,t} + \alpha_{16} LEV_{i,t} + \alpha_{17} GROWTH_{i,t} \\
 & + \alpha_{18} SIZE_{i,t} + \alpha_{19} ROA_{i,t} + Year\ Fixed\ Effects + Industry\ Fixed\ Effect + \varepsilon_{i,t}
 \end{aligned} \tag{3}$$

Hypothesis 2 predicts that the coefficient of the interaction term  $SI \times LCEO\_NET \times CEO\_LOCAL$  will be positive and significant in the regression model (3).

Finally, to test whether the use of classification shifting increases with CEO social connections when they are in the early years of their service (Hypothesis 3), we expand model (2) by interacting special items (*SI*) and CEO social connections (*LCEO\_NET*) with CEOs' early years of service (*CEO\_ETEN*):<sup>4</sup>

$$\begin{aligned}
 UE.CE_{i,t} = & \alpha_0 + \alpha_1 SI_{i,t} + \alpha_2 LCEO_{NET}_{i,t} + \alpha_3 SI_{i,t} \times LCEO_{NET}_{i,t} \\
 & + \alpha_4 SI_{i,t} \times CEO_{ETEN}_{i,t} + \alpha_5 LCEO_{NET}_{i,t} \times CEO_{ETEN}_{i,t} \\
 & + \alpha_6 SI_{i,t} \times LCEO_{NET}_{i,t} \times CEO_{ETEN}_{i,t} + \alpha_7 LCEO_{AGE}_{i,t} \\
 & + \alpha_8 CEO_{LOCAL}_{i,t} + \alpha_9 CEO_{ETEN}_{i,t} + \alpha_{10} BIG4_{i,t} + \alpha_{11} BINDEP_{i,t} \\
 & + \alpha_{12} B.TEN_{i,t} + \alpha_{13} B.OUT_{i,t} + \alpha_{14} REM_{i,t} + \alpha_{15} AEM_{i,t} + \alpha_{16} LEV_{i,t} + \alpha_{17} GROWTH_{i,t} \\
 & + \alpha_{18} SIZE_{i,t} + \alpha_{19} ROA_{i,t} + Year\ Fixed\ Effects + Industry\ Fixed\ Effect + \varepsilon_{i,t}
 \end{aligned} \tag{4}$$

Hypothesis 3 predicts that the coefficient of the interaction term  $SI \times LCEO\_NET \times CEO\_ETEN$  will be positive and significant in the regression model (4).

### 3.4. Data and sample

We start the sample selection process with all the UK listed firms obtained from Compustat Global for the period between 2005 and 2016.<sup>5</sup> Our sample period begins in 2005 because UK public firms were required to follow IFRS from 2005.<sup>6</sup> Following prior studies, we exclude financial firms since they have a different financial reporting environment. We require, following Athanasakou et al. (2009), at least six observations per industry (two-digit Standard Industrial Classification codes) year to ensure that there are sufficient data for the estimation of expected core earnings. This yields an

<sup>4</sup>We define early years as those firm-years that correspond to the first three years of CEOs' service, following Ali and Zhang (2015). Thus, *CEO\_ETEN* is equal to one if the CEO is in the first three years of his/her service, and zero otherwise. Our results do not change if we use the median of CEO tenure as the cutoff to define CEOs who are in the early vs. later years of their service.

<sup>5</sup>Dead firms along with alive ones are included across the test period to avoid survivorship bias.

<sup>6</sup>UK firms listed on the Alternative Investment Market (AIM) were required to follow IFRS from 2007 (Ali et al., 2016; Bouwman, 2011; Goergen et al., 2019). Thus, the sample period begins in 2007 for these firms.

**Table 1.** Descriptive statistics.

Variables	(1) N	(2) Mean	(3) 25th	(4) Median	(5) 75th	(6) S.D
<i>UE_CE</i>	5,391	0.014	-0.069	0.000	0.051	0.726
<i>SI</i>	5,391	0.044	0.000	0.000	0.019	0.163
<i>CEO_NET</i>	5,391	32.830	14.000	23.000	40.000	29.538
<i>CEO_AGE</i>	5,391	51.129	46.000	51.000	56.000	6.814
<i>CEO_LOCAL</i>	5,391	0.841	1.000	1.000	1.000	0.365
<i>CEO_ETEN</i>	5,391	0.414	0.000	0.000	1.000	0.493
<i>BIG4</i>	5,391	0.693	0.000	1.000	1.000	0.461
<i>B_INDEP</i>	5,391	0.477	0.375	0.500	0.600	0.157
<i>B_TEN</i>	5,391	3.558	2.000	3.167	4.600	2.274
<i>B_OUT</i>	5,391	2.046	1.333	2.000	2.500	0.868
<i>REM</i>	5,391	-0.015	-0.223	0.013	0.218	0.417
<i>AEM</i>	5,391	-0.003	-0.039	-0.004	0.032	0.084
<i>LEV</i>	5,391	0.168	0.013	0.139	0.263	0.163
<i>GROWTH</i>	5,391	0.162	-0.030	0.066	0.203	0.570
<i>SIZE</i>	5,391	4.735	3.153	4.783	6.432	2.429
<i>ROA</i>	5,391	0.067	0.049	0.102	0.156	0.189

Notes: This table reports the summary statistics of the main variables used in the study. *UE\_CE* is unexpected core earnings, *SI* is income-decreasing special items as a percentage of sales, multiplied by negative 1, *CEO\_NET* is the number of CEO employment connections, *CEO\_AGE* is the CEO's age, *CEO\_LOCAL* is equal to one if the CEO is local and zero otherwise, *CEO\_ETEN* is equal to one if the CEO is in the first three years of his/her service and zero otherwise, *BIG4* is equal to one if the firm is audited by a Big-4 auditing firm and zero otherwise, *B\_INDEP* is board independence, *B\_TEN* is the average tenure of independent directors on the board, *B\_OUT* is the average number of outside directorships held by independent directors, *REM* is the measure of real earnings management, *AEM* is the measure of accruals earnings management, *LEV* is leverage ratio, *GROWTH* is sales growth ratio, *SIZE* is firm size, and *ROA* is return-on-assets.

initial sample of 10,316 firm-year observations, comprising 1,670 firms. We then merge this sample with the BoardEx database, which provides CEO connections<sup>7</sup> and corporate governance data. This results in a final sample of 5,391 firm-year observations, comprising 995 firms.

Table 1 indicates the descriptive statistics for the variables used in the main regression analysis. The mean (median) of CEO social connections (*CEO\_NET*) is 32.83 (23). This indicates that the average (median) CEO in our sample has 33 (23) connections. Unexpected core earnings (*UE\_CE*) have a mean (median) of 0.014 (0.000), and income-decreasing special items (*SI*) have a mean (median) of 0.044 (0.000). These results suggest that firms have, on average, positive unexpected core earnings and that special items are, on average, 4.4 percent of annual sales. The mean values of real (*REM*) and accruals (*AEM*) earnings management are -0.015 and -0.003, respectively. We observe that 84 percent of the firms in the sample are run by local CEOs (*CEO\_LOCAL*). Around 41 percent of the CEOs in our sample are in the early years of their service (*CEO\_ETEN*). About 69 percent of the sample firms are audited by a Big-4 auditing firm (*BIG4*), and nearly half of the board members (48 percent) are independent directors (*B\_INDEP*). The sample has average leverage (*LEV*) and sales growth ratios (*GROWTH*) of around 17 percent, and a mean ratio of return on assets (*ROA*) of 7 percent. Table 2 shows Pearson correlation coefficients for the variables used in the main regression analysis. Overall, the correlation statistics do not indicate the existence of any potentially serious multicollinearity issue.

<sup>7</sup>BoardEx provides information on individual networks through employment, other activities, and education. In our analysis, we considered only external networks with executives and directors, as explained in subsection 3.2.

**Table 2.** Pearson correlations.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) <i>UE_CE</i>	1.000															
(2) <i>SI</i>	<b>0.107</b>	1.000														
(3) <i>LCEO_NET</i>	<b>0.031</b>	<b>0.040</b>	1.000													
(4) <i>LCEO_AGE</i>	0.023	-0.010	<b>0.181</b>	1.000												
(5) <i>CEO_LOCAL</i>	-0.004	-0.013	<b>-0.043</b>	<b>-0.050</b>	1.000											
(6) <i>CEO_ETEN</i>	0.014	<b>0.088</b>	<b>-0.073</b>	<b>-0.184</b>	<b>-0.057</b>	1.000										
(7) <i>BIG4</i>	0.012	<b>-0.069</b>	<b>0.291</b>	<b>0.055</b>	<b>-0.045</b>	<b>-0.051</b>	1.000									
(8) <i>B_INDEP</i>	0.024	0.022	<b>0.279</b>	<b>0.070</b>	<b>-0.133</b>	-0.025	<b>0.318</b>	1.000								
(9) <i>B_TEN</i>	0.001	<b>-0.067</b>	<b>-0.076</b>	<b>0.097</b>	<b>0.033</b>	<b>-0.234</b>	<b>-0.058</b>	<b>-0.036</b>	1.000							
(10) <i>B_OUT</i>	0.005	-0.000	<b>0.099</b>	-0.007	<b>-0.047</b>	<b>0.040</b>	<b>0.133</b>	<b>0.168</b>	<b>-0.075</b>	1.000						
(11) <i>REM</i>	<b>0.027</b>	<b>0.066</b>	<b>0.035</b>	0.015	-0.001	0.018	0.021	<b>0.036</b>	<b>-0.061</b>	0.009	1.000					
(12) <i>AEM</i>	<b>-0.066</b>	-0.016	-0.016	0.007	-0.001	0.022	-0.022	-0.024	<b>-0.039</b>	-0.018	<b>0.087</b>	1.000				
(13) <i>LEV</i>	0.014	0.023	<b>0.198</b>	0.022	<b>-0.073</b>	<b>0.054</b>	<b>0.168</b>	<b>0.150</b>	<b>-0.067</b>	<b>0.075</b>	<b>0.072</b>	0.024	1.000			
(14) <i>GROWTH</i>	<b>-0.051</b>	0.017	<b>-0.039</b>	<b>-0.086</b>	-0.018	<b>0.037</b>	<b>-0.065</b>	<b>-0.059</b>	<b>-0.089</b>	0.019	<b>-0.056</b>	<b>0.124</b>	<b>-0.071</b>	1.000		
(15) <i>SIZE</i>	<b>0.028</b>	<b>-0.182</b>	<b>0.464</b>	<b>0.118</b>	<b>-0.113</b>	<b>-0.038</b>	<b>0.519</b>	<b>0.420</b>	-0.016	<b>0.211</b>	<b>0.049</b>	<b>-0.036</b>	<b>0.339</b>	<b>-0.137</b>	1.000	
(16) <i>ROA</i>	0.012	<b>-0.219</b>	<b>0.124</b>	<b>0.046</b>	0.026	<b>-0.100</b>	<b>0.263</b>	<b>0.129</b>	<b>0.115</b>	<b>0.099</b>	<b>-0.148</b>	<b>-0.038</b>	<b>0.106</b>	<b>-0.099</b>	<b>0.558</b>	1.000

Notes: This table presents the Pearson correlations among regression variables for the full sample. *UE\_CE* is unexpected core earnings, *SI* is income-decreasing special items as a percentage of sales, multiplied by negative 1, *LCEO\_NET* is the log of the number of CEO employment connections, *LCEO\_AGE* is the log of the CEO's age, *CEO\_LOCAL* is equal to one if the CEO is local and zero otherwise, *CEO\_ETEN* is equal to one if the CEO is in the first three years of his/her service and zero otherwise, *BIG4* is equal to one if the firm is audited by a Big-4 auditing firm and zero otherwise, *B\_INDEP* is board independence, *B\_TEN* is the average tenure of independent directors on the board, *B\_OUT* is the average number of outside directorships held by independent directors, *REM* is the measure of real earnings management, *AEM* is the measure of accruals earnings management, *LEV* is leverage ratio, *GROWTH* is sales growth ratio, *SIZE* is firm size, and *ROA* is return-on-assets.

Correlation coefficients in bold are significant at 0.05 level.

**Table 3.** CEO social connections and classification shifting.

Variables	<i>UE_CE</i>
<i>SI</i>	0.470*** (7.279)
<i>LCEO_NET</i>	0.002 (0.055)
<i>SI</i> × <i>LCEO_NET</i>	0.497*** (2.782)
<i>LCEO_AGE</i>	0.163 (0.875)
<i>CEO_LOCAL</i>	0.013 (0.455)
<i>CEO_ETEN</i>	0.018 (0.850)
<i>BIG4</i>	−0.016 (−0.619)
<i>B_INDEP</i>	0.017 (0.235)
<i>B_TEN</i>	0.001 (0.185)
<i>B_OUT</i>	−0.006 (−0.477)
<i>REM</i>	0.043* (1.776)
<i>AEM</i>	−0.502*** (−4.200)
<i>LEV</i>	−0.010 (−0.151)
<i>GROWTH</i>	−0.051*** (−2.865)
<i>SIZE</i>	0.010 (1.478)
<i>ROA</i>	0.068 (1.005)
Constant	−0.310 (−0.947)
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
N	5,391
R-squared	0.024

Notes: This table shows regression results for examining the effect of CEO social connections on classification shifting. *UE\_CE* is unexpected core earnings, *SI* is income-decreasing special items as a percentage of sales, multiplied by negative 1, *LCEO\_NET* is the log of the number of CEO employment connections, *LCEO\_AGE* is the log of the CEO's age, *CEO\_LOCAL* is equal to one if the CEO is local and zero otherwise, *CEO\_ETEN* is equal to one if the CEO is in the first three years of his/her service and zero otherwise, *BIG4* is equal to one if the firm is audited by a Big-4 auditing firm and zero otherwise, *B\_INDEP* is board independence, *B\_TEN* is the average tenure of independent directors on the board, *B\_OUT* is the average number of outside directorships held by independent directors, *REM* is the measure of real earnings management, *AEM* is the measure of accruals earnings management, *LEV* is leverage ratio, *GROWTH* is sales growth ratio, *SIZE* is firm size, and *ROA* is return-on-assets.

Reported values are the coefficients, with *t*-statistics in parentheses. \*, \*\*, and \*\*\* represent significance levels of 0.10, 0.05, and 0.01, respectively (two tailed).

## 4. Empirical results

### 4.1. Main analysis

The results from regression (2), employed to test whether the use of classification shifting increases with CEO social connections (Hypothesis 1), are shown in Table 3. The table indicates that there is a significantly positive relationship between unexpected core

earnings ( $UE\_CE$ ) and the interaction variable  $SI \times LCEO\_NET$  at the 1 percent significance level. This suggests that CEOs with a larger number of employment connections shift more core expenses to income-decreasing special items to inflate core earnings compared to CEOs with a smaller number of employment connections. The coefficient of  $SI$  is 0.470 for CEOs with the lowest number of employment connections and 0.967 (0.470 + 0.497) for CEOs with the largest number of employment connections. The results, therefore, provide evidence that the misclassification of expense items within income statement increases with CEOs' employment-related social connections, in line with Hypothesis 1.

The findings from regression (3), used to test whether CEO locality affects the relationship between classification shifting and CEO social connections (Hypothesis 2), are reported in Table 4. As shown, the relationship between unexpected core earnings ( $UE\_CE$ ) and the interaction variable  $SI \times LCEO\_NET \times CEO\_LOCAL$  is significantly positive at the 1 percent significance level. This result provides evidence that the misclassification of expense items significantly increases with CEOs' employment-related social connections when CEOs are local, which support Hypothesis 2.

Finally, the results from regression (4), employed to test whether CEOs' early years of service affect the relationship between classification shifting and CEO social connections (Hypothesis 3), are presented in Table 5. The table shows that the association between unexpected core earnings ( $UE\_CE$ ) and the interaction variable  $SI \times LCEO\_NET \times CEO\_ETEN$  is significantly positive at the 5 percent significance level. This result provides evidence that misclassifying core expenses as income-decreasing special items significantly increases with CEOs' employment-related social connections when they are in the early years of their service, providing support for Hypothesis 3.

Overall, the results reported in Tables 3–5 support our hypotheses. They suggest that CEOs with a larger number of connections shift core expenses to income-decreasing special items to a greater extent to inflate core earnings and that this phenomenon occurs particularly when CEOs are local or in the early years of their service.

## 4.2. Additional analysis

### 4.2.1. Endogeneity

There may be some unobservable factors that affect both the use of classification shifting and CEO social connections that have been omitted from our main analysis. This possibility might make CEO social connections an endogenous variable in our analysis. To address this concern, we use a two-stage least squares (2SLS) method. At the first stage, we regress CEO employment connections ( $LCEO\_NET$ ) on the industry average CEO employment connections ( $IND\_NET$ ) and all the explanatory variables in our main analysis where the former is used as an instrumental variable for CEO social ties (Ferris et al., 2017; Griffin et al., 2021). The results are shown in column 1 of Table 6 and suggest that our instrumental variable,  $IND\_NET$ , significantly affects CEO employment connections. At the second stage, we estimate our main models using predicted CEO employment connections ( $PR\_LCEO\_NET$ ) as the regressor obtained from the first stage model. The results are presented in Table 6, columns 2 to 4. Column 2 shows that there is a significantly positive relationship between

**Table 4.** CEO social connections and classification shifting: CEO locality.

Variables	<i>UE_CE</i>
<i>SI</i>	0.497*** (3.117)
<i>LCEO_NET</i>	-0.013 (-0.167)
<i>SI</i> × <i>LCEO_NET</i>	-0.795 (-1.582)
<i>SI</i> × <i>CEO_LOCAL</i>	-0.057 (-0.330)
<i>LCEO_NET</i> × <i>CEO_LOCAL</i>	0.019 (0.234)
<i>SI</i> × <i>LCEO_NET</i> × <i>CEO_LOCAL</i>	1.491*** (2.772)
<i>LCEO_AGE</i>	0.172 (0.922)
<i>CEO_LOCAL</i>	0.016 (0.526)
<i>CEO_ETEN</i>	0.017 (0.822)
<i>BIG4</i>	-0.016 (-0.629)
<i>B_INDEP</i>	0.019 (0.264)
<i>B_TEN</i>	0.001 (0.288)
<i>B_OUT</i>	-0.005 (-0.393)
<i>REM</i>	0.042* (1.718)
<i>AEM</i>	-0.501*** (-4.192)
<i>LEV</i>	-0.014 (-0.209)
<i>GROWTH</i>	-0.052*** (-2.896)
<i>SIZE</i>	0.011 (1.625)
<i>ROA</i>	0.061 (0.893)
Constant	-0.331 (-1.011)
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
N	5,391
R-squared	0.026

Notes: This table shows regression results for examining the effect of CEO locality on the association between CEO social connections and classification shifting. *UE\_CE* is unexpected core earnings, *SI* is income-decreasing special items as a percentage of sales, multiplied by negative 1, *LCEO\_NET* is the log of the number of CEO employment connections, *CEO\_LOCAL* is equal to one if the CEO is local and zero otherwise, *LCEO\_AGE* is the log of the CEO's age, *CEO\_ETEN* is equal to one if the CEO is in the first three years of his/her service and zero otherwise, *BIG4* is equal to one if the firm is audited by a Big-4 auditing firm and zero otherwise, *B\_INDEP* is board independence, *B\_TEN* is the average tenure of independent directors on the board, *B\_OUT* is the average number of outside directorships held by independent directors, *REM* is the measure of real earnings management, *AEM* is the measure of accruals earnings management, *LEV* is leverage ratio, *GROWTH* is sales growth ratio, *SIZE* is firm size, and *ROA* is return-on-assets.

Reported values are the coefficients, with *t*-statistics in parentheses. \*, \*\*, and \*\*\* represent significance levels of 0.10, 0.05, and 0.01, respectively (two tailed).

**Table 5.** CEO social connections and classification shifting: CEO tenure.

Variables	<i>UE_CE</i>
<i>SI</i>	0.615*** (5.571)
<i>LCEO_NET</i>	0.025 (0.521)
<i>SI</i> × <i>LCEO_NET</i>	-0.247 (-0.621)
<i>SI</i> × <i>CEO_ETEN</i>	-0.191 (-1.445)
<i>LCEO_NET</i> × <i>CEO_ETEN</i>	-0.037 (-0.582)
<i>SI</i> × <i>LCEO_NET</i> × <i>CEO_ETEN</i>	0.923** (2.064)
<i>LCEO_AGE</i>	0.173 (0.929)
<i>CEO_LOCAL</i>	0.012 (0.412)
<i>CEO_ETEN</i>	0.024 (1.098)
<i>BIG4</i>	-0.016 (-0.630)
<i>B_INDEP</i>	0.015 (0.215)
<i>B_TEN</i>	0.001 (0.203)
<i>B_OUT</i>	-0.006 (-0.547)
<i>REM</i>	0.043* (1.781)
<i>AEM</i>	-0.501*** (-4.186)
<i>LEV</i>	-0.010 (-0.152)
<i>GROWTH</i>	-0.051*** (-2.861)
<i>SIZE</i>	0.010 (1.444)
<i>ROA</i>	0.073 (1.078)
Constant	-0.330 (-1.007)
Year Fixed Effects	Yes
Industry Fixed Effects	Yes
N	5,391
R-squared	0.025

Notes: This table shows regression results for examining the effect of CEO tenure on the association between CEO social connections and classification shifting. *UE\_CE* is unexpected core earnings, *SI* is income-decreasing special items as a percentage of sales, multiplied by negative 1, *LCEO\_NET* is the log of the number of CEO employment connections, *CEO\_ETEN* is equal to one if the CEO is in the first three years of his/her service and zero otherwise, *LCEO\_AGE* is the log of the CEO's age, *CEO\_LOCAL* is equal to one if the CEO is local and zero otherwise, *BIG4* is equal to one if the firm is audited by a Big-4 auditing firm and zero otherwise, *B\_INDEP* is board independence, *B\_TEN* is the average tenure of independent directors on the board, *B\_OUT* is the average number of outside directorships held by independent directors, *REM* is the measure of real earnings management, *AEM* is the measure of accruals earnings management, *LEV* is leverage ratio, *GROWTH* is sales growth ratio, *SIZE* is firm size, and *ROA* is return-on-assets.

Reported values are the coefficients, with *t*-statistics in parentheses. \*, \*\*, and \*\*\* represent significance levels of 0.10, 0.05, and 0.01, respectively (two tailed).

**Table 6.** Controlling for endogeneity.

Variables	1st stage		2nd stage	
	<i>LCEO_NET</i>	<i>UE_CE</i>	<i>UE_CE</i>	<i>UE_CE</i>
<i>IND_NET</i>	0.877*** (6.921)			
<i>SI</i>	0.166*** (6.972)	0.544*** (6.058)	0.681*** (3.777)	0.679*** (5.628)
<i>PR_LCEO_NET</i>		-0.654* (-1.734)	-0.621 (-1.572)	-0.583 (-1.539)
<i>SI</i> × <i>PR_LCEO_NET</i>		1.192*** (3.470)	-0.550 (-0.689)	0.304 (0.526)
<i>SI</i> × <i>CEO_LOCAL</i>			-0.153 (-0.845)	
<i>PR_LCEO_NET</i> × <i>CEO_LOCAL</i>			-0.063 (-0.422)	
<i>SI</i> × <i>PR_LCEO_NET</i> × <i>CEO_LOCAL</i>			2.137** (2.420)	
<i>SI</i> × <i>CEO_ETEN</i>				-0.225* (-1.726)
<i>PR_LCEO_NET</i> × <i>CEO_ETEN</i>				-0.153 (-1.297)
<i>SI</i> × <i>PR_LCEO_NET</i> × <i>CEO_ETEN</i>				1.463** (2.040)
<i>LCEO_AGE</i>	0.665*** (9.596)	0.577* (1.867)	0.587* (1.897)	0.590* (1.908)
<i>CEO_LOCAL</i>	0.032*** (3.034)	0.034 (1.118)	0.037 (1.165)	0.033 (1.085)
<i>CEO_ETEN</i>	-0.042*** (-5.266)	-0.010 (-0.384)	-0.011 (-0.427)	-0.003 (-0.123)
<i>BIG4</i>	0.042*** (4.359)	0.014 (0.471)	0.015 (0.492)	0.014 (0.462)
<i>B_INDEP</i>	0.112*** (4.120)	0.090 (1.075)	0.090 (1.076)	0.088 (1.045)
<i>B_TEN</i>	-0.010*** (-5.602)	-0.005 (-0.934)	-0.005 (-0.915)	-0.005 (-0.825)
<i>B_OUT</i>	0.004 (0.936)	-0.003 (-0.212)	-0.002 (-0.193)	-0.002 (-0.155)
<i>REM</i>	-0.022** (-2.399)	0.034 (1.327)	0.034 (1.304)	0.034 (1.337)
<i>AEM</i>	-0.045 (-0.996)	-0.542*** (-4.498)	-0.536*** (-4.451)	-0.537*** (-4.459)
<i>LEV</i>	0.056** (2.273)	0.019 (0.279)	0.018 (0.263)	0.023 (0.323)
<i>GROWTH</i>	0.018*** (2.732)	-0.039** (-2.086)	-0.039** (-2.090)	-0.039** (-2.076)
<i>SIZE</i>	0.064*** (25.876)	0.049** (1.984)	0.050** (2.060)	0.048** (1.972)
<i>ROA</i>	-0.288*** (-11.432)	-0.099 (-0.785)	-0.111 (-0.875)	-0.097 (-0.770)
Constant	-1.353*** (-6.238)	-1.252* (-1.930)	-1.283** (-1.977)	-1.282** (-1.975)
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
N	5,391	5,391	5,391	5,391
R-squared	0.310	0.025	0.026	0.027

Notes: This table presents regression results for our main analysis after dealing with endogeneity using a two-stage least squares method. *LCEO\_NET* is the log of the number of CEO employment connections, *IND\_NET* is the log of the industry average CEO employment connections, *UE\_CE* is unexpected core earnings, *SI* is income-decreasing special items as a percentage of sales, multiplied by negative 1, *PR\_LCEO\_NET* is the predicted value of CEO employment connections from the first stage estimation, *CEO\_ETEN* is equal to one if the CEO is in the first three years of his/her service and zero otherwise, *LCEO\_AGE* is the log of the CEO's age, *CEO\_LOCAL* is equal to one if the CEO is local and zero otherwise, *BIG4* is equal to one if the firm is audited by a Big-4 auditing firm and zero otherwise, *B\_INDEP* is board independence, *B\_TEN* is the average tenure of independent directors on the board, *B\_OUT* is the average number of outside directorships held by independent directors, *REM* is the measure of real earnings management, *AEM* is the measure of accruals earnings management, *LEV* is leverage ratio, *GROWTH* is sales growth ratio, *SIZE* is firm size, and *ROA* is return-on-assets.

Reported values are the coefficients, with *t*-statistics in parentheses. \*, \*\*, and \*\*\* represent significance levels of 0.10, 0.05, and 0.01, respectively (two tailed).

unexpected core earnings ( $UE\_CE$ ) and the interaction variable  $SI \times PR\_LCEO\_NET$ . This supports our main result; namely, that CEOs with larger employment connections engage in more expense misclassification. Column 3 shows that the coefficient on  $SI \times PR\_LCEO\_NET \times CEO\_LOCAL$  is significantly positive, and column 4 indicates that the coefficient on  $SI \times PR\_LCEO\_NET \times CEO\_ETEN$  is significantly positive, suggesting that the use of classification shifting increases with CEOs' employment-related social connections when CEOs are local and when they are in the early years of their service, respectively. Overall, these results are very similar to those provided in the main analysis.

#### 4.2.2. Earnings benchmarks

Our main analysis shows that the use of classification shifting significantly increases with an increase in CEO social connections. This analysis considers all the UK companies in our sample. However, not all these firms have an incentive to engage in classification shifting; previous studies have documented that this form of earnings management is used more by companies that need to meet/beat earnings benchmarks (Athanasakou et al., 2009; Fan et al., 2010; McVay, 2006; Zalata & Roberts, 2017). For example, Athanasakou et al. (2009), using a sample of UK firms, show that firms that just meet/beat analyst forecasts are more likely to employ expense misclassification. Zalata and Roberts (2017), using a sample of UK firms, find that firms that just meet/beat last year's core earnings engage in classification shifting. They do not find similar evidence for firms that just meet/beat zero core earnings. For robustness purposes, we examine whether our main results hold when we estimate our main regression models considering only firms where CEOs have incentives to employ classification shifting. These firms are defined, following the UK-based findings reported above, as the ones that just meet/beat analyst forecasts or last year's core earnings. We define firms as just meeting/beating analyst forecasts if they report an earnings forecast error from £0.00 to £0.01 (Fan et al., 2010; Haw et al., 2011).<sup>8</sup> For the last year's core earnings benchmark, firms are considered as just meeting/beating if they report a change in reported core earnings per share between £0.00 and £0.01 (Fan & Liu, 2017).

The results are given in Table 7. Column 1 indicates that the coefficient on  $SI \times LCEO\_NET$  is significantly positive, supporting our main result that CEOs with larger employment connections use more classification shifting. Columns 2 and 3 show that the coefficients on  $SI \times LCEO\_NET \times CEO\_LOCAL$  and  $SI \times LCEO\_NET \times CEO\_ETEN$  are significantly positive, implying that the use of expense shifting increases with CEOs' employment connections when CEOs are local and when they are in the early years of their service, respectively. Overall, these findings suggest that our results hold when the instances in which CEOs have incentives to engage in classification shifting are examined.

#### 4.2.3. Other robustness tests

In order to demonstrate the robustness of our results, we conduct a series of robustness tests. First, we consider the concern that BoardEx may not provide complete information

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<sup>8</sup>Forecast errors are calculated as the difference between actual earnings per share and forecast median earnings per share (e.g., Haw et al., 2011).

**Table 7.** CEO social connections and classification shifting: Earnings benchmarks.

Variables	(1) <i>UE_CE</i>	(2) <i>UE_CE</i>	(3) <i>UE_CE</i>
<i>SI</i>	0.374*** (3.792)	0.937*** (3.754)	0.913*** (4.611)
<i>LCEO_NET</i>	-0.019 (-0.351)	0.036 (0.314)	0.096 (1.401)
<i>SI</i> × <i>LCEO_NET</i>	1.053*** (3.556)	-1.285* (-1.697)	-2.575*** (-2.779)
<i>SI</i> × <i>CEO_LOCAL</i>		-0.630** (-2.361)	
<i>LCEO_NET</i> × <i>CEO_LOCAL</i>		-0.060 (-0.504)	
<i>SI</i> × <i>LCEO_NET</i> × <i>CEO_LOCAL</i>		2.705*** (3.296)	
<i>SI</i> × <i>CEO_ETEN</i>			-0.616*** (-2.766)
<i>LCEO_NET</i> × <i>CEO_ETEN</i>			-0.185** (-2.016)
<i>SI</i> × <i>LCEO_NET</i> × <i>CEO_ETEN</i>			4.054*** (4.139)
<i>LCEO_AGE</i>	0.653** (2.445)	0.672** (2.517)	0.668** (2.506)
<i>CEO_LOCAL</i>	0.050 (1.220)	0.076* (1.766)	0.042 (1.032)
<i>CEO_ETEN</i>	0.010 (0.333)	0.008 (0.280)	0.022 (0.718)
<i>BIG4</i>	-0.003 (-0.094)	-0.002 (-0.063)	-0.007 (-0.192)
<i>B_INDEP</i>	-0.046 (-0.451)	-0.052 (-0.511)	-0.043 (-0.419)
<i>B_TEN</i>	-0.003 (-0.490)	-0.003 (-0.390)	-0.002 (-0.344)
<i>B_OUT</i>	0.008 (0.486)	0.010 (0.586)	0.010 (0.598)
<i>REM</i>	0.035 (1.050)	0.034 (1.033)	0.036 (1.080)
<i>AEM</i>	-0.323* (-1.813)	-0.314* (-1.763)	-0.304* (-1.710)
<i>LEV</i>	0.028 (0.301)	0.027 (0.284)	0.033 (0.354)
<i>GROWTH</i>	0.015 (0.515)	0.016 (0.558)	0.012 (0.427)
<i>SIZE</i>	0.005 (0.535)	0.007 (0.660)	0.004 (0.376)
<i>ROA</i>	0.102 (0.997)	0.090 (0.877)	0.116 (1.133)
Constant	-1.120** (-2.376)	-1.184** (-2.512)	-1.159** (-2.465)
Year Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
N	2,144	2,144	2,144
R-squared	0.029	0.035	0.038

Notes: This table shows our main regression results for a sample of firms that just meet/beat earnings benchmarks. *UE\_CE* is unexpected core earnings, *SI* is income-decreasing special items as a percentage of sales, multiplied by negative 1, *LCEO\_NET* is the log of the number of CEO employment connections, *LCEO\_AGE* is the log of the CEO's age, *CEO\_LOCAL* is equal to one if the CEO is local and zero otherwise, *CEO\_ETEN* is equal to one if the CEO is in the first three years of his/her service and zero otherwise, *BIG4* is equal to one if the firm is audited by a Big-4 auditing firm and zero otherwise, *B\_INDEP* is board independence, *B\_TEN* is the average tenure of independent directors on the board, *B\_OUT* is the average number of outside directorships held by independent directors, *REM* is the measure of real earnings management, *AEM* is the measure of accruals earnings management, *LEV* is leverage ratio, *GROWTH* is sales growth ratio, *SIZE* is firm size, and *ROA* is return-on-assets.

Reported values are the coefficients, with *t*-statistics in parentheses. \*, \*\*, and \*\*\* represent significance levels of 0.10, 0.05, and 0.01, respectively (two tailed).

about CEOs' employment history in private firms. We thus use an alternative specification and measure CEOs' employment ties by considering their employment history only in public firms. We find that the results are robust to this alternative measure of CEOs' employment connections. We also consider the possibility that including CEOs' current directorships in the social connections measure may drive our main results. To check the robustness of the results, we measure CEOs' employment connections based on only their past employment history. The results are robust to this alternative specification.

Second, we use an alternative sample to check the validity of our results. Given that we focus on all UK listed firms, our sample firms are quoted either on the main stock exchange or on the Alternative Investment Market (AIM). Firms listed on the main market are larger, more visible, and subject to greater public scrutiny than AIM firms (Abdo et al., 2018). Furthermore, their CEOs are likely to have more social connections compared to CEOs of firms quoted on the latter<sup>9</sup> and to be more concerned about their reputational capital. Therefore, one should expect to find that our primary analysis holds if we use firms listed only on the main stock exchange. We test this expectation and find that our results hold when using the alternative sample of firms.

Third, we consider the possibility that the association between CEO social connections and classification shifting may not be due only to arguments relating to insignificant reputational losses arising from shifting. By contrast, the association might also be due to an imitation effect, meaning that well-connected CEOs use classification shifting because the same technique has been adopted in their social network. To examine this issue, in the spirit of Griffin et al. (2021), we add to our main analysis the average levels of unexpected core earnings ( $A\_C\_UE\_CE$ ), special items ( $A\_C\_SI$ ), and their interactions over the prior three-years by other firms in the CEO's social network. We find that the coefficient on the interaction between  $A\_C\_UE\_CE$  and  $A\_C\_SI$  is insignificant, suggesting that the use of expense misclassification in the firm managed by the CEO might not be associated with the use of this practice by other firms in the CEO's social network.<sup>10</sup> More importantly, we continue to find a significant and positive association between classification shifting and CEO social connections. Taken together, these results suggest that well-connected CEOs may employ classification shifting mainly for the reason that this form of earnings management is not likely to cause significant reputational losses.

Fourth, we consider the possibility that CEO compensation may affect our main results as it could affect the incentive for CEOs to engage in classification shifting. To check for this, we add CEO total compensation and CEO equity-based compensation variables to the main analysis. We find that the inclusion of these controls appears to make no difference to our main findings. In addition, we consider the possibility that including control variables only as main effects may not fully capture the impacts of controls on classification shifting for the reason that our hypotheses rely on the interaction between CEO social connections and income-decreasing special items (Fan et al., 2019). To address this concern, we also include the interactions of our control variables with income-decreasing special items in our main model. We find that the main results continue to hold.

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<sup>9</sup>In our sample, we find that CEOs employed by firms quoted on the main stock exchange have on average 38 social connections, while those employed by firms listed on the AIM have on average 23 ties.

<sup>10</sup>This result should be interpreted cautiously as it is based on 955 firm-year observations, which account for only 18 percent of our sample firm-year observations. The significant reduction in the sample size is due to data unavailability with regard to calculating classification shifting variables for other firms in the CEO's social network.

As a last robustness check, we examine whether the results are sensitive to an alternative methodology of testing classification shifting. To do so, we follow Athanasakou et al. (2011) and classify firms as classification shifters ( $CS=1$ ) if their unexpected core earnings are positive and non-recurring items are negative. We then use a logit model of the probability that a firm is a classification shifter based on CEO social connections. The results show that our conclusions still hold for this alternative measure of classification shifting.

## 5. Discussion and conclusions

In this study, we examine the impact of CEO social connections on classification shifting, a malpractice that misleads accounting information users about the core performance of a firm by altering the presentation of different elements within the income statement without changing the net income. To investigate our research question, we use a sample of 995 firms listed on the London Stock Exchange in the period 2005–2016, with a total of 5,391 firm-year observations. Our results show that firms whose CEOs have a larger number of social connections are more likely to engage in classification shifting. This result confirms the presence of a “dark side” of social connections (Carrera et al., 2017; Griffin et al., 2021; Johnson et al., 2013), which emerges when a wrongful act does not have reputational consequences. Our results also show that well-connected CEOs are likely to engage in classification shifting more when they are more concerned about reputational consequences (as local CEOs) and have greater incentives to manage earnings (as CEOs in the early years of their service).

This study makes several contributions to the literature. First, we extend the growing literature on classification shifting (e.g. Athanasakou et al., 2009; Boahen & Mamatzakis, 2020; Fan et al., 2010; Haw et al., 2011; McVay, 2006; Zalata & Roberts, 2017) by being the first to provide evidence that the social capital of the CEO matters to a firm’s classification shifting outcomes. Prior studies in this literature show that equity market incentives (Athanasakou et al., 2009; Fan et al., 2010; Haw et al., 2011; Zalata & Roberts, 2017), board characteristics (Zalata & Roberts, 2016), debt market incentives (Fan et al., 2019; Malikov et al., 2019), and religious social norms (Boahen & Mamatzakis, 2020) affect firms’ classification shifting. In this study, we focus on the social capital of the CEO and show that this is a key factor that drives the widespread malpractice of classification shifting.

Second, we extend the emerging literature in accounting that has investigated the role of CEO social connections in shaping firms’ reporting policies (e.g. Bhandari et al., 2018; Griffin et al., 2021) by exploring the effect of social connections on classification shifting, a previously unexplored malpractice in this context. Griffin et al. (2021) find that CEO social connections promote real earnings management, while Bhandari et al. (2018) show that they reduce accrual earnings management. These contrasting findings raise the important question of how CEO social capital shapes firms’ reporting policy in terms of the classification of income statement line items. We investigate this research question and show that employing well-connected CEOs results in more misclassification of core expenses as income-decreasing special items.

Furthermore, we believe that our results can help to reconcile the aforementioned contrasting findings of Bhandari et al. (2018) and Griffin et al. (2021) by considering the different reputational harm that classification shifting and real earnings management practices produce in comparison to accrual earnings management. Reputation is pivotal

in social networks (Lin, 2001). Networks impose social norms on their members, which can cause important reputational losses in cases of misbehaviour (Spagnolo, 1999). Classification shifting and real earnings management are likely to cause less reputational harm than accrual earnings management because they are more difficult to detect (Athanasakou et al., 2009; Boahen & Mamatzakis, 2020; Cohen & Zarowin, 2010). As such, they are appealing to well-connected CEOs for whom meeting earnings targets is very important as market and financial analysts are likely to pressure them more than less-connected CEOs (Malmendier & Tate, 2009). Classification shifting can help them to meet earnings targets without incurring a high risk of reputational losses.

Last but not least, this study contributes to the more general literature on social capital. First, it shows that the “dark side” of social capital (e.g. Carrera et al., 2017; Griffin et al., 2021; Johnson et al., 2013) is likely to emerge in instances when misconduct is harmless for individuals’ reputation. Second, it provides evidence of the moderating role played by CEO tenure in the relationship between CEO social connections and the use of classification shifting. Our results add to those of Ali and Zhang (2015) by demonstrating that CEOs who are in the early years of their service manage earnings to a greater extent, particularly when they have a larger number of social connections. Third, it extends Lai et al. (2020), according to which local CEOs are more likely than foreign CEOs to consider local reputation concerns in their managerial actions, by showing that local CEOs with a larger number of connections engage more in corporate malpractices that are unlikely to damage their reputation.

As is the case for other studies, we acknowledge that our study is subject to several limitations, which in turn open up new avenues for future research. First, we have chosen to focus on CEO social connections, rather than on CFO social connections. Despite the fact that CEOs are not directly involved in overseeing the preparation of financial statements, they are the most powerful actors in an organisation (Daily & Johnson, 1997), have been found to influence CFOs’ accounting choices, and have the ultimate say on decisions related to financial reporting (Bishop et al., 2017; Feng et al., 2011). Moreover, this choice allows us to better relate the results of our study to those of Bhandari et al. (2018) and Griffin et al. (2021) on accrual/real earnings management, as both studies analysed CEO social connections. We, however, acknowledge that it could also be interesting to examine how CFO social capital affects classification shifting, and we leave the examination of this to future research. Second, even though we used a two-stage least squares method to deal with potential endogeneity issues, we acknowledge that we cannot completely rule out the endogeneity problem, which remains one of the limitations of this study. Further, due to data unavailability we could not provide a more extensive analysis related to the possibility that the association between CEO social connections and classification shifting is not only explained by arguments relating to insignificant reputational losses arising from shifting, but also to an imitation effect of malpractices propagated via social networks. Future studies might investigate this issue by focusing on an institutional setting that has more data availability.

## Acknowledgements

We gratefully acknowledge the valuable comments and feedback of the editor, Prof Giovanna Michelon, and the two anonymous reviewers of the journal, which have led to substantial improvements in the paper. We would also like to thank the seminar participants at the University of Essex

and University of Portsmouth and the participants at the 2019 British Accounting and Finance Association (BAFA) Annual Conference and at the 42nd Annual Congress of the European Accounting Association (EAA) for their helpful comments and suggestions.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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## Appendix A. Variable definitions

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### CEO Social Connections and Classification Shifting Variables

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<i>LCEO_NET</i>	=	The log of the number of CEO's external employment connections. Employment connections occur when the CEO and another executive or director worked at the same company during or prior to the current year.
<i>ACCRUALS</i>	=	Net income before extraordinary items minus cash flows from operations, scaled by sales.
<i>ATO</i>	=	Sales divided by average net operating assets where the latter is calculated as the difference between operating assets and operating liabilities.
<i>CE</i>	=	Sales minus cost of goods sold minus selling, general, and administrative expenses, scaled by sales.
<i>GROWTH</i>	=	The change in sales scaled by sales in year $t-1$ .
<i>NEG_GROWTH</i>	=	Percentage change in sales if the latter is negative, and 0 otherwise.
<i>SI</i>	=	Special items multiplied by negative one scaled by sales when special items are income-decreasing, and zero otherwise.
<i>UE_CE</i>	=	The difference between actual and expected core earnings where the latter are measured using the McVay (2006) model.

### Other variables

<i>LCEO_AGE</i>	=	The log of the CEO's age.
<i>CEO_ETEN</i>	=	1 if the CEO is in the first three years of his/her service, and zero otherwise.
<i>CEO_LOCAL</i>	=	1 if the CEO is local, and zero otherwise.
<i>BIG4</i>	=	1 if the firm is audited by a Big Four audit firm, and 0 otherwise.
<i>B_INDEP</i>	=	The number of independent directors on the board divided by the total number of directors on the board.
<i>B_TEN</i>	=	The average tenure of independent directors on the board.
<i>B_OUT</i>	=	The average number of outside directorships held by board independent directors.
<i>REM</i>	=	The sum of three real earnings management measures: abnormal levels of cash flows from operations, abnormal levels of production costs and abnormal levels of discretionary expenses. These real earnings management proxies are measured using the Roychowdhury (2006) models.
<i>AEM</i>	=	The difference between actual and normal levels of accruals where the latter are measured using the modified Jones model (Dechow et al., 1995). This model is estimated by adding return-on-assets as an additional regressor to control for extreme cases of operating performance (Kothari et al., 2005).
<i>LEV</i>	=	The ratio of total debt to total assets.
<i>SIZE</i>	=	The log of sales.
<i>ROA</i>	=	Earnings before interest, taxes, depreciation, and amortization (EBITDA) divided by total assets.

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