

# **Unintended Consequences of “The Plan For Growth”: Earnings Management in the UK**

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## **Abstract**

Using public UK firm data for 2003-2019, I examine whether a government policy can unintentionally promote earnings management. The Plan for Growth 2011 aims to reduce the cost and overall burden of regulation on businesses to help them grow faster. However, this can signal a weakened external monitoring environment for companies. Also motivated by such higher growth *expectations*, opportunistic executives can manage earnings to hit those growth targets. Consistent with this view, I find that firms increase abnormal accruals after the reduction of regulatory burden. I also provide suggestive evidence for further unethical accounting practices and fraud after the reform.

**Keywords:** Deregulation; Monitoring; Signalling; Earnings Management; the Plan for Growth 2011.

**JEL Classification:** G34, G38, M41, M48.

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## **1. Introduction**

The Plan for Growth 2011 was introduced to boost the growth in businesses by reducing the overall burden of regulations on companies in the UK. It includes a series of structural reforms to reduce the cost of doing business and relax standards for firms to operate easier after the Global Financial Crisis. In particular, the Plan for Growth 2011 indicates that there are currently over 21,000 regulations and statutory instruments on the statute books resulting a cumulative cost of about £90 billion a year for businesses (Item 1.25). However, relaxing regulations may signal a change in monitoring by the government. Specifically, the deregulation can be perceived as softer monitoring environment for firms overall. As the external scrutiny of companies weakens, the proposed changes through the Plan for Growth 2011 can have unintended consequences.

The direct effect of this initiative is an impact on business fundamentals, which in terms of financial reporting constitute an earnings management incentive, i.e. managing earnings to meet growth targets, set high due to growth expectations after the Plan for Growth 2011. This view coupled with weakened external monitoring of firms by the government can prepare ground for opportunistic managers to use their judgement in reporting. They can postpone R&D and advertising expenditures while accelerating sales, understate the provisions for bad debt, and overvalue acquired in-process R&D (Dechow and Skinner, 2000). Managers can hide information on real performance and influence stock price for private gain disadvantaging shareholders (Chung et al., 2002; Cohen and Zarowin, 2010) because business growth is encouraged and the standards are eased by the Plan for Growth 2011. Therefore, I hypothesize that relaxation of the regulatory environment to boost growth in businesses by scrapping regulatory policies can unintentionally promote earnings management. I argue that the Plan for Growth 2011 lowered the precision and enforcement of standards while emboldening the companies to grow faster both of which are known to affect the propensity of firms to engage

in earnings management. To the best of my knowledge, this paper is the first to incorporate a signalling channel while explaining the link between regulatory environment and earnings management.

Given the overwhelming evidence on the negative implications of earnings management (e.g., Palmrose et al., 2008; Cohen and Zarowin, 2008; Rodriguez-Ariza et al., 2016), it is important to document the unanticipated effects of a government reform with intentions of boosting growth in businesses and how it may potentially impact firms negatively through earnings management. This study is also important because its findings are widely generalizable and applicable across other countries although it uses a deregulatory reform in the UK as an illustration.

Using listed UK firm data between 2003 and 2019, I find that abnormal accruals increase by about 1% after the introduction of the Plan for Growth. After eliminating any potential effects of big industries and other regulatory changes in that period, I obtain robust results. Placebo tests and difference-in-difference analyses suggest possible causality between earnings management and strong initiatives for business growth through deregulation. Examining alternative explanations, I reveal that neither accrual reversals nor *actual* growth and investments drive these findings. However, further analyses confirm higher growth *expectations* across analysts and managers after the Plan for Growth 2011 and more severe earnings management in firms operating in industries with higher growth *expectations*. In fact, data from Office for Budget Responsibility (2021) in Table IA.1 of Internet Appendix indicate that the revisions on real GDP growth are mostly negative before the publication of the Plan for Growth in 2011 while they become upward revisions afterwards, providing suggestive evidence for how this deregulation may have increased the growth *expectations* in the UK. I examine other unethical accounting practices in firms after relaxation of regulatory standards and find that tax avoidance and probability of audit reports classified other than “unqualified”

also increase in that post period. Furthermore, I provide evidence for an increase in actual corporate fraud in official police records and court cases, as well as, more disqualified directors annually as the external monitoring by the government is weakened signalled by lower regulatory requirements to boost growth.

This paper is closely related to few papers on earnings management. Xu et al. (2019) examine the perceived environment set by the government and show firms in politically corrupt regions are more likely to manipulate financial reporting leading to more earnings management. Evans et al. (2015) discuss that tougher reporting standards by US GAAP facilitates higher detection of earnings management and more efficient enforcement. Naughton (2019) examines two regulatory events: a 2002 warning by the SEC that it would investigate certain pension assumptions and the 2003 implementation of disclosure requirements for pension assumptions under FASB Statement No. 132R. Naughton (2019) shows reduced discretion and earnings management in response to higher regulatory scrutiny. Ernstberger et al. (2012) study a German legislation in 2004 to enhance financial-reporting enforcement, and they report a decline in earnings management under these accounting reforms. Hossain et al. (2011) examine the regulatory changes on backdating stock options by the Sarbanes-Oxley Act (SOX) of 2002 and suggest a mitigating effect of SOX on the level of accruals management. Similar to all these studies, I investigate the relation between regulatory changes and earnings management. However, I differentiate this paper from those others where I focus on a deregulation aimed to encourage business growth but not for improvements in financial reporting per se. The Plan for Growth 2011 has the primary purpose of supporting growth in business where its incentives triggered earnings management as an unintended consequence. Further as a potential channel, I rely on the signalling theory and argue that reduced regulatory burden also implies an overall weaker external monitoring by the government, which then incentivize opportunistic managers to engage in earnings management to meet the growth

targets due to increased growth *expectations* by this change in regulations. Moreover, I present evidence for further unethical accounting practices and corporate fraud after the Plan for Growth 2011. Previous studies in this area do not consider this specific angle along with the signalling channel nor examine such further topics.

Relying on a sample of seasoned equity offerings (SEOs) between 1983 and 2014, Kurt (2018) uses the signalling hypothesis of earnings management and shows financially constrained firms have greater upward earnings management when selling equity. Although I incorporate the signalling theory in this study, this paper differs from the one by Kurt (2018) where I focus on deregulation to stimulate business growth and its link to earnings management instead. Few studies in the literature connect external monitoring to earnings management. Ma et al. (2019) show that accrual and real earnings management are mitigated by CEOs possessing academic experience (as a proxy for internal monitoring) with intrinsic motivation to report truthfully. Chung et al. (2002) and Chung et al. (2005) find that earnings management decreases with strong monitoring by large institutional ownership. Similar to all these papers, I consider softer external monitoring implied by the lower regulatory standards as a potential explanation for increased earnings management. Nevertheless building on these studies, I research a reform by the government to boost business growth and its unintentional outcome, i.e. earnings management, due to its deregulatory nature<sup>1</sup>.

This paper contributes to earnings management literature by explaining how government (de)regulations in one area of interest can have unintended consequences on a different subject of concern, such as earnings management. Among the various implications of this study, firms can rely on suggestions proposed in this paper while deciding on their

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<sup>1</sup> An alternative explanation could be that, following the new act, more *actual* growth and investments may trigger firms to manage more earnings to attract new investors. Further, accrual reversals may be the main factor for higher earnings management. I address these explanations in Section 6.4 and show that they do not drive the main findings in this study.

accounting practices. Considering the findings of this study, policy makers can evaluate proposed regulatory changes for businesses in respect to their potentially damaging effects before being implemented by companies. These results provide guidance in the design of future regulatory amendments and their possible unforeseen outcomes.

The remainder of the paper proceeds as follows. Section 2 further reviews the related literature and develops the hypothesis. Section 3 describes the data and the variables, and it explains the empirical methodology. Section 4 provides initial results and discusses the main findings of the paper. Sections 5 – 7 report the results from causal inference tests, robustness checks, and further analyses, respectively. Section 8 concludes.

## **2. Related Literature and Hypothesis**

### *2.1 The Plan For Growth 2011*

There have been several attempts towards deregulation in the UK since 1980s which had on average favourable effects on financial reporting (Athanasakou et al., 2010). In 1992, Schedule 8 of the Companies Act 1985 was amended so that SMEs are allowed to file either full or abbreviated accounts. In May 1995, the Department of Trade and Industry suggested to simplify accounting disclosure requirements. Further relaxation on accounting standards for small firms followed in 1997. Reformed Companies Act in 2006 provided further exemptions in financial reporting for unlimited companies and dormant subsidiaries while Section 477 of the Act brought exemption from audit for certain companies. UK Corporate Governance Code in 2010 focused on improvement of the corporate governance standards in UK firms. However, only briefly under Section C.1 “accountability” the clarity in annual reports and financial statements were described as a part of the director responsibility.

In March 2011, the UK government announced the Plan for Growth that includes a series of reforms to remove barriers to growth for businesses in the UK. These reforms span a

range of policies including improving UK infrastructure, cutting red tape, boosting trade and inward investment, and making the UK the best place in Europe to start, finance and grow a business. The Plan for Growth aims to reduce the overall burden of regulation on businesses. Particularly, it admits that “the UK’s ranking by the World Economic Forum has fallen from 39<sup>th</sup> to 89<sup>th</sup> out of 139 countries in terms of business perception of the burden of regulation” (Item 2.40). Further, it states that the costs of bureaucracy in planning system, reporting, and overall regulations for businesses are considerably high (Items 1.26, 1.27 and 2.134). To tackle these issues and stimulate growth in firms, the Plan for Growth 2011 provides an action plan. Specifically, it minimises the regulatory burdens (Items 2.47 – 2.61) by i) scrapping proposals for specific regulations, ii) prohibiting new domestic regulations, iii) launching a review to reduce the stock of existing regulations, iv) reviewing employment law to ensure maximum flexibility for businesses, and v) reducing the cost to businesses of compliance. Moreover, it reforms planning system by streamlining it to reduce bureaucracy (Items 2.24 – 2.28). It also simplifies the reporting framework and deregulates financial reporting for public companies (Items 2.147 and 2.148).

Overall, such drastic reduction in regulations signals softer monitoring of companies by the government. Furthermore, Evans et al. (2015) argue that an effective regulatory environment curbs incidences of earnings management in firms. However, deregulation to boost business growth through weakened monitoring environment can prepare the ground for opportunistic managers to manage earnings to meet growth targets due to increased *expectations* after the Plan for Growth 2011.

## 2.2 Hypothesis Development

In literature, Dechow et al. (2010) and Xu et al. (2007) cover a range of motivations for managers to engage in earnings management. Ansari et al. (2021) present that founder CEOs

who are up for reappointment are more likely to use upward earnings management to ensure support for their reappointment. Bhojraj et al. (2009) show that earnings management is used to ensure earnings exceed analysts' forecasts to prevent a negative stock price reaction in the markets. Kothari et al. (2016) find that managers can inflate stock prices prior to seasoned equity offerings to maximise the amount of capital raised through earnings management. Chan et al. (2019) show that firms manage their earnings after stock splits to meet the raised expectations from the market. Li et al. (2023) show that negative social media criticism can promote earnings management and reduce financial transparency. Interestingly, Gounopoulos and Pham (2018) reveal that financial expert CEOs are less likely to engage in earnings management during the IPO year. Cai et al. (2019) discuss that religious CEOs engage in less earnings management.

There is an extensive literature on the relation between monitoring environment and earnings management. Peng and Yin (2021) test external monitoring and discipline of labor market and show that the executives more responsive to outside options significantly reduce earnings management. Chung et al. (2002) and Chung et al. (2005) find earnings management reduction due to strong monitoring by large institutional investors. Kim et al. (2010) discuss that big six auditors improve monitoring conditions which is then effective in deterring opportunistic earnings management. Huang et al. (2022) show that a well-established legal system disincentivizes earnings management in small-medium enterprises. Gounopoulos and Pham (2017) argue that the monitoring by credit rating agencies and the reduced information asymmetry due to the provision of a credit rating disincentivize rated issuers from managing earnings. Wongsunwai (2011) suggests that higher quality venture capitalists are better able to constrain opportunistic earnings management by their portfolio firms going public.

Overall, the literature reaches a consensus that opportunistic managers can use upward earnings management by postponing expenditures e.g., advertising, while accelerating sales to

portray a growth prospect for their firms. Yet, earnings management can be mitigated through an improved monitoring environment. Nevertheless, relaxation of regulatory standards and hence, arguably weaker monitoring of companies can potentially incentivize managers, *expecting* higher growth, to engage in more earnings management.

Dye (2002) argues that reforms can be perceived as an optimal initiative or a Stackelberg standard where such standard leads to more efficient allocation of resources albeit the costs. Regarding the reform in 2011, the Stackelberg standard may set a lower threshold to induce managers to select more projects with a high expected value and a high or even moderate probability of success, as a response to managerial reaction to the change e.g., higher earnings management to meet targeted growth. Overall, the Plan for Growth may have benefits e.g., optimal allocation of resources, potential growth prospects in companies, but also costs e.g., incentive for abnormal accruals.

Building on this view, I investigate whether deregulation to boost growth in businesses can unintentionally promote earnings management. Arya et al. (2003) argues that the implicit role of regulators is to make earnings management challenging. However, decreased external monitoring of firms can encourage opportunistic managers to engage in earnings management (Chung et al., 2005; Kim et al., 2010; Gounopoulos and Pham, 2017; Pan et al., 2022). The main objective of the Plan for Growth is to foster growth of the market, i.e. expansion of existing businesses and opening of new. So, the direct effect of the initiative is an impact on growth and expansion which in terms of financial reporting constitute an earnings management incentive i.e., managing earnings to meet growth targets that are set high by managers due to increased growth *expectations* after the Plan for Growth. This deregulation does not have a target group of firms, and as it includes small-medium enterprises, as well as, large companies in the UK, it potentially influences them all. Although there aren't concrete growth targets set by the Government nor any associated accountability, the growth *expectations* has risen after

the Plan for Growth, and to match these *expectations* by shareholders firms could set their own growth targets and manage earnings accordingly.

Another factor potentially enabling managers to engage this practice is the weakened external monitoring conditions signalled by reduction in regulations through the 2011 reform. A relaxed governance mechanism encourages opportunistic managers to manage earnings as the agency theory explains. They choose to make or defer discretionary expenditures and can decide how to structure corporate transactions in such a way that these decisions create the perception of growth prospects for their firm because relaxed standards and less regulatory requirements give them the latitude to do so. Overall, these imply a reform that triggers earnings management. Hence, I hypothesise:

*H1: Earnings management in publicly listed UK firms increases as an unintended result of encouraged business growth through deregulation and softer external monitoring environment by the Plan for Growth in 2011.*

H1 is based on the argument that firms experience pressure to deliver higher growth post-2011, which in turn feeds through into heightened incentives (and opportunity) for earnings management. Supporting the first link of this claim, Table IA.1 shows evidence of structural increase in GDP *expectations* after the Plan for Growth in 2011 through data on upward revisions of real GDP growth and analysis for more upward revisions of CAPEX by analysts at the firm level. Reinforcing the second link of H1, Figure 1 displays evidence of a structural increase in firm-level earnings management after 2011 through more positive abnormal accruals on average per year. For the remainder of this paper, I conduct various analyses to test H1 further.

### **3. Data Selection and Empirical Design**

#### *3.1 Data Sample*

I obtain the data sample of publicly listed UK firms in London Stock Exchange Main Market from FAME between 2003 and 2019. The initial sample has 18,619 firm-year observations for 1,497 companies. I cross-check these firms with Compustat – Global database and exclude any unmatched firms. I require total assets and capital expenditures have positive and non-negative values, respectively, and total liabilities do not exceed total assets. These steps reduce the sample to 15,630 firm-year observations. Next, I merge this sample to BoardEx – United Kingdom database to construct variables associated with governance and management factors. Although BoardEx might be biased towards larger firms prior 2008, evidently this is not an issue for this study because I only lose additional 315 observations after this merging exercise. Data for macro-economic factors are collected from Office for National Statistics, OECD, and World Bank websites. All variables are winsorized at the 1% and 99% levels to reduce the effects of outliers. The final data sample consists of 15,315 firm-year observations across 1,366 firms.

### *3.2 Variable Construction*

Earnings management is the primary dependent variable of interest in this study, and it is measured it in several ways. In the main analyses, I use abnormal accruals-based measures, similar to Wells (2020), while real earnings management measures are used as alternative variables in the further analyses. I construct abnormal accruals following the model by Dechow and Dichev (2002) and the adjustment by McNichols (2002) and Francis et al. (2005). The following cross-sectional regression is estimated for each year and for firms in a two-digit Standard Industrial Classification (SIC) industry code with at least 10 firms:

$$\frac{TCA_{i,t}}{TA_{i,t-1}} = \beta_0 \frac{1}{TA_{i,t-1}} + \beta_1 \frac{CFO_{i,t-1}}{TA_{i,t-1}} + \beta_2 \frac{CFO_{i,t}}{TA_{i,t-1}} + \beta_3 \frac{CFO_{i,t+1}}{TA_{i,t-1}} + \beta_4 \frac{\Delta Sales_{i,t}}{TA_{i,t-1}} + \beta_5 \frac{PPE_{i,t}}{TA_{i,t-1}} + \varepsilon_{i,t} \quad (1)$$

where,  $TCA_{i,t}$  is total accruals;  $CFO_{i,t}$  is cash flows from operations;  $PPE_{i,t}$  is the gross value of plant, property, and equipment;  $TA_{i,t-1}$  is lagged total assets; and  $\Delta SALES_{i,t}$  is the change in sales. All variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentile levels to mitigate the issue of outliers. The estimated coefficients of this equation are then used to estimate the normal level of total accruals of firms. The first abnormal accrual measure, i.e.  $AccrDDadj$ , is computed as the difference between the firm's actual total accruals and its estimated accruals.

Abnormal accrals are also calculated more traditionally by following the modified model by Jones (1991). The following cross-sectional regression is estimated for each year and for firms in a two-digit SIC code industry with at least 10 firms:

$$\frac{TCA_{i,t}}{TA_{i,t-1}} = \beta_0 \frac{1}{TA_{i,t-1}} + \beta_1 \frac{\Delta Sales_{i,t}}{TA_{i,t-1}} + \beta_2 \frac{PPE_{i,t}}{TA_{i,t-1}} + \varepsilon_{i,t} \quad (2)$$

where,  $TCA_{i,t}$  is total accruals;  $PPE_{i,t}$  is the gross value of plant, property, and equipment;  $TA_{i,t-1}$  is lagged total assets; and  $\Delta SALES_{i,t}$  is the change in sales. All variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> levels. The estimated coefficients of this equation are then used to estimate the normal level of total accruals of firms. The first abnormal accrual measure, i.e.  $AccrJ$ , is calculated as the difference between the firm's actual total accruals and its estimated accruals.

The main explanatory variable is based on the Plan for Growth and reduction in regulations in 2011. I study the impact encouraged business growth through weakened monitoring environment signalled by such government deregulation. Thus,  $Post$  is defined as a dummy that is equal to one for year starting 2011, and zero otherwise.

To accurately measure the relation between this reform and earnings management in firms, I need to control for all other possible channels and factors arguably affecting earnings management. Dechow and Dichev (2002) discuss that firms with larger standard deviations of residuals from the accrual model are smaller firms with more volatile cash flows and less persistent earnings. Francis et al. (2004) and Wells (2020) use various economic determinants

to explain earnings management and accounting quality. Thus, I control for these factors in the main model: *FirmSize* as the natural logarithm of total assets; *SigmaCFO* as 5-year rolling standard deviation of cash flow from operations, scaled by total assets; *Intangible* as the sum of R&D and advertising expenses over sales; *IntIntensity* as an indicator variable equal to one if *Intangible* is greater than zero, and zero otherwise. Following Burns et al. (2010), Hass et al. (2015), and Wang et al. (2019), I include additional variables in the model: *Tangibility* as Property, plant, and equipment over total assets; *Leverage* as the sum of short-term and long-term debt over total assets; *Growth* as capital expenditures over total assets; *M/B* as the ratio of total assets minus the book value of equity plus the market value of equity to total assets; *InventoryRatio* as inventory over total assets; *CashRatio* as cash over total assets; *ROA* as return on assets and it is calculated as EBIT over total assets; *FirmAge* as the natural logarithm of a company's age. Following Dyck et al. (2010) and Hass et al. (2015), I control for the following governance variables in this study: *InstOwnership* as the proportion of shares owned by institutional investors; *CEOOwnership* as the proportion of shares owned by the CEO; *CEOPaygap* as the natural logarithm of the difference between the total CEO pay and the mean of all directors' total pay; *Independence* as the proportion of outside directors on the Board.

Table 1 reports descriptive statistics for whole sample as well as the periods representing before and after the reform in 2011, separately. Abnormal accrual measures, i.e. *AccrDDadj* and *AccrJ*, have negative (positive) mean values before (after) the deregulation, suggesting down(up)ward earnings management in firms. An average firm in the sample has a total asset value of £2.64 billion. The right-skewed distribution indicates that the sample includes few very large firms. On average, firms have leverage ratio, market-to-book, and cash ratio of 15%, 1.16, and 17%, respectively. Firms have negative average performance, i.e. *ROA*, and average firm age is about 27 years. 31.4% of a firm is owned by institutions and about 25.5% of the directors on the Board are outsiders in the sample.

## [Insert Table 1 Here]

Panel B of Table 1 gives the industry distribution of companies in the analyses. About half of the firms in the sample operate in finance sector<sup>2</sup> (32%) and services (23%). While 16% of companies operate in manufacturing industry, the mining sector has 10% of firms in the sample. Firms in transport, communication and utilities make 6% of the sample. The remaining industries represented in the analyses are construction, retail, and wholesale, respectively.

### 3.3 Methodology

The period for the main analysis is 2003–2019. I use the following panel fixed-effects (FE) OLS regression model to examine whether firms engage in more earnings management in an environment of deregulation through the relaxed standards in 2011:

$$Earnings\ Management_{i,t} = \alpha + \beta_1 Post_t + \Theta X_{i,t} + \eta_i + \sigma E_t + \varepsilon_{i,t} \quad (3)$$

where  $Earnings\ Management_{i,t}$  denotes two different abnormal accrual variables for firm  $i$  in year  $t$ :  $AccrDDadj$  and  $AccrJ$ .  $Post_t$  is a dummy that is equal to one for year starting 2011, and zero otherwise.  $X_{i,t}$  is a vector of control variables (i.e.,  $FirmSize$ ,  $SigmaCFO$ ,  $Intangible$ ,  $IntIntensity$ ,  $Tangibility$ ,  $Leverage$ ,  $Growth$ ,  $M/B$ ,  $InventoryRatio$ ,  $CashRatio$ ,  $ROA$ ,  $FirmAge$ ,  $InstOwnership$ ,  $CEOOwnership$ ,  $CEOPaygap$ , and  $Independence$ ). To control for any unobserved, time-invariant firm-specific factors that may influence firm  $i$ 's performance, I include firm fixed effects in the model, indicated with  $\eta_i$ . In untabulated analyses, the original results stay robust when I use industry fixed effects instead. Due to the nature of independent variable, time fixed effects cannot be used to control for any systematic variation in earnings

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<sup>2</sup> Working capital accruals are not well-defined for financial firms. However, I use total accruals in analyses instead; thus, inclusion of firms in finance sector, similar to Wells (2020), should not constitute an issue in this study. This is also confirmed by robust results in Table IA.2 of Internet Appendix excluding financial firms from the sample.

management in any given year across all firms. However, macro-economic factors can be used directly to control for such systematic variation, suggested by Bouzgarrou and Navatte (2013).  $E_t$  denotes macro-economic factors, i.e. unemployment rate and GDP growth, following Devos and Rahman (2018), and Bose et al. (2019). As argued by Francis et al. (2004) and Wells (2020), I keep the abnormal accrual measures contemporaneous with all explanatory variables. Standard errors are clustered at the firm level.

## 4. Results

### 4.1 Initial Results

Figure 1 shows mean abnormal accruals per year. Specifically, firms have negative earnings management on average almost every year (except 2007 and 2010) until 2011. The magnitude of abnormal accruals is also quite large, up to -2%. However, after the deregulation that signals weaker monitoring conditions for businesses, firms have positive earnings management per year as high as 1.5% on average. This flip to high earnings management is evident continuously after 2011 (except 2016 and 2019). The trend lines associated to each period, i.e. before and after the introduction of the Plan for Growth, provide another crucial discussion. Particularly, there is not a gradual increase in accruals during the sample period i.e., a time trend. On the contrary, the trend in abnormal accruals after 2011 is rather downwards, implying that the positive earnings management records with the implementation of the Plan for Growth are not driven by a time trend. Overall, Figure 1 presents a pattern in firms' changing behaviour where they use upward earnings management due to increased growth *expectations* to meet those growth targets in arguably weakened monitoring environment by the government after introduction of the Plan for Growth in 2011.

[Insert Figure 1 Here]

In Table IA.1 of Internet Appendix, the T-test results on the comparison of mean

abnormal accruals suggest that firms switch from negative to positive abnormal accruals after the reduction in regulations with a statistically significant difference of 0.70%. Earnings management increases when monitoring conditions weaken, possibly signalled by this deregulation.

#### *4.2 Main Results*

Panel regressions estimates in Table 2 reveal interesting findings. In particular,  $AccrDDadj$  increases by 0.90% in the post period consistently with different sets of control variables in Columns II – IV. Similarly,  $AccrJ$  rises by 0.80% in the post period while firms have higher  $AccrJ$  by 0.70%, 1.10%, and 1.00% as (base) firm characteristics and governance measures are controlled, respectively. Higher earnings management is evident in firms after reduction in requirements for businesses to decrease costs and stimulate growth, arguably leading to weaker monitoring environment in general. Encouraged by such deregulation, lower scrutiny and *expectations* of growth, companies participate in more earnings management on average to meet those growth targets. These findings support H1 hypothesis and confirm unintended consequences of the Plan for Growth in 2011.<sup>3</sup>

[Insert Table 2 Here]

### **5. Tests for Causality**

#### *5.1 Difference-in-Difference (DID) Model Using Past Abnormal Accruals*

I discuss that the Plan for Growth in 2011 and subsequent relaxation of standards are unanticipated by firms; hence, this event serves as an exogenous shock to companies.

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<sup>3</sup> One can argue that few other UK reforms closely before the Plan for Growth 2011 might add noise to the empirical setting in this paper or even drive the results. I believe this is not an issue. Firstly, such reforms e.g., reformed Companies Act in 2006 and UK Corporate Governance Code in 2010, focus primarily on other aspects than UK firms' growth or financial reporting. Secondly, annual abnormal accruals in the sample display a distinct clustering only before and after 2011 (see Figure 1). Thirdly, the analysis focusing on +/- two years around the Plan for Growth 2011 and excluding a potentially relevant reform i.e., Growth and Infrastructure Act 2013, still provides robust results consistent with the original findings in this paper (see Table IA.3 in Internet Appendix).

Moreover, placebo tests in Section 6 also support this claim. To mitigate any endogeneity concerns further and solidify causality, I construct a difference-in-difference model where I create target and control groups. I argue that signalling the deregulation should not influence firms to involve in further upward earnings management if those companies have been already engaging in such practice. The real impact of this deregulation should be the most detectable in firms with negative (i.e. downward) earnings management, at that time. Thus, I classify firms with negative (positive) abnormal accrual value for 2009 and 2010 as target (control) firms. Furthermore, target firms are propensity score-matched yearly to control firms as their nearest neighbour (max two firms) using 2-digit SIC codes, firm size, leverage, cash ratio, M/B, and SigmaCFO. Same control firm is allowed to match different target firms. In this refined sample, there are 800 target and 441 control firms.

Figure IA.1 in Internet Appendix provides further support for the construction of target and control groups, as well as, the empirical design. While the abnormal accruals for control firms are positive on average before 2011, indicating already upward earnings management, target firms have negative *AccrDDadj* values for the same period. This clear distinction between these companies disappears with the introduction of the Plan for Growth where control firms maintain their status quo, but target firms start to have also positive abnormal accruals similar to control firms. This sharp change in target firms' earnings management follows the reform in 2011. Figure A.1 also addresses the potential concern of accrual reversals in the sample. If this is the case, target firms with negative accruals in 2010 should have positive accruals in 2011 mechanically, but not due to the Plan for Growth 2011. However, Figure A.1 shows that target (control) firms do not have negative (positive) accruals in 2010 only, but consistently throughout the years until 2011; hence, the accrual reversals is not an issue in the sample and it cannot explain the findings of this analysis.

*Target* dummy stands for the target firms. I examine whether firms with negative abnormal accruals are influenced by the encouragement of business growth and increase abnormal accruals compared to their peers after this deregulation. This argument is denoted by the interaction term  $Target \times Post$  as the main explanatory variable. Economic factors, year and firm fixed effects are included. In a usual DID regression analysis, *Target* and *Post* should be included separately in the model. However, both are binary variables in this model and hence, they are subsumed by year and firm fixed effects. Standard errors are clustered by firms.

Statistically significant and positive coefficients for  $Target \times Post$  in Table 3 suggest that the Plan for Growth in 2011 and relaxation of regulatory requirements affect target firms in such a way that they manage their earnings upward more than their counterparts in the post period. In particular, companies previously with low earnings management have 1.9% (2.3%) higher abnormal accruals, i.e.  $AccrDDadj$  and  $AccrJ$ , respectively, in the post period. These findings imply that increased upward earnings management is associated with such deregulatory environment. Results with time fixed effects provide similar interpretation. Overall, they suggest causality between high earnings management and weaker monitoring signalled by relaxed standards, and they support the original findings.

**[Insert Table 3 Here]**

### *5.2 Difference-in-Difference Model Using Business Life Cycle*

The plan for Growth was introduced to promote fast growth in businesses. One can argue that the impact of this reform can be most detectable for firms operating in the introduction or growth stage of their business life cycle, instead of the mature or decline stage. Relying on this proposition, I follow Dickinson (2011) to classify firms in their business life cycle stage, based on cash flow patterns. Specifically, I identify target firms either with positive (negative) cash flows from operations and financing (investing), or with positive (negative) cash flows from financing (operations and investing). Companies with zero cash flows from any of these three

categories are excluded from the sample. The remaining firms are classified as mature or declining companies and form the control group. Moreover, I conduct a similar propensity score matching exercise as in the previous difference-in-difference analysis (see Section 5.1). In this refined sample, there are 305 target and 340 control firms.

*Target* dummy represents target firms. As the main explanatory variable, *Target*×*Post* represents the effect of the reform in 2011 on the firms with potential growth prospects compared to their peers regarding earnings management. Economic factors, year and firm fixed effects are included. *Target* and *Post* are binary variables in this model and hence, they are subsumed by fixed effects. Standard errors are clustered by firms.

Table 4 provides statistically significant and positive coefficients for *Target*×*Post* indicating that firms with growth potential take advantage of weaker monitoring signalled by relaxed standards and engage in more upward earnings management due to higher growth expectations. Particularly, *AccrDDadj* and *AccrJ* in those target firms rise by 1% and 1.4%, respectively, in the post period.<sup>4</sup> Results with time fixed effects give similar interpretation, i.e. high earnings management among firms as an unanticipated consequence of the Plan for Growth 2011.

#### [Insert Table 4 Here]

### 5.3 Difference-in-Difference Model with US Firms

In previous analyses, I rely on the past accruals and the focus of the reform to identify target and control firms. Nevertheless, these methods may not still enable a clean distinction between those companies because all of them are subject to the Plan for Growth. Therefore, I utilise a different type of cross-section with these UK listed firms where I find their peers in the US for the same time period as the control group, a methodological choice that is gaining traction in

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<sup>4</sup> In untabulated analyses, only the firms in the growth stage of their business cycle are included in the target group, and I obtain results giving similar and robust interpretation.

contemporary accounting literature (e.g. Bernard et al., 2021). There are no reforms of the same kind in or around 2011 in the US. This gives a perfect “isolation” opportunity for those US listed firms from the introduction of the Plan for Growth in the UK. Focusing on the period from 2003 to 2019, I use Compustat and BoardEx databases and construct the equivalent of my original data set, this time with the US listed firms. The observations in the US Dollar are converted to the GBP using the relevant end-of-year exchange rates. This US-based dataset is merged to the original UK-based dataset where UK listed firms as the target group are propensity score-matched yearly to the US listed firms i.e., the control group, as their nearest neighbour (max two firms) using 2-digit SIC codes, firm size, leverage, cash ratio, M/B, and SigmaCFO. Same control firm is allowed to match different target firms. The parallel trends assumption also holds for this matched sample. In this final sample, there are 1,162 target and 1,743 control firms.

*Target* dummy represents the target (i.e. the UK) firms. I examine whether the UK reform in 2011 signalling a weakened external monitoring environment increase abnormal accruals in the UK listed firms compared to their US peers. This argument is denoted by the interaction term *Target*×*Post* as the main explanatory variable. Economic factors, year and firm fixed effects are included. *Target* and *Post* are binary variables in this model and hence, they are subsumed by fixed effects. Standard errors are clustered by firms.

*AccrDDadj* and *AccrJ* increase by 0.7% and 1.4%, respectively, after the introduction of the Plan for Growth in the UK, suggested by the statistically significant and positive coefficients for *Target*×*Post* in Table 5. Incentivized by the deregulatory nature for business growth of the reform, the UK companies manage earnings upward more in the post period as growth *expectations* increase. I obtain similar findings with the time fixed effects. Overall, they suggest a possible causality between weaker monitoring, relaxed standards to foster business growth, and high earnings management as an unintended consequence of this reform.

[Insert Table 5 Here]

## 6. Robustness Checks

### 6.1 Placebo Tests

In this paper, I argue that the encouragement of business growth coupled with a deregulatory environment has incentivized opportunistic managers to manage earnings to meet the growth targets. One can argue that the introduction of the Plan for Growth is a consequence of the financial crisis. Thus, it is unlikely to be exogenous and might be capturing the effect of the recovery of the economy. To alleviate such concerns, I conduct four analyses. The main model is kept the same but the shock-year is moved either 1-year (3-year) forward or 1-year (3-year) backward. Any statistically significant estimates for *Post* would then suggest that there are other “shocks” or economic recovery driving the results. Table 6 shows robust results for *Post* in various placebo tests. Statistically insignificant findings signify the validity of the deregulation in 2011 as the only exogenous shock in the sample period. There are not any other trends or shocks that lead to increased earnings management in firms.

[Insert Table 6 Here]

### 6.2 Alternative Measures

I conduct analyses with accrual-based earnings management variables. In further tests, I use real earnings management measures. Following Roychowdhury (2006), Cohen and Zarowin (2010), and Tosun and Senbet (2019), I construct *RealCFOper*, *RealProd*, and *RealDiscExp* as abnormal values of cash flow from operations, production cost, and discretionary expenses, respectively. Moreover, *REM1* and *REM2* are calculated as the sum of abnormal values of production cost and discretionary expenses, and the sum of abnormal values of cash flow from operations and discretionary expenses, respectively. I replace *AccrDDadj* and *AccrJ.* in Equation (3) with these new dependent variables and test the validity of the original findings.

Statistically significant and positive estimates for *Post* in Table 7 indicate that *RealCFOper*, *RealProd*, *RealDiscExp*, *REM1*, and *REM2* increase by 1.2%, 2.4%, 2.4%, 4.2%, and 2.7%, respectively, after the Plan for Growth. These findings are in line with the original results and suggest an increase in earnings management in firms when monitoring by the government weakens signalled by the relaxation of requirements in 2011.

**[Insert Table 7 Here]**

### *6.3 Further Justifications*

I argue that the Plan for Growth creates an optimistic and less regulated external environment that incentivizes managers to manage earnings upwards and hit the growth targets increased by higher *expectations* due to the nature of this deregulation. Such weakened external monitoring also exacerbates this phenomenon. The results from Table IA.1 support this argument. Particularly, more analysts per firm provide forecasts on capital expenditure (CAPEX) after the 2011 reform, and the number of their forecast revisions per firm also increases from 1.8 to 3.8 on average, indicating increased interest and *expectations* on firms' growth. There are also more upward revisions after the deregulation. In untabulated tests, I obtain similar findings by normalizing these measures by the total number of analysts per firm. Lastly, the higher number of firms with CAPEX forecasts exceeding the actual CAPEX value after the 2011 reform is also proven statistically significant. Data from Office for Budget Responsibility (2021) in Table IA.1 indicate that the revisions on real GDP growth are mostly negative before the publication of the Plan for Growth in 2011 while they flip to positive revisions afterwards, providing suggestive evidence for how this deregulation may have increased the growth *expectations* in the UK.

To further examine the motivation of opportunistic managers to manage earnings and use their reporting discretion more optimistically when the external monitoring weakens, I conduct additional analyses. Following Stubben (2010), I measure financial reporting quality

through *Discretionary Revenues* as the residuals from the following cross-sectional regression estimated for each year and for firms in a two-digit Standard Industrial Classification (SIC) industry code with at least 10 firms:

$$\Delta\text{Receivables}_{i,t} = \alpha + \beta_1 \Delta\text{Revenues}_{i,t} + \varepsilon_{i,t} \quad (4)$$

where  $\Delta\text{Receivables}_{i,t}$  and  $\Delta\text{Revenues}_{i,t}$  denote the first differences in accounts receivables and revenues for firm  $i$  in year  $t$ , respectively. Replacing the earnings management measures in main analyses with *Discretionary Revenues* provides a statistically significant and positive result for *Post* in Panel A of Table 8. After the relaxation of requirements, managers use higher discretion in reporting revenues to match higher growth targets. This explanation is also supported by the findings from logit and logistic regressions in Panel A. Particularly, it is 1.27 times more likely after the Plan for Growth that analyst forecasts on earnings per share (EPS) for a firm to exceed its actual EPS value, as another indication of growth *expectations*.

**[Insert Table 8 Here]**

Lastly, I create subsamples by identifying firms in industries with high and low growth *expectations*. For each year, firms are allocated to one of these subsamples if they operate in an industry that is below or above median value of industry growth *expectation* of that year across all industries. Obtaining the data from I/B/E/S database, growth *expectations* are measured by 1) the number of analysts forecasting on firms' capital expenditures (*# of Analysts on CAPEX*), 2) a dummy equal to one if the analyst forecast on CAPEX for a firm exceeds its actual CAPEX value (*Exceeding CAPEX Forecast*), and 3) the number of revised CAPEX forecasts by those analysts (*# of Forecast Revisions*). In Panel B of Table 8, I repeat the main analysis using these subsamples<sup>5</sup>. Abnormal accruals, i.e. *AccrDDadj*, increase between 1.4%

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<sup>5</sup> I obtain robust results also for *AccrJ* and when I construct the subsamples through *# of Upward Revisions* as a growth expectation measure.

and 1.6% after the implementation of the Plan for Growth but only for firms operating in industries with higher growth *expectations*. As the external monitoring on firms weakens and *expectations* on business growth increase, opportunistic executives manage earnings upwards to hit those growth targets. Overall, these results confirm the justifications explaining the main findings in this paper.

#### 6.4 Alternative Explanations

An alternative explanation for the findings in this paper is that, following the new act, firms could have more *actual* growth and investment as it is easier to do business, and this might have triggered them to manage more earnings to attract more investors. Relatedly, past and current firm growth might be correlated with earnings management (e.g., Collins et al., 2017), therefore it could be the case that the findings capture just higher *actual* firm growth because of the actions taken by the UK government to foster growth and not earnings manipulation. Lastly, because of accrual reversals it could be the case that firms with negative accruals one year will more likely have positive accruals the next year. Hence, prior level of earnings management could be driving the results.

To examine such alternative explanations, I compare measures of *actual* growth before and after the 2011 reform in Table IA.1 of Internet Appendix. Interestingly, *Capex/Assets* and *(Capex + R&D)/Assets* decrease significantly after the introduction of the Plan for Growth in the UK while the change in *Sales Growth* is statistically insignificant. These findings suggest that there are not more growth or investment in the post-reform period, and thus, they cannot explain higher earnings management. Next, I repeat the main regression analyses by introducing *Post×Growth* interaction variable to capture any potential influence of *actual* growth after the 2011 reform on abnormal accruals. To control for the effect of past firm growth and accrual reversals, I include *AccrDDadj-lagged*, *AccrJ-lagged*, and *Growth-lagged* as the

prior-year levels of associated variables in the model. Table 9 gives the results. In Columns I and III, *Post* $\times$ *Growth* has statistically insignificant coefficients, confirming that the findings do not capture higher *actual* firm growth in post-reform period. Combined with similar insignificant results for *Growth-lagged*, these findings verify that neither past nor current *actual* growth can explain the upward earnings management after the 2011 reform. Lastly, significantly negative coefficients of *AccrDDadj-lagged* and *AccrJ-lagged* suggest past accruals' influence on earnings management. However, *Post* has even stronger coefficients i.e., 1.3% and 1.4%, respectively, once past accruals are controlled. Hence, I conclude that prior level of accruals does not disqualify the relation between the introduction of the Plan for Growth and upward earnings management.

[Insert Table 9 Here]

## 7. Further Analyses

Finance (32%) and services (23%) sectors constitute about half of the sample. To ensure that the results are not driven by these major industries, I repeat the main analyses by excluding these sectors. Table IA.2 in Internet Appendix provides statistically significant and positive results in Columns I and III. Similar robust results are obtained even after excluding both finance and services industries. Overall, the findings are robust to industry specifications.

It can be argued that various other events between 2003 and 2019 might have influenced the results. Companies Act 2006 has reformed company law in the UK through several enactments relating to firms. Moreover, Growth and Infrastructure Act 2013 has set out reforms intended to reduce government restrictions that potentially hampers business investment, new infrastructure, and job creation. Furthermore, the UK government has made additional changes in company registration process in 2016 including the compulsory disclosure of owner's name. Overall, these significant changes in regulations and reporting requirements might have affected firms' intentions to engage in earnings management. Moreover, the impact

of the change in regulation in 2011 could have faded off towards the end of 8-year post period. In fact, Baik et al. (2011) show that the governance mechanisms within the companies respond fairly quickly to such weakened external governance. Thus, any effect by this deregulation may not be long-lasting. To provide a cleaner analysis and mitigate the possible effects of other regulatory changes, I repeat the main test using a concentrated period. Specifically, I conduct the analysis for two different periods, i.e. +/- five years and two years around the reform. Table IA.3 reveals that firms increase earnings management from 1.2% to 1.7% after the Plan for Growth in 2011. Upward earnings management is evident after relaxation of regulatory requirements even for a shorter time span e.g., +/- two years around the reform. Other events in the original time frame do not drive the findings.

In this study, I argue the importance of weakened monitoring environment in higher earnings management in firms. A natural question is whether there are other governance measures that can mitigate this effect. Dyck et al. (2010) and Hass et al. (2015) show the relation between CEO pay (gap) and accounting fraud. Wang et al. (2019) discuss the positive effect of good external governance by institutional investors, particularly mutual funds, on accounting quality. Burns et al. (2010) argue that concentrated institutional ownership induces greater monitoring and mitigates the incentives for firms to misreport. Ines (2017) shows that stronger internal monitoring by an independent Board decreases discretionary accruals. Following these studies I construct: *Independence* as the proportion of outside directors on the Board; *B.tenure* is the mean tenure of directors on the Board; *CEOPaygap* as natural logarithm of the difference between the total CEO pay and the mean of all directors' total pay; *CEOPay* as total CEO Pay in million GBP; *InstOwnership* as proportion of shares owned by institutional investors; and *HHI* as herfindahl index for institutional ownership concentration. The interaction between *Post* and each of these measures denotes potential influence of such governance factors after the deregulation in 2011 on earnings management in firms. Table IA.4

provides interesting results. As expected, the interaction variables of *Post* and governance measures have statistically insignificant coefficients since these firms presumably have solid monitoring and controls already in place, reducing firms' opportunities to engage in earnings management. These findings confirm the intuition of the paper that firms manage earnings when monitoring weakens. While *Independence*, *CEOPaygap*, *InstOwnership*, and *HHI* have no impact on earnings management, Board tenure reduces abnormal accruals in that period. Boards with more tenured directors provide stronger internal monitoring that disincentivizes opportunistic managers to engage in earnings management after the Plan for Growth in 2011. However, significant and positive result for  $Post \times CEO\ pay$  implies that higher total CEO remuneration intensifies the relation between earnings management and the deregulation in 2011. Such emboldened CEOs take advantage of the deregulation and use more earnings management to create a perception of growth prospect for their firms.

An extended analysis could examine whether this deregulatory environment may increase the "probability" of such unethical accounting practices. I run logit and logistic regressions using a similar model in Equation (3) where I replace the dependent variables with dummy variables of *AccrDDadj* and *AccrJ*, that are equal to one if the associated accrual measure is greater than zero, and zero otherwise. Table IA.5 indicates that *Post* has statistically significant and positive coefficients. Considering the odds ratios in Columns III and IV, firms are about 1.26 times more likely to have positive abnormal accruals and manage earnings to hit the growth targets as *expectation* of growth increases after the reform. Weaker external monitoring settings increase the likelihood of unethical accounting practices, such as earnings management.

Chen et al. (2018) argue that the construction of discretionary accruals is unreliable and this two-step procedure generates biased coefficients and standard errors that can lead to incorrect inferences. They suggest to estimate the coefficients for all the model regressors in a

single-, as opposed to two-step regression. Following their approach, I conduct a single regression using the model in Equation (1) where I include a set of industry-year indicator variables and their interactions with each of those first-step regressors in Equation (1). The residuals from this new regression analysis produce the new variable *AccrDDadj*. I repeat the same exercise with Equation (2) to obtain the new *AccrJ*. I conduct the main analysis with Equation (3) incorporating these new measures of earnings management. Robust results in Table IA.6 show an increase in *AccrDDadj* and *AccrJ* by 0.8% and 0.9%, respectively, after the introduction of the Plan for Growth in the UK. These findings confirm the robustness of the original results.

I investigate further whether such higher growth *expectations* and weakened monitoring environment by relaxed requirements in 2011 can lead to other potentially unethical accounting practices. Although it does not necessarily imply accounting fraud, tax avoidance may suggest that such firms are susceptible to engage in unethical accounting procedures. Moreover, audit reports classified other than “unqualified” may signal potential accounting malpractices in firms. Following Chen et al. (2010) and Zimmerman (1983), I define effective tax rates *ETR1* and *ETR2* as tax expenses over accounting income before tax and income tax expense over operating cash flow, respectively. Furthermore, I construct ETR differential measure of tax avoidance, i.e. *DTAX1* and *DTAX2*, using the discretionary permanent difference developed by Frank et al. (2009). Lastly, I define *Audit* as a dummy equal to one if the audit report is classified other than “unqualified”, and zero otherwise. I use logit and logistic regressions for *Audit* as binary dependent variable keeping the right hand-side variables in Equation (3) the same. I replace *AccrDDadj* and *AccrJ* in Equation (3) with the measures of tax avoidance for the remaining analyses. In Table IA.7, negative coefficients of *ETR1* and *ETR2* suggest that after declined monitoring conditions signalled by reduced regulations, firms have 3-4% less effective tax rates. Companies start to report less tax expenses keeping accounting income and

cash flow constant. Further, they have about 1% more tax avoidance in the same period. Odds ratio results for *Audit* imply that firms have 1.58 times more likely to have audit reports classified other than “unqualified”. Overall, these findings are consistent with the original results, and they provide suggestive evidence that potentially unethical accounting practices increase when the government eases rules to stimulate growth in 2011.

I argue that weakened monitoring conditions to foster business growth in 2011 might incentivize opportunistic firms to engage in “actual fraudulent practices”. The results already show that firms manage more earnings upward and engage in unethical accounting procedures in that period. To investigate this conjecture further, I hand-collect official records on corporate fraud in the UK from police records and Action Fraud records between 2003 and 2019. They are cross-checked with the records in CIFAS and UK Finance. Total Magistrate and Crown Court cases on corporate fraud in the UK are hand-collected from various websites including Ministry of Justice, Libra Management Information System, HMCTS CREST System, Justice Statistics Analytical Services, and Government Research and Statistics. Moreover, I hand-collect data on disqualified directors of firms operating in the UK from Companies House website from 2006 (due to availability). All these measures are normalised by the total number of firms per year. Figure IA.2 in Internet Appendix shows that corporate fraud per firm starts to increase sharply from 2011 according to the police and Action Fraud records. This trend of increase in fraud brings the records from 0.075 in 2010 to 0.250 in 2019. Considering total Magistrate and Crown Court cases on corporate fraud, I have a similar distribution. The number of disqualified directors per firm also rises exponentially from 0.2 in 2010 to 1.1 by 2019. These findings imply an overall increase in fraud in corporations starting 2011 that overlaps with the weaker external monitoring conditions signalled by eased regulatory requirements at that time. Next, I conduct time-series regression analyses to examine this association further where the measures for corporate fraud are regressed on *Post* dummy along with economic

factors and firm based control variables in previous analyses. These control variables are adjusted by taking the mean values per year. Positive estimates for *Post* in Table IA.8 support the findings in Figure IA.2. There is a link between increased fraud in firms and weakened monitoring environment in 2011. This interesting finding encourages scholars to conduct further detailed research on this topic.

Despite unintended consequences, e.g. the increase in earnings management, I study whether the Plan for Growth and relaxed standards in 2011 helped business actually to grow in the UK as it was originally projected. I collect data on newly registered firms per year from FAME. I include only active UK firms and exclude ones without data on total assets or UK SIC code. In Figure IA.3, the number of new firm registrations starts to increase in 2011 after a stable period with around 8,000 new firms per year. The extreme jump in new firms in 2016 may be explained with additional changes made by the government in company registration process including the compulsory disclosure of owner's name. Nevertheless, this figure provides suggestive evidence for the intended effect of the reform in 2011. In Table IA.9, the T-Test analysis where I compare the mean values of new company registration before and after 2011 indicates about 81,000 more firm registrations in the post period.<sup>6</sup> Additionally, I conduct a time series regression analysis where I regress *# of New Firms* as the total number of newly registered firms in Companies House in millions per year, on *Post* and macro-economic factors, i.e. unemployment rate and GDP growth. The result in Table IA.9 implies that number of new firms increases by about 80,000 after relaxation of regulatory requirements in 2011. Overall, these findings suggest that the Plan for Growth stimulates new businesses, despite unintended outcomes i.e., higher earnings management.

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<sup>6</sup> In untabulated analysis, I have similar interpretations when I exclude the period starting 2016 to eliminate any influence by the extreme spike at that time.

## **8. Conclusion**

I study whether softer monitoring environment signalled by the deregulation in 2011 is associated with higher earnings management in firms. I conjecture that such deregulation to promote growth in businesses can lead to an overall perception of weakened monitoring by the government which then unintentionally incentivizes companies to manage earnings upward to hit the growth targets as the *expectation* of growth increases due to the Plan for Growth. Examining 1,366 publicly listed UK firms from 2003 to 2019, I find that abnormal accruals increase by about 1% after the introduction of the Plan for Growth. The results stay robust to exclusion of big industries and other regulatory changes, e.g. Companies Act 2006 and amendments in registration process in 2016. Placebo tests and difference-in-difference analyses suggest causality between increased earnings management and relaxed regulatory requirements. Examining alternative explanations, I find that neither accrual reversals nor past and current *actual* growth drive the results. However, additional tests confirm higher growth *expectations* after 2011 and associated severe earnings management in firms. I further show that increased tax avoidance in that post period imply potentially unethical accounting practices increase after the deregulation in 2011. Consistent with the original findings, I provide evidence for an increase in actual corporate fraud in official police records and court cases, as well as, more directors being disqualified per year when government monitoring of businesses is weakened signalled by relaxed regulations.

This paper contributes to earnings management literature by providing insight into unintended consequences of government (de)regulations in respect to earnings management. This study has various implications. Companies can rely on these suggestions while deciding on their accounting practices. More importantly, these findings can provide guidance in the design of future regulatory changes and their possible unforeseen outcomes. Corporate financial decision makers can pre-assess potential negative impact of such proposed

amendments on businesses based on the relation between external monitoring and earnings management, I discuss in this paper.

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33

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## Tables and Figures

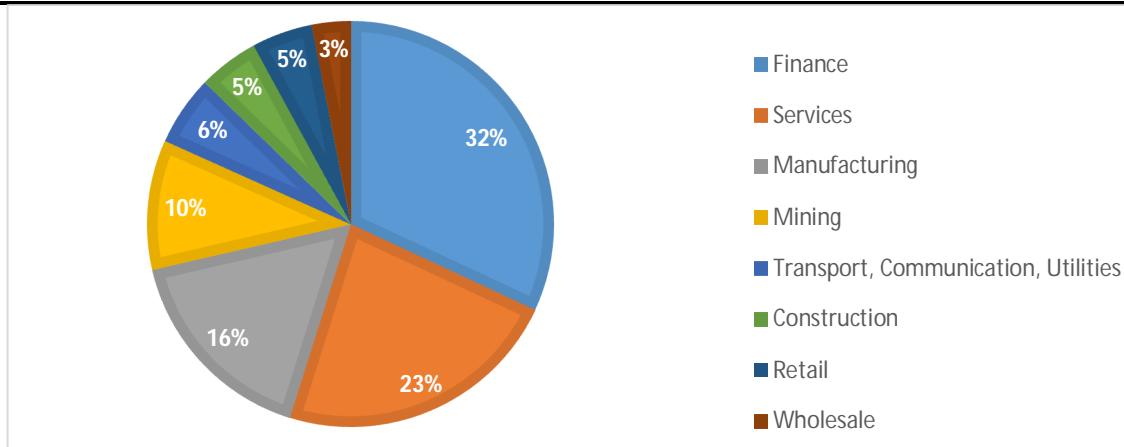
**Table 1: Descriptive Statistics**

This table gives descriptive statistics for whole sample and periods representing before and after introduction of the Plan for Growth in 2011 separately. The mean, median, and standard deviation of the variables in the main analyses are provided in Panel A. Panel B gives the industry distribution in the sample. Overall, there are 1,366 firms with 15,315 firm–year observations. Variable definitions are given in Table A.1, Appendix.

**Panel A: Descriptive Statistics**

	Whole Sample			Before the 2011 Reform			After the 2011 Reform		
	Mean	Median	StDev	Mean	Median	StDev	Mean	Median	StDev
AccrDDadj	0.001	0.002	0.160	-0.004	0.000	0.169	0.004	0.003	0.153
AccrJ	-0.001	0.000	0.178	-0.005	-0.002	0.186	0.002	0.001	0.172
FirmSize	11.094	11.109	2.749	10.837	10.840	2.776	11.258	11.277	2.720
FirmSize (£Bill.)	2.640	0.067	14.800	2.510	0.051	14.900	2.720	0.079	14.800
SigmaCFO	0.136	0.033	0.506	0.139	0.035	0.502	0.135	0.032	0.508
Intangible	0.017	0.003	0.071	0.016	0.002	0.069	0.018	0.003	0.073
IntIntensity	0.807	1.000	0.394	0.706	1.000	0.455	0.872	1.000	0.334
Tangibility	0.131	0.025	0.208	0.144	0.033	0.216	0.123	0.020	0.202
Leverage	0.154	0.067	0.227	0.156	0.068	0.224	0.153	0.067	0.230
Growth	0.016	0.000	0.048	0.026	0.000	0.058	0.010	0.000	0.039
M/B	1.161	0.756	1.667	0.952	0.631	1.488	1.294	0.813	1.759
InventoryRatio	0.060	0.000	0.121	0.065	0.000	0.126	0.057	0.000	0.118
CashRatio	0.167	0.079	0.219	0.168	0.073	0.226	0.167	0.081	0.215
ROA	-0.090	0.019	0.441	-0.073	0.024	0.429	-0.100	0.017	0.448
FirmAge	2.730	2.708	1.126	2.649	2.485	1.196	2.781	2.773	1.076
FirmAge (years)	26.799	14.000	32.123	26.829	11.000	33.242	26.780	15.000	31.388
InstOwnership	0.314	0.168	0.345	0.217	0.033	0.314	0.376	0.291	0.350
CEOOwnership	0.002	0.000	0.012	0.001	0.000	0.012	0.002	0.000	0.013
CEOPaygap	0.010	0.012	0.004	0.009	0.011	0.005	0.011	0.012	0.004
Independence	0.255	0.222	0.206	0.296	0.273	0.218	0.229	0.200	0.194

**Panel B: Industry Distribution**



**Table 2: Main Regression Analyses with Abnormal Accruals**

This table presents regression analysis estimates for *Post* along with *FirmSize*, *SigmaCFO*, *Intangible*, *IntIntensity*, *Tangibility*, *Leverage*, *Growth*, *M/B*, *InventoryRatio*, *CashRatio*, *ROA*, *FirmAge*, *InstOwnership*, *CEOOwnership*, *CEOPaygap*, and *Independence* as control variables. A constant is included in the regression, but is not reported in this table for brevity. The dependent variables are *AccrDDadj* and *AccrJ*, i.e. abnormal accrual measures following the modified models by Dechow and Dichev (2002) and Jones (1991), respectively. *Post* is a dummy that is equal to one for years starting with the 2011 Reform, and zero before 2011. Variable definitions are available in Table A.1, Appendix. Macro-economic factors and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

	AccrDDadj				AccrJ			
	I	II	III	IV	V	VI	VII	VIII
Post	0.010*** (0.002)	0.009*** (0.003)	0.009*** (0.004)	0.009*** (0.004)	0.008*** (0.003)	0.007** (0.004)	0.011*** (0.004)	0.010*** (0.004)
FirmSize		0.005 (0.003)	-0.008** (0.004)	-0.009** (0.004)		0.006 (0.004)	-0.006 (0.004)	-0.008* (0.004)
SigmaCFO		-0.002 (0.010)	0.019* (0.010)	0.017* (0.010)		-0.014 (0.011)	0.008 (0.010)	0.006 (0.011)
Intangible		-0.046 (0.031)	0.018 (0.031)	0.016 (0.031)		-0.013 (0.037)	0.053 (0.037)	0.050 (0.036)
IntIntensity		-0.010* (0.006)	-0.012** (0.006)	-0.011* (0.006)		-0.018*** (0.007)	-0.020*** (0.007)	-0.019*** (0.007)
Tangibility		-0.052*** (0.017)	-0.061*** (0.018)	-0.060*** (0.018)		-0.049** (0.019)	-0.063*** (0.021)	-0.060*** (0.021)
Leverage			0.028* (0.016)	0.029* (0.016)			0.021 (0.018)	0.023 (0.017)
Growth			-0.036 (0.039)	-0.034 (0.039)			-0.022 (0.044)	-0.019 (0.045)
M/B			0.004*** (0.001)	0.004*** (0.001)			0.007*** (0.002)	0.007*** (0.002)
InventoryRatio			0.161*** (0.055)	0.159*** (0.055)			0.191*** (0.059)	0.190*** (0.058)
CashRatio			-0.093*** (0.019)	-0.094*** (0.019)			-0.120*** (0.022)	-0.121*** (0.022)
ROA			0.0989*** (0.008)	0.0991*** (0.008)			0.101*** (0.008)	0.101*** (0.009)
FirmAge			0.011* (0.006)	0.011* (0.006)			0.002 (0.007)	0.002 (0.007)
InstOwnership				0.005 (0.006)				0.011 (0.007)
CEOOwnership				-0.217** (0.096)				-0.183* (0.110)
CEOPaygap				-0.168 (0.650)				-0.196 (0.742)
Independence				0.004 (0.013)				-0.001 (0.014)
Econ Factors	YES	YES	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Observations	17,353	15,335	15,335	15,315	17,353	15,335	15,335	15,315
Adj. R <sup>2</sup>	0.001	0.003	0.043	0.043	0.001	0.004	0.041	0.040

**Table 3: Difference-in-Difference Model Using Past Abnormal Accruals**

This table presents the difference-in-difference analysis estimates for the interaction between *Target* and *Post* along with control variables. A constant is included in the regression, but is not reported in this table for brevity. The dependent variables are *AccrDDadj* and *AccrJ*, i.e. abnormal accrual measures following the modified models by Dechow and Dichev (2002) and Jones (1991), respectively. *Target*×*Post* is the main explanatory variable. *Post* is a dummy that is equal to one for years starting with the 2011 Reform, and zero before 2011. If a firm has negative (positive) abnormal accrual value for 2009 and 2010, then it is identified as a target (control) firm. Target firms are also PSM-matched to control firms as their nearest neighbour (max 2 firms) using 2-digit SIC codes, firm size, leverage, cash ratio, M/B, and SigmaCFO. *Target* equals to one for target firms, and zero otherwise. Variable definitions are available in Table A.1, Appendix. Economic factors, year and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

	<b>AccrDDadj</b>	<b>AccrJ</b>	<b>AccrDDadj</b>	<b>AccrJ</b>
	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
Post × Target	0.019*** (0.004)	0.023*** (0.004)	0.030*** (0.006)	0.041*** (0.008)
FirmSize	-0.008** (0.004)	-0.007* (0.004)	-0.007** (0.004)	-0.005 (0.004)
SigmaCFO	0.015 (0.010)	0.006 (0.011)	0.016 (0.010)	0.007 (0.011)
Intangible	0.028 (0.031)	0.050 (0.037)	0.028 (0.031)	0.048 (0.037)
IntIntensity	-0.012** (0.006)	-0.019*** (0.006)	-0.013** (0.006)	-0.019*** (0.006)
Tangibility	-0.049*** (0.018)	-0.045** (0.021)	-0.052*** (0.018)	-0.049** (0.022)
Leverage	0.041** (0.017)	0.033* (0.018)	0.040** (0.017)	0.031* (0.019)
Growth	-0.034 (0.040)	-0.022 (0.045)	-0.026 (0.041)	-0.015 (0.046)
M/B	0.005** (0.002)	0.007*** (0.002)	0.005** (0.002)	0.007*** (0.002)
InventoryRatio	0.167*** (0.055)	0.197*** (0.059)	0.168*** (0.055)	0.197*** (0.059)
CashRatio	-0.090*** (0.020)	-0.115*** (0.024)	-0.090*** (0.020)	-0.115*** (0.024)
ROA	0.103*** (0.009)	0.105*** (0.009)	0.103*** (0.009)	0.104*** (0.009)
FirmAge	0.005 (0.006)	-0.005 (0.006)	0.009 (0.006)	0.002 (0.007)
InstOwnership	0.005 (0.006)	0.009 (0.007)	-0.004 (0.007)	0.001 (0.008)
CEOOwnership	-0.167* (0.096)	-0.110 (0.108)	-0.161* (0.097)	-0.109 (0.108)
CEOPaygap	-0.272 (0.665)	-0.362 (0.760)	-0.226 (0.668)	-0.316 (0.764)
Independence	0.007 (0.013)	0.003 (0.014)	0.006 (0.013)	0.001 (0.015)
Econ Factors & Firm FE	YES	YES	NO	NO
Time & Firm FE	NO	NO	YES	YES
Observations	13,913	13,913	13,913	13,913
Adj. R <sup>2</sup>	0.046	0.044	0.049	0.047

**Table 4: Difference-in-Difference Model Using Business Life Cycle**

This table presents the difference-in-difference analysis estimates for the interaction between *Target* and *Post* along with control variables. A constant is included in the regression, but is not reported in this table for brevity. The dependent variables are *AccrDDadj* and *AccrJ*, i.e. abnormal accrual measures following the modified models by Dechow and Dichev (2002) and Jones (1991), respectively. *Target*×*Post* is the main explanatory variable. *Post* is a dummy that is equal to one for years starting with the 2011 Reform, and zero before 2011. If a firm operates in the introduction or growth (mature or decline) stage of their business life cycle, then it is identified as a target (control) firm. Target firms are also PSM-matched to control firms as their nearest neighbour (max 2 firms) using 2-digit SIC codes, firm size, leverage, cash ratio, M/B, and SigmaCFO. *Target* equals to one for target firms, and zero otherwise. Variable definitions are available in Table A.1, Appendix. Economic factors, year and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

	<b>AccrDDadj</b>	<b>AccrJ</b>	<b>AccrDDadj</b>	<b>AccrJ</b>
	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
Post × Target	0.010** (0.005)	0.014*** (0.005)	0.009** (0.005)	0.016*** (0.006)
FirmSize	-0.017*** (0.004)	-0.017*** (0.005)	-0.016*** (0.005)	-0.017*** (0.005)
SigmaCFO	-0.001 (0.019)	-0.018 (0.021)	0.001 (0.019)	-0.015 (0.021)
Intangible	-0.003 (0.037)	0.064 (0.045)	-0.004 (0.037)	0.063 (0.045)
IntIntensity	-0.008 (0.019)	-0.035 (0.022)	-0.008 (0.019)	-0.035 (0.022)
Tangibility	-0.100*** (0.025)	-0.109*** (0.025)	-0.103*** (0.025)	-0.112*** (0.025)
Leverage	0.001 (0.025)	-0.006 (0.026)	-0.001 (0.025)	-0.009 (0.026)
Growth	-0.154** (0.062)	-0.153* (0.079)	-0.165** (0.065)	-0.175** (0.080)
M/B	0.004** (0.002)	0.004* (0.002)	0.004* (0.002)	0.004* (0.002)
InventoryRatio	0.200*** (0.0773)	0.220** (0.086)	0.196** (0.077)	0.215** (0.087)
CashRatio	-0.102*** (0.028)	-0.133*** (0.033)	-0.103*** (0.028)	-0.134*** (0.033)
ROA	0.082*** (0.011)	0.080*** (0.012)	0.082*** (0.011)	0.081*** (0.013)
FirmAge	0.013* (0.007)	0.001 (0.008)	0.015* (0.008)	0.008 (0.010)
InstOwnership	0.011 (0.007)	0.017** (0.007)	0.008 (0.008)	0.017* (0.009)
CEOOwnership	-0.076 (0.090)	-0.012 (0.094)	-0.090 (0.090)	-0.034 (0.095)
CEOPaygap	0.695 (1.216)	1.002 (1.402)	0.751 (1.215)	1.191 (1.411)
Independence	-0.008 (0.015)	-0.005 (0.018)	-0.009 (0.016)	-0.008 (0.018)
Econ Factors & Firm FE	YES	YES	NO	NO
Time & Firm FE	NO	NO	YES	YES
Observations	8,402	8,402	8,402	8,402
Adj. R <sup>2</sup>	0.043	0.042	0.045	0.043

**Table 5: Difference-in-Difference Model with US Firms**

This table presents the difference-in-difference estimates for the interaction between *Target* and *Post* along with control variables. A constant is included in the regression, but is not reported in this table for brevity. The dependent variables are *AccrDDadj* and *AccrJ*, i.e. abnormal accrual measures following the modified models by Dechow and Dichev (2002) and Jones (1991), respectively. *Target*  $\times$  *Post* is the main explanatory variable. *Post* is a dummy that is equal to one for years starting with the 2011 Reform, and zero before 2011. A US equivalent of the original data set is constructed for the same period, this time with the US listed firms, i.e. the control group. The original U.K listed firms, i.e. the target group, are also PSM-matched to control firms as their nearest neighbour (max 2 firms) using 2-digit SIC codes, firm size, leverage, cash ratio, M/B, and SigmaCFO. *Target* equals to one for target firms, and zero otherwise. Variable definitions are available in Table A.1, Appendix. Economic factors, year and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

	<b>AccrDDadj</b>	<b>AccrJ</b>	<b>AccrDDadj</b>	<b>AccrJ</b>
	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
Post $\times$ Target	0.007** (0.003)	0.014*** (0.003)	0.008** (0.003)	0.008** (0.004)
FirmSize	-0.004 (0.003)	-0.003*** (0.001)	-0.004 (0.003)	-0.002 (0.003)
SigmaCFO	0.018* (0.010)	0.005 (0.008)	0.019** (0.010)	0.008 (0.010)
Intangible	0.010 (0.031)	0.068** (0.032)	0.011 (0.031)	0.043 (0.037)
IntIntensity	-0.012** (0.005)	-0.022*** (0.004)	-0.011** (0.005)	-0.015*** (0.005)
Tangibility	-0.086*** (0.016)	-0.034*** (0.006)	-0.091*** (0.016)	-0.104*** (0.018)
Leverage	0.029** (0.013)	0.028*** (0.009)	0.029** (0.013)	0.027** (0.013)
Growth	-0.071** (0.032)	-0.045 (0.029)	-0.069** (0.032)	-0.064* (0.036)
M/B	0.005*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.005*** (0.001)
InventoryRatio	0.096** (0.041)	0.045*** (0.011)	0.093** (0.041)	0.121*** (0.044)
CashRatio	-0.120*** (0.017)	-0.103*** (0.013)	-0.120*** (0.017)	-0.142*** (0.019)
ROA	0.090*** (0.008)	0.077*** (0.007)	0.090*** (0.008)	0.089*** (0.009)
FirmAge	0.005 (0.005)	-0.003* (0.002)	0.006 (0.005)	0.004 (0.006)
InstOwnership	0.006 (0.005)	-0.003 (0.003)	0.005 (0.005)	0.013** (0.006)
CEOOwnership	-0.099** (0.044)	-0.040 (0.039)	-0.097** (0.045)	-0.031 (0.043)
CEOPaygap	-0.016 (0.655)	-0.995** (0.462)	0.066 (0.659)	0.397 (0.651)
Independence	0.001 (0.005)	-0.013*** (0.005)	0.005 (0.009)	0.009 (0.010)
Econ Factors & Firm FE	YES	YES	NO	NO
Time & Firm FE	NO	NO	YES	YES
Observations	28,399	28,399	28,399	28,399
Adj. R <sup>2</sup>	0.034	0.035	0.036	0.037

**Table 6: Placebo Analyses**

This table presents regression analysis estimates for *Post* along with control variables. A constant is included in the regression, but is not reported in this table for brevity. Four different types of analyses are conducted. The model is kept the same but the shock-year is moved either 1-year (3-year) forward or 1-year (3-year) backward. The dependent variables are *AccrDDadj* and *AccrJ*, i.e. abnormal accrual measures following the modified models by Dechow and Dichev (2002) and Jones (1991), respectively. *Post* is a dummy that is equal to one for years starting with the shock-year, and zero otherwise. Variable definitions are available in Table A.1, Appendix. Economic factors and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

Shock-year is moved by:	AccrDDadj				AccrJ			
	1 Yr Fwd	3 Yr Fwd	1 Yr Bwd	3 Yr Bwd	1 Yr Fwd	3 Yr Fwd	1 Yr Bwd	3 Yr Bwd
	I	II	III	IV	V	VI	VII	VIII
Post	0.005 (0.004)	0.007 (0.005)	-0.008 (0.008)	-0.004 (0.009)	0.001 (0.004)	0.003 (0.007)	-0.007 (0.009)	-0.006 (0.011)
FirmSize	-0.008** (0.004)	-0.009** (0.004)	-0.009** (0.004)	-0.009** (0.004)	-0.007* (0.004)	-0.008* (0.004)	-0.008* (0.004)	-0.008* (0.004)
SigmaCFO	0.017* (0.009)	0.017* (0.009)	0.016* (0.008)	0.016* (0.008)	0.006 (0.010)	0.005 (0.011)	0.006 (0.011)	0.005 (0.011)
Intangible	0.015 (0.031)	0.015 (0.032)	0.017 (0.031)	0.018 (0.031)	0.049 (0.037)	0.052 (0.039)	0.051 (0.036)	0.052 (0.036)
IntIntensity	-0.010* (0.006)	-0.010* (0.006)	-0.012** (0.006)	-0.013** (0.006)	-0.017** (0.006)	-0.020*** (0.007)	-0.020*** (0.006)	-0.020*** (0.006)
Tangibility	-0.062*** (0.018)	-0.061*** (0.018)	-0.057*** (0.018)	-0.057*** (0.018)	-0.064*** (0.021)	-0.057*** (0.021)	-0.058*** (0.021)	-0.058*** (0.021)
Leverage	0.029* (0.016)	0.029* (0.016)	0.030* (0.016)	0.030* (0.016)	0.022 (0.017)	0.023 (0.019)	0.023 (0.017)	0.023 (0.019)
Growth	-0.035 (0.039)	-0.033 (0.039)	-0.027 (0.039)	-0.028 (0.038)	-0.022 (0.044)	-0.012 (0.04)	-0.013 (0.0448)	-0.014 (0.045)
M/B	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.007*** (0.002)	0.007*** (0.002)	0.007*** (0.002)	0.007*** (0.002)
InventoryRatio	0.158*** (0.055)	0.159*** (0.055)	0.161*** (0.055)	0.162*** (0.055)	0.188*** (0.060)	0.192*** (0.059)	0.192*** (0.059)	0.192*** (0.059)
CashRatio	-0.094*** (0.019)	-0.095*** (0.019)	-0.094*** (0.019)	-0.095*** (0.019)	-0.121*** (0.022)	-0.122*** (0.022)	-0.121*** (0.022)	-0.121*** (0.022)
ROA	0.099*** (0.008)	0.099*** (0.008)	0.099*** (0.008)	0.099*** (0.008)	0.100*** (0.009)	0.101*** (0.009)	0.101*** (0.009)	0.101*** (0.009)
FirmAge	0.014** (0.006)	0.014** (0.006)	0.007 (0.006)	0.006 (0.006)	0.008 (0.007)	-0.002 (0.007)	-0.001 (0.007)	-0.001 (0.007)
InstOwnership	0.007 (0.006)	0.006 (0.006)	0.001 (0.007)	0.002 (0.007)	0.014* (0.007)	0.008 (0.007)	0.007 (0.007)	0.008 (0.007)
CEOOwnership	-0.221** (0.095)	-0.224** (0.096)	-0.214** (0.096)	-0.212** (0.096)	-0.191* (0.110)	-0.180 (0.110)	-0.180 (0.110)	-0.179 (0.110)
CEOPaygap	-0.155 (0.650)	-0.153 (0.650)	-0.130 (0.651)	-0.147 (0.649)	-0.171 (0.742)	-0.178 (0.742)	-0.157 (0.743)	-0.172 (0.741)
Independence	0.003 (0.013)	0.003 (0.013)	0.007 (0.013)	0.007 (0.013)	-0.004 (0.014)	0.001 (0.014)	-0.001 (0.014)	0.001 (0.014)
Econ, Firm FE	YES							
Observations	15,315	15,315	15,315	15,315	15,315	15,315	15,315	15,315
Adj. R <sup>2</sup>	0.043	0.043	0.043	0.043	0.040	0.041	0.041	0.041

**Table 7: Analyses with Real Earnings Management**

This table presents regression estimates for *Post* along with *FirmSize*, *SigmaCFO*, *Intangible*, *IntIntensity*, *Tangibility*, *Leverage*, *Growth*, *M/B*, *InventoryRatio*, *CashRatio*, *ROA*, *FirmAge*, *InstOwnership*, *CEOOwnership*, *CEOPaygap*, and *Independence* as control variables. A constant is included in the regression, but is not reported in this table for brevity. The dependent variables are measures for real earnings management. Following Roychowdhury (2006), *RealCFOper*, *RealProd*, and *RealDiscExp* are calculated as abnormal values of cash flow from operations, production cost, discretionary expenses, respectively. Following Cohen and Zarowin (2010), *REM1* and *REM2* are constructed as the sum of abnormal values of production cost and discretionary expenses, and the sum of abnormal values of cash flow from operations and discretionary expenses, respectively. Variable definitions are available in Table A.1, Appendix. Economic factors and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

	<b>RealCFOper</b>	<b>RealProd</b>	<b>RealDiscExp</b>	<b>REM1</b>	<b>REM2</b>
	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>
Post	0.012** (0.005)	0.024*** (0.006)	0.024** (0.010)	0.042*** (0.016)	0.027*** (0.010)
FirmSize	-0.001 (0.005)	0.024*** (0.005)	0.013* (0.007)	0.005 (0.017)	-0.015 (0.011)
SigmaCFO	-0.058*** (0.013)	-0.016* (0.009)	0.120*** (0.024)	0.115*** (0.038)	0.058** (0.025)
Intangible	0.155** (0.061)	0.122*** (0.035)	-0.029 (0.088)	0.135 (0.117)	0.161** (0.076)
IntIntensity	-0.028*** (0.009)	-0.056*** (0.008)	-0.043** (0.019)	-0.078*** (0.027)	-0.049*** (0.017)
Tangibility	-0.060** (0.025)	-0.004 (0.024)	-0.007 (0.039)	-0.001 (0.066)	-0.058 (0.044)
Leverage	-0.014 (0.032)	-0.021 (0.019)	-0.101** (0.049)	-0.100 (0.070)	-0.089** (0.042)
Growth	0.010 (0.050)	-0.056 (0.042)	-0.068 (0.102)	-0.194 (0.135)	-0.150 (0.099)
M/B	0.016*** (0.003)	-0.004 (0.002)	-0.039*** (0.005)	-0.047*** (0.008)	-0.023*** (0.005)
InventoryRatio	0.167* (0.100)	0.410*** (0.088)	0.043 (0.096)	0.374** (0.188)	0.099 (0.101)
CashRatio	0.041 (0.027)	-0.023 (0.020)	-0.219*** (0.047)	-0.255*** (0.067)	-0.178*** (0.045)
ROA	-0.117*** (0.013)	-0.059*** (0.009)	0.213*** (0.023)	0.180*** (0.035)	0.111*** (0.023)
FirmAge	-0.022** (0.010)	-0.038*** (0.011)	0.064*** (0.011)	0.053* (0.029)	0.060*** (0.019)
InstOwnership	0.013 (0.008)	-0.019 (0.012)	-0.039** (0.019)	-0.041 (0.031)	-0.015 (0.019)
CEOOwnership	-0.069 (0.131)	0.047 (0.106)	-0.044 (0.209)	0.064 (0.269)	-0.074 (0.188)
CEOPaygap	1.153 (0.915)	-2.883*** (0.883)	-4.980*** (1.775)	-5.704** (2.559)	-2.458 (1.692)
Independence	-0.005 (0.024)	0.016 (0.024)	0.041 (0.039)	0.104 (0.064)	0.049 (0.041)
Econ Factors, Firm FE	YES	YES	YES	YES	YES
Observations	15,315	15,315	15,315	15,315	15,315
Adj. R <sup>2</sup>	0.063	0.034	0.063	0.045	0.036

**Table 8: Further Justifications through Discretionary Revenues and Growth Expectations**

This table presents regression analysis estimates for *Post* along with control variables. A constant is included in the regression, but is not reported in this table for brevity. *Post* is a dummy that is equal to one for years starting with the 2011 Reform, and zero before 2011. In Panel A, *Discretionary Revenues* is the dependent variable for the OLS fixed effects panel regression model, and it is calculated by following Stubben (2010). *Exceeding EPS Forecast*, the other dependent variable for logit and logistic regressions, is a dummy equal to one if the analyst forecast on earnings per share (EPS) for a firm has exceeded its actual EPS value, and zero otherwise. In Panel B, subsamples are constructed by identifying firms in industries with high and low growth expectations. For each year, firms are allocated to one of these subsamples if they operate in an industry that is below or above median value of industry growth expectation of that year across all industries. Growth expectations are measured by 1) the number of analysts forecasting on firms' capital expenditures (# of Analysts on CAPEX), 2) a dummy equal to one if the analyst forecast on CAPEX for a firm has exceeded its actual CAPEX value (*Exceeding CAPEX Forecast*), and 3) the number of revised CAPEX forecasts by those analysts (# of Forecast Revisions). Economic factors and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

**Panel A: Analyses with Discretionary Revenues and Analyst Forecasts on Earnings Per Share**

	Discretionary Revenues		Exceeding EPS Forecast	
			$\beta$	Odds Ratios ( $e^\beta$ )
	I	II	III	
Post	2.365*** (0.271)	0.238*** (0.069)		1.269***
Controls	YES	YES		YES
Econ Factors & Firm FE	YES	YES		YES
Observations	16,154	6,676		6,676
Adj / Pseudo R <sup>2</sup>	0.070	0.043		0.043

**Panel B: Subsample Analyses with Firms in Industries with Low vs High Growth Expectations**

Growth Expect. Measure:	# of Analysts on CAPEX		Exceeding CAPEX Forecast		# of Forecast Revisions	
	Low (below median)	High (above median)	Low (below median)	High (above median)	Low (below median)	High (above median)
	I	II	III	IV	V	VI
Post	-0.006 (0.008)	0.016** (0.007)	0.008 (0.006)	0.015** (0.006)	-0.003 (0.008)	0.014** (0.007)
Controls	YES	YES	YES	YES	YES	YES
Econ Factors & Firm FE	YES	YES	YES	YES	YES	YES
Observations	7,083	6,894	7,692	6,285	7,109	6,868
Adj / Pseudo R <sup>2</sup>	0.028	0.069	0.047	0.042	0.034	0.064

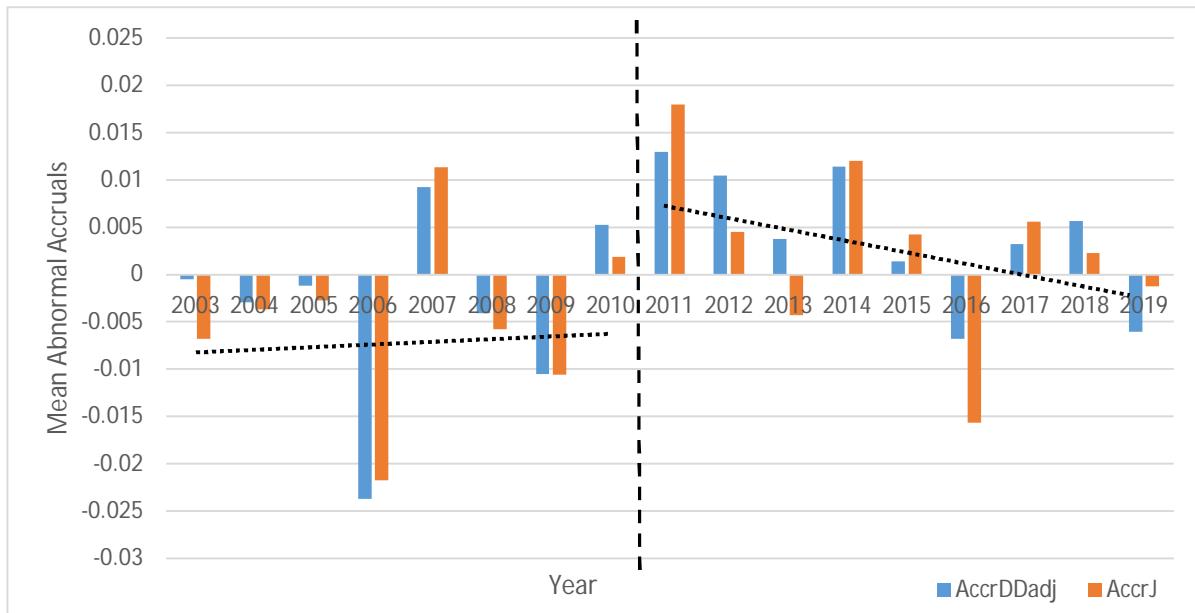
**Table 9: Analyses for Alternative Explanations**

This table presents regression estimates for *Post* along with *Post × Growth*, *AccrDDadj-lagged*, *AccrJ-lagged*, *Growth-lagged* and other control variables. A constant is included in the regression, but is not reported in this table for brevity. The dependent variables are *AccrDDadj* and *AccrJ*, i.e. abnormal accrual measures following the modified models by Dechow and Dichev (2002) and Jones (1991), respectively. *Post* is a dummy that is equal to one for years starting with the 2011 Reform, and zero before 2011. *Post × Growth* is the interaction between *Post* and *Growth*. *AccrDDadj-lagged*, *AccrJ-lagged*, and *Growth-lagged* are the prior year levels of associated variables as further controls. Variable definitions are available in Table A.1, Appendix. Macroeconomic factors and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

	AccrDDadj		AccrJ	
	I	II	III	IV
Post	0.008** (0.004)	0.013*** (0.004)	0.009** (0.004)	0.014*** (0.006)
Post × Growth	0.074 (0.076)		0.096 (0.087)	
AccrDDadj-lagged		-0.226*** (0.016)		
AccrJ-lagged				-0.239*** (0.015)
Growth-lagged	-0.020 (0.039)	-0.053 (0.039)	-0.006 (0.044)	-0.031 (0.043)
FirmSize	-0.009** (0.004)	-0.010*** (0.004)	-0.008* (0.004)	-0.009** (0.004)
SigmaCFO	0.017* (0.010)	0.008 (0.011)	0.006 (0.011)	-0.002 (0.012)
Intangible	0.017 (0.031)	0.021 (0.035)	0.052 (0.037)	0.056 (0.041)
IntIntensity	-0.012* (0.006)	-0.010 (0.007)	-0.020*** (0.007)	-0.017** (0.007)
Tangibility	-0.060*** (0.019)	-0.054*** (0.020)	-0.060*** (0.022)	-0.058** (0.023)
Leverage	0.030* (0.016)	0.024 (0.017)	0.022 (0.017)	0.014 (0.020)
Growth	-0.055 (0.046)	0.022 (0.044)	-0.052 (0.054)	0.033 (0.050)
M/B	0.005*** (0.002)	0.005** (0.002)	0.007*** (0.002)	0.008*** (0.002)
InventoryRatio	0.159*** (0.055)	0.182*** (0.058)	0.190*** (0.060)	0.235*** (0.061)
CashRatio	-0.095*** (0.019)	-0.092*** (0.021)	-0.121*** (0.023)	-0.126*** (0.025)
ROA	0.099*** (0.009)	0.100*** (0.009)	0.101*** (0.009)	0.101*** (0.009)
FirmAge	0.010 (0.006)	0.008 (0.007)	0.001 (0.007)	0.001 (0.008)
InstOwnership	0.005 (0.006)	0.004 (0.007)	0.011 (0.007)	0.012 (0.008)
CEOOwnership	-0.217** (0.097)	-0.179* (0.099)	-0.183* (0.110)	-0.131 (0.113)
CEOPaygap	-0.168 (0.650)	-0.181 (0.675)	-0.198 (0.742)	-0.194 (0.772)
Independence	0.004 (0.013)	0.009 (0.014)	-0.002 (0.014)	0.005 (0.016)
Econ Factors & Firm FE	YES	YES	YES	YES
Observations	15,315	15,315	15,315	15,315
Adj. R <sup>2</sup>	0.043	0.096	0.041	0.102

**Figure 1: Distribution of Abnormal Accruals**

This figure represents the distribution of abnormal accrals per year along with the dotted trend lines associated with each period. Abnormal accrals are given by  $AccrDDadj$  and  $AccrJ$ . Vertical dashed line indicates introduction of the Plan for Growth in 2011.



## Appendix

**Table A.1: Definition of Variables**

This table presents the description of the variables used in main analyses.

Variables	Description
<i>AccrDDadj</i>	I construct abnormal accruals following the model by Dechow and Dichev (2002) and the adjustment by McNichols (2002) and Francis et al. (2005). The following regression is estimated cross-sectionally for each year and for firms in a two-digit Standard Industrial Classification (SIC) industry code with at least 10 firms. $\frac{TCA_{i,t}}{TA_{i,t-1}} = \beta_0 \frac{1}{TA_{i,t-1}} + \beta_1 \frac{CFO_{i,t-1}}{TA_{i,t-1}} + \beta_2 \frac{CFO_{i,t}}{TA_{i,t-1}} + \beta_3 \frac{CFO_{i,t+1}}{TA_{i,t-1}} + \beta_4 \frac{\Delta Sales_{i,t}}{TA_{i,t-1}} + \beta_5 \frac{PPE_{i,t}}{TA_{i,t-1}} + \varepsilon_{i,t}$ where, $TCA_{i,t}$ is total accruals; $CFO_{i,t}$ is cash flows from operations; $PPE_{i,t}$ is the gross value of plant, property, and equipment; $TA_{i,t-1}$ is lagged total assets; and $\Delta SALES_{i,t}$ is the change in sales. All variables are winsorized at the 1st and 99th percentile levels to mitigate the issue of outliers. The estimated coefficients of this equation are then used to estimate the normal level of total accruals of firms. A firm's abnormal accruals are computed as the difference between the firm's actual total accruals and its estimated accruals.
<i>AccrJ</i>	I construct abnormal accruals following the modified model by Jones (1991). The following regression is estimated cross-sectionally for each year and for firms in a two-digit Standard Industrial Classification (SIC) industry code with at least 10 firms. $\frac{TCA_{i,t}}{TA_{i,t-1}} = \beta_0 \frac{1}{TA_{i,t-1}} + \beta_1 \frac{\Delta Sales_{i,t}}{TA_{i,t-1}} + \beta_2 \frac{PPE_{i,t}}{TA_{i,t-1}} + \varepsilon_{i,t}$ where, $TCA_{i,t}$ is total accruals; $PPE_{i,t}$ is the gross value of plant, property, and equipment; $TA_{i,t-1}$ is lagged total assets; and $\Delta SALES_{i,t}$ is the change in sales. All variables are winsorized at the 1st and 99th percentile levels to mitigate the issue of outliers. The estimated coefficients of this equation are then used to estimate the normal level of total accruals of firms. A firm's abnormal accruals are computed as the difference between the firm's actual total accruals and its estimated accruals.
<i>Post</i>	Dummy that is equal to one for years starting with the 2011 Reform, and zero otherwise.
<i>FirmSize</i>	Natural logarithm of total assets.
<i>SigmaCFO</i>	5-year rolling standard deviation of cash flow from operations, scaled by total assets
<i>Intangible</i>	Sum of R&D and advertising expenses over sales
<i>IntIntensity</i>	Indicator variable equal to one if <i>Intangible</i> is greater than zero, and zero otherwise.
<i>Tangibility</i>	Property, plant, and equipment over total assets.
<i>Leverage</i>	Sum of short-term and long-term debt over total assets.
<i>Growth</i>	Capital expenditures over total assets.
<i>M/B</i>	Total assets minus the book value of equity plus the market value of equity over total assets.
<i>InventoryRatio</i>	Inventory over total assets.
<i>CashRatio</i>	Cash over total assets.
<i>ROA</i>	EBIT over total assets.
<i>FirmAge</i>	Natural logarithm of a company's age.
<i>InstOwnership</i>	Proportion of shares owned by institutional investors.
<i>CEOOwnership</i>	Proportion of shares owned by the CEO.
<i>CEOPaygap</i>	Natural logarithm of the difference between the total CEO pay and the mean of all directors' total pay.
<i>Independence</i>	Proportion of outside directors on the Board.

## Internet Appendix

**Table IA.1: T-Test Analyses of Accruals, Growth, and Growth Expectation**

This table presents the T-Test analyses comparing the mean values of accrual, growth, and growth expectation measures, i.e. *AccrDDadj*, *AccrJ*, *Capex/Assets*, *(Capex+R&D)/Assets*, *Sales Growth*, *# of Analysts on CAPEX*, *Exceeding CAPEX Forecast*, *# of Forecast Revisions*, *# of Upward Revisions*, respectively, before and after the introduction of the Plan for Growth in 2011. The difference in accrual, growth, and growth expectation measures and p-values from the T-Tests are provided. The \*\*\* indicates statistical significance at the 1% level. The table also provides first estimates and revisions on real GDP growth from 2003 to 2019.

Accrual Measures	Before the 2011		After the 2011	
	Reform	Reform	Difference	p-value
AccrDDadj	-0.0035	0.0035	0.0071***	0.005
AccrJ	-0.0046	0.0024	0.0070**	0.013
<b>Growth Measures</b>				
Capex/Assets	0.026	0.010	-0.016***	0.000
(Capex+R&D)/Assets	0.034	0.023	-0.011***	0.000
Sales Growth	0.218	0.232	0.014	0.377
<b>Growth Expectation Measures</b>				
# of Analysts on CAPEX	3.200	4.545	1.345***	0.000
Exceeding CAPEX Forecast	0.601	0.634	0.033**	0.037
# of Forecast Revisions	1.823	3.844	2.021***	0.000
# of Upward Revisions	0.851	1.791	0.940***	0.000
<b>Revisions on Real GDP Growth Estimates (%)</b>				
Year	First Estimate	Revision		
2003	3.3	-0.3		
2004	2.3	0.1		
2005	3.0	-0.4		
2006	2.7	-0.1		
2007	2.4	-0.1		
2008	-0.3	0.0		
2009	-4.1	-0.1		
2010	2.1	0.1		
2011	1.3	0.2		
2012	1.4	0.0		
2013	2.2	-0.3		
2014	2.9	0.1		
2015	2.4	0.3		
2016	1.7	0.5		
2017	1.7	0.4		
2018	1.3	0.4		
2019	1.4	0.2		

**Table IA.2: Effect of Industries**

This table presents regression analysis estimates for *Post* along with *FirmSize*, *SigmaCFO*, *Intangible*, *IntIntensity*, *Tangibility*, *Leverage*, *Growth*, *M/B*, *InventoryRatio*, *CashRatio*, *ROA*, *FirmAge*, *InstOwnership*, *CEOOwnership*, *CEOPaygap*, and *Independence* as control variables. A constant is included in the regression, but is not reported in this table for brevity. Analyses are conducted by excluding top two industries in the sample, i.e. Finance and Service. The dependent variables are *AccrDDadj* and *AccrJ*, i.e. abnormal accrual measures following the modified models by Dechow and Dichev (2002) and Jones (1991), respectively. *Post* is a dummy that is equal to one for years starting with the 2011 Reform, and zero before 2011. Variable definitions are available in Table A.1, Appendix. Economic factors and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

Excluded Industries:	AccrDDadj		AccrJ	
	Finance	Finance & Service	Finance	Finance & Service
		I	II	IV
Post	0.010** (0.004)	0.044*** (0.010)	0.010** (0.005)	0.030*** (0.012)
FirmSize	-0.012*** (0.003)	-0.007 (0.004)	-0.011** (0.005)	-0.005 (0.005)
SigmaCFO	0.016 (0.010)	-0.003 (0.012)	0.003 (0.011)	-0.020 (0.016)
Intangible	0.017 (0.035)	-0.058 (0.042)	0.057 (0.041)	-0.029 (0.042)
IntIntensity	-0.007 (0.013)	0.001 (0.016)	-0.030* (0.015)	-0.015 (0.019)
Tangibility	-0.061*** (0.018)	-0.047*** (0.017)	-0.059*** (0.021)	-0.047** (0.020)
Leverage	0.009 (0.018)	0.013 (0.019)	0.004 (0.020)	0.002 (0.021)
Growth	-0.084 (0.065)	-0.170** (0.080)	-0.061 (0.075)	-0.161* (0.098)
M/B	0.004* (0.002)	0.002 (0.002)	0.006*** (0.002)	0.005 (0.003)
InventoryRatio	0.169*** (0.056)	0.089* (0.049)	0.215*** (0.062)	0.116** (0.056)
CashRatio	-0.078*** (0.022)	-0.058** (0.025)	-0.106*** (0.026)	-0.097*** (0.033)
ROA	0.098*** (0.009)	0.064*** (0.009)	0.098*** (0.009)	0.066*** (0.010)
FirmAge	0.010 (0.007)	0.010 (0.008)	-0.001 (0.008)	-0.004 (0.010)
InstOwnership	0.004 (0.006)	-0.015* (0.009)	0.008 (0.007)	-0.003 (0.010)
CEOOwnership	-0.152 (0.098)	-0.139 (0.104)	-0.089 (0.103)	-0.091 (0.112)
CEOPaygap	0.369 (0.973)	-0.883 (0.951)	0.745 (1.149)	-0.117 (1.281)
Independence	0.001 (0.017)	0.005 (0.017)	-0.002 (0.019)	-0.007 (0.020)
Econ Factors & Firm FE	YES	YES	YES	YES
Observations	10,496	7,010	10,496	7,010
Adj. R <sup>2</sup>	0.050	0.040	0.044	0.043

**Table IA.3: Shorter Time Period**

This table presents regression analysis estimates for *Post* along with *FirmSize*, *SigmaCFO*, *Intangible*, *IntIntensity*, *Tangibility*, *Leverage*, *Growth*, *M/B*, *InventoryRatio*, *CashRatio*, *ROA*, *FirmAge*, *InstOwnership*, *CEOOwnership*, *CEOPaygap*, and *Independence* as control variables. A constant is included in the regression, but is not reported in this table for brevity. Analyses are conducted for two different periods, i.e. +/- 5 years and 2 years around the reform. The dependent variables are *AccrDDadj* and *AccrJ*, i.e. abnormal accrual measures following the modified models by Dechow and Dichev (2002) and Jones (1991), respectively. *Post* is a dummy that is equal to one for years starting with the 2011 Reform, and zero before 2011. Variable definitions are available in Table A.1, Appendix. Economic factors and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

Time around the reform	AccrDDadj				AccrJ	
	+/- 5 years		+/- 2 years			
	I	II	III	IV		
Post	0.012*** (0.004)	0.016** (0.007)	0.014*** (0.005)	0.017** (0.007)		
FirmSize	-0.006 (0.004)	-0.033** (0.013)	-0.009* (0.005)	-0.036** (0.015)		
SigmaCFO	0.018 (0.012)	-0.006 (0.024)	0.002 (0.014)	-0.032 (0.031)		
Intangible	0.009 (0.040)	-0.103 (0.076)	0.045 (0.045)	-0.076 (0.074)		
IntIntensity	-0.017** (0.008)	-0.014 (0.015)	-0.030*** (0.009)	-0.023 (0.017)		
Tangibility	-0.080*** (0.028)	-0.214*** (0.070)	-0.075** (0.032)	-0.195** (0.082)		
Leverage	0.032 (0.021)	0.015 (0.047)	0.028 (0.024)	-0.022 (0.055)		
Growth	-0.051 (0.054)	-0.015 (0.157)	-0.039 (0.059)	-0.041 (0.174)		
M/B	0.007*** (0.002)	0.012* (0.006)	0.012*** (0.002)	0.017** (0.007)		
InventoryRatio	0.118 (0.078)	0.430*** (0.120)	0.198** (0.085)	0.575*** (0.161)		
CashRatio	-0.103*** (0.025)	-0.123*** (0.044)	-0.131*** (0.030)	-0.138** (0.059)		
ROA	0.099*** (0.010)	0.116*** (0.017)	0.107*** (0.011)	0.129*** (0.019)		
FirmAge	0.006 (0.009)	-0.008 (0.038)	0.001 (0.010)	-0.032 (0.041)		
InstOwnership	0.009 (0.009)	-0.001 (0.023)	0.008 (0.009)	0.031 (0.024)		
CEOOwnership	-0.221** (0.111)	-0.191 (0.159)	-0.124 (0.124)	-0.348* (0.178)		
CEOPaygap	-0.741 (0.817)	-0.092 (1.664)	-0.374 (0.939)	0.312 (1.907)		
Independence	0.023 (0.020)	0.061 (0.049)	0.011 (0.021)	0.055 (0.053)		
Econ Factors & Firm FE	YES	YES	YES	YES		
Observations	10,103	4,042	10,103	4,042		
Adj. R <sup>2</sup>	0.045	0.077	0.047	0.085		

**Table IA.4: Internal and External Governance**

This table presents regression estimates for *Post*, *Independence*, *B.Tenure*, *CEOPaygap*, *CEOPay*, *InstOwnership*, *HHI*, and the interaction of *Post* with those governance variables. *Independence* is the proportion of outside directors on the Board. *B.tenure* is the mean tenure of directors on the Board. *CEOPaygap* is natural logarithm of the difference between the total CEO pay and the mean of all directors' total pay. *CEOPay* is total CEO Pay in million GBP. *InstOwnership* is proportion of shares owned by institutional investors. *HHI* is herfindahl index for institutional ownership concentration. Variable definitions are available in Table A.1, Appendix. Controls, year and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

	AccrDDadj						AccrJ					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Post ×	-0.001						-0.004					
Independence	(0.011)						(0.013)					
Independence	0.007						0.001					
	(0.013)						(0.015)					
Post ×		-0.117*						-0.112*				
B.Tenure		(0.066)						(0.064)				
B.Tenure		-0.001						0.035				
	(0.069)							(0.048)				
Post ×			0.730						0.696			
CEOPaygap			(0.844)						(0.979)			
CEOPaygap			-0.403						-0.420			
			(0.696)						(0.777)			
Post ×				0.009***						0.007***		
CEOPay				(0.003)						(0.002)		
CEOPay				-0.008**						-0.008***		
				(0.004)						(0.002)		
Post ×					0.002						-0.002	
InstOwnership					(0.008)						(0.008)	
InstOwnership					-0.007						0.001	
					(0.009)						(0.010)	
Post × HHI						-0.010					0.002	
						(0.043)					(0.041)	
HHI						-0.022					-0.019	
						(0.036)					(0.033)	
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Time, Firm FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	15,315	15,306	15,315	15,315	15,315	15,315	15,315	15,306	15,315	15,315	15,315	15,315
Adj. R <sup>2</sup>	0.045	0.045	0.045	0.045	0.045	0.045	0.043	0.042	0.043	0.043	0.043	0.043

**Table IA.5: Probability of Abnormal Accruals**

This table presents logit and logistic regression estimates for *Post* along with *FirmSize*, *SigmaCFO*, *Intangible*, *IntIntensity*, *Tangibility*, *Leverage*, *Growth*, *M/B*, *InventoryRatio*, *CashRatio*, *ROA*, *FirmAge*, *InstOwnership*, *CEOOwnership*, *CEOPaygap*, and *Independence* as control variables. A constant is included in the regression, but is not reported in this table for brevity. The dependent variables are dummies of *AccrDDadj* and *AccrJ*, that are equal to one if the associated accrual measure is greater than zero, and zero otherwise. *Post* is a dummy that is equal to one for years starting with the 2011 Reform, and zero before 2011. Variable definitions are available in Table A.1, Appendix. Economic factors and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

	$\beta$		Odds Ratios ( $e^\beta$ )	
	AccrDDadj Dummy		AccrJ Dummy	AccrDDadj Dummy
	I	II	III	IV
Post	0.230*** (0.037)	0.232*** (0.036)	1.258***	1.261***
FirmSize	-0.036*** (0.009)	-0.032*** (0.009)	0.964***	0.969***
SigmaCFO	0.138** (0.057)	0.098** (0.049)	1.148*	1.104*
Intangible	0.211 (0.229)	0.329 (0.210)	1.235	1.390
IntIntensity	-0.127** (0.051)	-0.170*** (0.048)	0.881*	0.844***
Tangibility	-0.113 (0.095)	-0.008 (0.095)	0.893	0.992
Leverage	0.221** (0.091)	0.158* (0.083)	1.248*	1.171
Growth	-0.115 (0.369)	0.022 (0.370)	0.891	1.022
M/B	0.033*** (0.012)	0.043*** (0.011)	1.034**	1.045***
InventoryRatio	0.985*** (0.195)	1.411*** (0.179)	2.679***	4.100***
CashRatio	-0.431*** (0.097)	-0.505*** (0.093)	0.650***	0.603***
ROA	0.639*** (0.066)	0.481*** (0.053)	1.894***	1.618***
FirmAge	0.046*** (0.017)	-0.017 (0.016)	1.047**	0.983
InstOwnership	0.163*** (0.062)	0.156** (0.061)	1.177**	1.169*
CEOOwnership	0.134 (1.388)	1.890 (1.342)	1.144	6.620
CEOPaygap	2.931 (5.141)	3.071 (5.048)	18.741	21.565
Independence	-0.083 (0.080)	-0.026 (0.075)	0.920	0.973
Econ Factors & Firm FE	YES	YES	YES	YES
Observations	15,315	15,315	15,315	15,315
Pseudo R <sup>2</sup>	0.023	0.019	0.023	0.019

**Table IA.6: Main Analyses with an Alternative Model**

This table presents regression analysis estimates for *Post* along with *FirmSize*, *SigmaCFO*, *Intangible*, *IntIntensity*, *Tangibility*, *Leverage*, *Growth*, *M/B*, *InventoryRatio*, *CashRatio*, *ROA*, *FirmAge*, *InstOwnership*, *CEOOwnership*, *CEOPaygap*, and *Independence* as control variables. A constant is included in the regression, but is not reported in this table for brevity. The dependent variables *AccrDDadj* and *AccrJ* are from Dechow and Dichev (2002) and Jones (1991), respectively, but they are estimated following the single-step regression model by Chen et al. (2018) to eliminate the biases resulting from two-step regression estimation. *Post* is a dummy that is equal to one for years starting with the 2011 Reform, and zero before 2011. Variable definitions are available in Table A.1, Appendix. Macroeconomic factors and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

	<b>AccrDDadj</b>	<b>AccrJ</b>
	<b>I</b>	<b>II</b>
Post	0.008*** (0.004)	0.009*** (0.005)
FirmSize	-0.012*** (0.004)	-0.010** (0.005)
SigmaCFO	0.018 (0.012)	0.001 (0.013)
Intangible	0.033 (0.040)	0.068 (0.045)
IntIntensity	-0.013* (0.007)	-0.023*** (0.008)
Tangibility	-0.072*** (0.020)	-0.076*** (0.023)
Leverage	0.035 (0.022)	0.022 (0.022)
Growth	-0.005 (0.043)	-0.001 (0.049)
M/B	0.005** (0.002)	0.008*** (0.002)
InventoryRatio	0.163*** (0.063)	0.197*** (0.069)
CashRatio	-0.124*** (0.022)	-0.152*** (0.026)
ROA	0.113*** (0.010)	0.114*** (0.011)
FirmAge	0.010 (0.008)	0.001 (0.008)
InstOwnership	0.002 (0.008)	0.008 (0.008)
CEOOwnership	-0.196* (0.107)	-0.198* (0.120)
CEOPaygap	-0.167 (0.774)	-0.218 (0.870)
Independence	-0.001 (0.015)	-0.007 (0.017)
Econ Factors	YES	YES
Firm FE	YES	YES
Observations	15,315	15,315
Adj. R <sup>2</sup>	0.042	0.042

**Table IA.7: Analyses with Tax Avoidance and Audit Reports**

This table presents regression estimates for *Post* along with *FirmSize*, *SigmaCFO*, *Intangible*, *IntIntensity*, *Tangibility*, *Leverage*, *Growth*, *CEOOwnership*, *InventoryRatio*, *CashRatio*, *ROA*, *FirmAge*, *InstOwnership*, *M/B*, *CEOPaygap*, and *Independence* as control variables. A constant is included in the regression, but is not reported in this table for brevity. The dependent variables are measures for tax avoidance and audit reports. Following Chen et al. (2010) and Zimmerman (1983), effective tax rates *ETR1* and *ETR2* are defined as tax expenses over accounting income before tax and income tax expense over operating cash flow, respectively. Following Frank et al. (2009), differential measure of tax avoidance, i.e. *DTAX1* and *DTAX2*, are calculated using the discretionary permanent difference. *Audit* is a dummy equal to one if the audit report is classified other than “unqualified”, and zero otherwise. Logit and logistic regressions are used for *Audit*. Variable definitions are available in Table A.1, Appendix. Economic factors and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

	<b>ETR1</b>	<b>ETR2</b>	<b>DTAX1</b>	<b>DTAX2</b>	<b><math>\beta</math></b>	<b>(e<math>^\beta</math>)</b>
					<b>I</b>	<b>II</b>
Post	-0.025*** (0.004)	-0.039*** (0.005)	0.006* (0.004)	0.011** (0.005)	0.457** (0.233)	1.580**
FirmSize	0.011*** (0.002)	0.012*** (0.002)	-0.009*** (0.002)	-0.017*** (0.003)	-0.274*** (0.058)	0.761***
SigmaCFO	0.014*** (0.003)	0.011*** (0.003)	-0.019*** (0.002)	-0.027*** (0.004)	0.083 (0.092)	1.087
Intangible	-0.116*** (0.015)	-0.091*** (0.017)	-0.073*** (0.013)	-0.082*** (0.019)	3.426*** (1.056)	30.751***
IntIntensity	0.058*** (0.005)	0.041*** (0.006)	-0.037*** (0.004)	-0.022*** (0.006)	-1.255*** (0.289)	0.285***
Tangibility	0.027 (0.020)	-0.010 (0.021)	-0.008 (0.017)	0.018 (0.020)	0.671 (0.596)	1.957
Leverage	-0.011 (0.009)	-0.006 (0.010)	0.008 (0.008)	0.014 (0.011)	-0.722* (0.390)	0.486*
Growth	-0.004 (0.029)	-0.044 (0.037)	-0.007 (0.028)	0.041 (0.037)	-3.917* (2.363)	0.020*
M/B	0.001 (0.001)	0.003** (0.001)	0.002* (0.001)	0.002** (0.001)	-0.391 (0.309)	0.677
InventoryRatio	-0.027 (0.032)	0.076** (0.032)	0.050* (0.027)	-0.045 (0.035)	0.866 (0.945)	2.376
CashRatio	0.004 (0.008)	-0.010 (0.009)	0.001 (0.007)	0.014 (0.010)	-1.145*** (0.335)	0.318***
ROA	0.028*** (0.003)	0.019*** (0.004)	0.036*** (0.003)	0.027*** (0.004)	0.725*** (0.268)	2.065***
FirmAge	0.003 (0.005)	0.006 (0.006)	0.004 (0.005)	-0.005 (0.007)	0.024 (0.112)	1.024
InstOwnership	-0.038*** (0.008)	-0.021** (0.008)	0.018*** (0.006)	0.017* (0.009)	-0.728 (0.562)	0.483
CEOOwnership	-0.196 (0.126)	-0.089 (0.168)	0.199* (0.112)	0.144 (0.155)	0.000 (0.000)	1.001
CEOPaygap	1.590*** (0.443)	1.151** (0.572)	-0.608 (0.406)	0.066 (0.583)	-284.3*** (30.350)	0.001***
Independence	-0.001 (0.014)	0.035** (0.016)	0.012 (0.011)	-0.028* (0.016)	-0.162 (0.536)	0.850
Econ F. & Firm FE	YES	YES	YES	YES	YES	YES
Observations	16,154	16,154	15,315	15,315	15909	15909
Pseudo / Adj. R <sup>2</sup>	0.027	0.016	0.014	0.010	0.463	0.463

**Table IA.8: Analyses with Disqualified Directors, Official Records and Court Cases on Corporate Fraud**

This table presents time series regression estimates for *Post*. A constant is included in the regression, but is not reported in this table for brevity. Analyses are conducted between 2003 and 2019. Data are only available from 2006 for disqualified directors. The dependent variables are defined annually in the following way: Official records on corporate fraud in the UK are hand-collected from police records and Action Fraud records; disqualified directors of firms operating in the UK are hand-collected from Companies House website; total Magistrate and Crown Court cases on corporate fraud in the UK are hand-collected from various websites including Ministry of Justice, Libra Management Information System, HMCTS CREST System, Justice Statistics Analytical Services, and Government Research and Statistics. All these measures are normalised by the total number of firms per year. *Post* is the main explanatory variable, and it is a dummy that is equal to one for years starting with the 2011 Reform, and zero before 2011. Firm based control variables used in previous analyses are adjusted by taking the mean values per year. These adjusted controls and economic factors are included in the relevant analyses. Standard errors are clustered by years and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

	Fraud Reports	Disqualified	Magistrate &	Fraud Reports	Disqualified	Magistrate &
		Directors	Crown Court Cases		Directors	Crown Court Cases
	I	II	III	IV	V	VI
Post	5.135** (2.331)	0.048*** (0.013)	0.196*** (0.056)	9.378*** (1.467)	0.010** (0.004)	0.442*** (0.062)
Controls	NO	NO	NO	YES	YES	YES
Econ Factors	YES	YES	YES	YES	YES	YES
Observations	17	14	17	17	14	17
R <sup>2</sup>	0.631	0.807	0.500	0.964	0.990	0.992

**Table IA.9: T-Test and Regression Analyses of Newly Registered Firms**

This table presents the results from T-Test and time series regression analyses. Analyses are conducted between 2002 and 2019. *# of New Firms* indicate the total number of newly registered firms in Companies House in millions per year. In Panel A, the mean values of *# of New Firms* are compared before and after the introduction of the Plan for Growth in 2011. The difference and p-values from the T-Tests are provided. In Panel B, *# of New Firms* is regressed on *Post*. *Post* is a dummy that is equal to one for years starting with the 2011 Reform, and zero before 2011. Economic factors are included. Standard errors are clustered by years and given in parentheses. The \*\*\* indicates statistical significance at the 1% level.

**Panel A: T-Test Analysis of Newly Registered Firms**

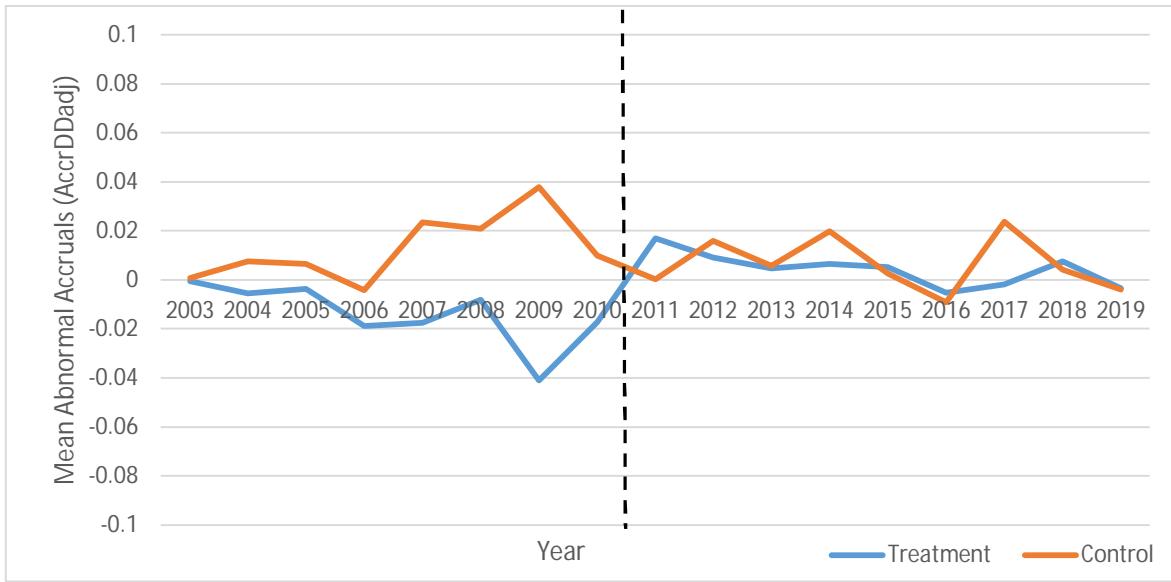
	Before the 2011	After the 2011	<i>Difference</i>	p-value
	Reform	Reform		
# of New firms (in millions)	0.008	0.089	0.081**	0.014

**Panel B: Regression Analysis of Newly Registered Firms**

# of New Firms	
Post	0.080*** (0.027)
Constant	0.213*** (0.045)
Econ Factors	YES
Observations	18
R <sup>2</sup>	0.766

**Figure IA.1: Distribution of Abnormal Accruals ( $\text{AccrDDadj}$ ) for Target and Control Firms**

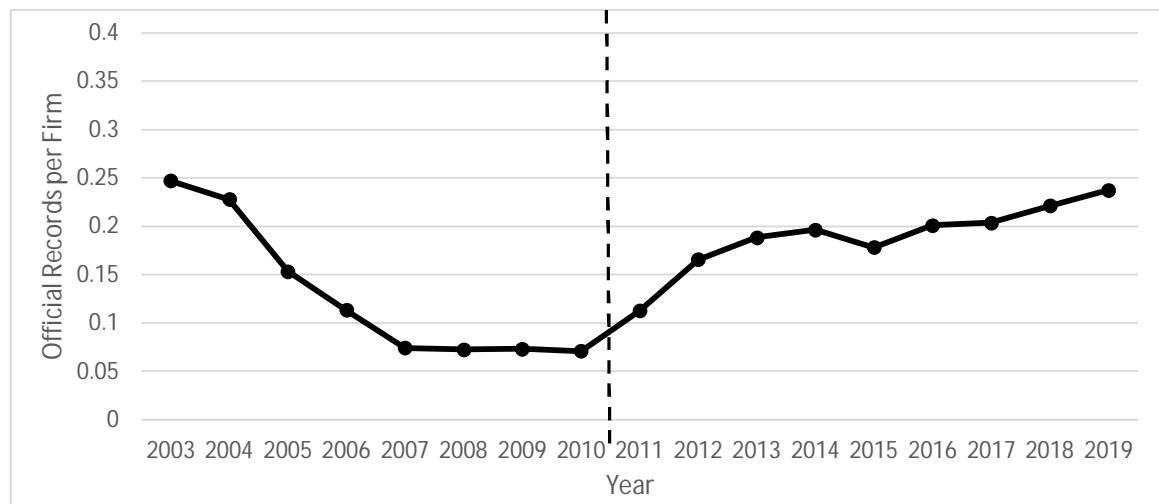
This figure represents the distribution of abnormal accrals per year for target and control firms separately. Abnormal accrals are given by  $\text{AccrDDadj}$ . If a firm has negative (positive) abnormal accrual value for 2009 and 2010, then it is identified as a target (control) firm. Target firms are also PSM-matched to control firms as their nearest neighbour (max 2 firms) using 2-digit SIC codes, firm size, leverage, cash ratio, M/B, and SigmaCFO. Vertical dashed line indicates introduction of the Plan for Growth in 2011.



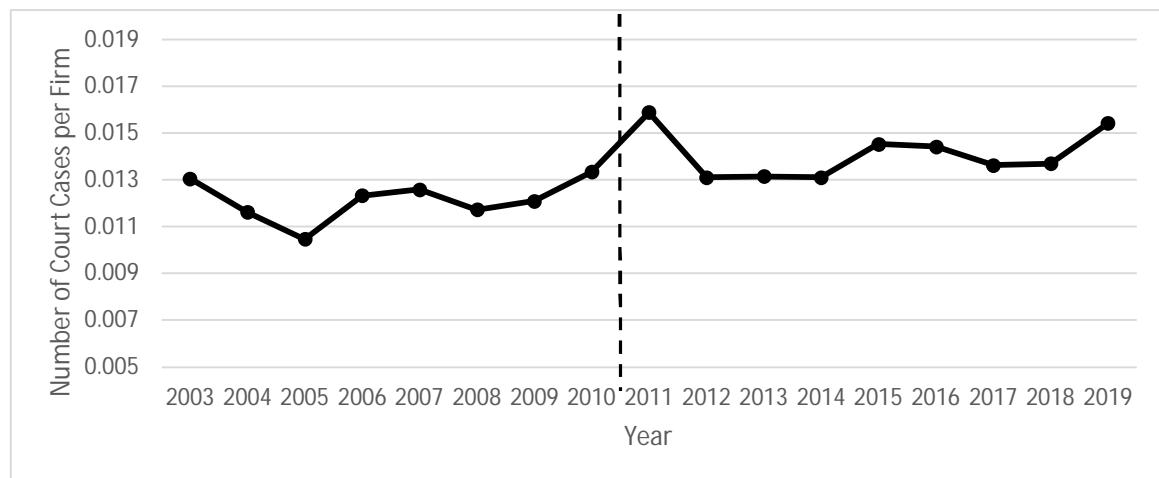
**Figure IA.2: Distribution of Corporate Fraud Cases**

These figures represent the distribution of corporate fraud cases normalised by the total number of firms per year. Panel A shows the police and Action Fraud records for corporate fraud; Panel B gives court cases on corporate fraud in Magistrates and Crown Court; and Panel C presents the number of disqualified directors. Dotted line indicates introduction of the Plan for Growth in 2011.

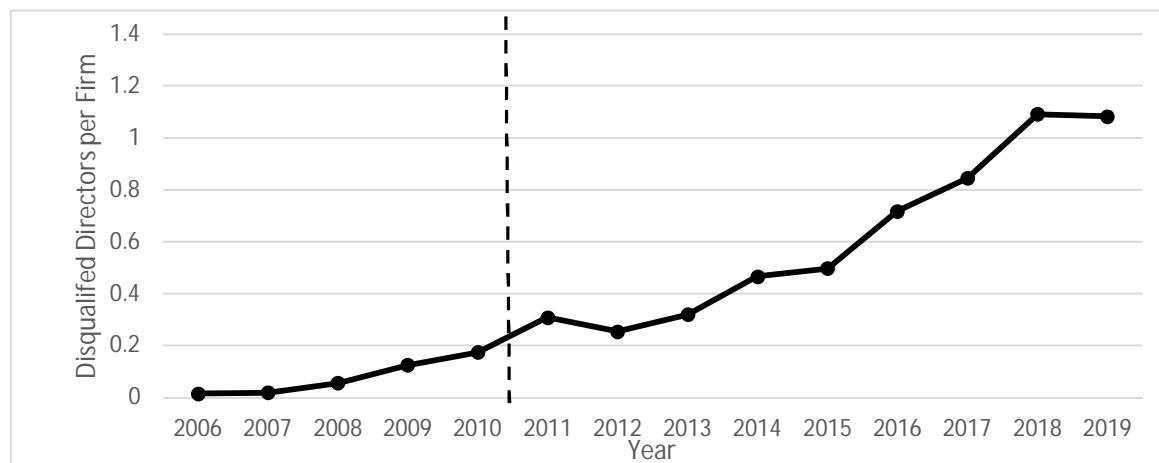
**Panel A: The Police and Action Fraud Records on Corporate Fraud**



**Panel B: Magistrates and Crown Court Cases on Corporate Fraud**



**Panel C: Disqualified Directors**



**Figure IA.3: Distribution of New Firm Registration**

This figure represents the distribution of new firm registration in Companies House per year. Dotted line indicates the introduction of the Plan for Growth in 2011.

