Utrecht University

School of Economics

Master Thesis U.S.E.

The impact of regulatory flexibility related to financial reporting on earnings management[1]

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ABSTRACT

The goal of the paper is to research and evidence the effect of regulatory flexibility in terms of financial reporting deadlines on earnings management proxies within European companies between 2019 and 2021, due to an unprecedented regulatory modification (deadline extension). Using panel data from 100 sampled listed firms from 10 EU countries between 2017 and 2021, pooled OLS regressions examined whether the timeliness and adjustment from 2019 have any impact on results in 2021 and earnings management activities. Empirical results support hypothesis, that firms listed in countries with regulatory flexibility on financial reporting deadline, used significantly more income decreasing accruals in their reported results in 2019. On 10% significance level, it also observed that Insurance firms tend to use more discretionary accruals in 2019 and 2021 to upward adjust their earnings. Results also suggest, timeliness of the financial reporting (delay) has a statistically significant negative effect on the total amount of discretionary accruals in 2021, not only in 2019. As opposed to the earnings management activities (adjustment in absolute terms), which has a statistically significant positive effect on the discretionary accruals in 2021 from 2019, meaning the more firms adjusted their earning in 2019, the more significantly they did in 2021 (in absolute terms). The research implies that observed firms were altering their financial results to account for negative economic predictions in order to prevent potential future declines in profitability.

JEL Classification: M48, M41, C21

Key words: Earnings Management; Discretionary Accruals; Governmental Regulations; Accounting Treatment

[1]The author is grateful to her supervisor, Dr. Hailey Lee who provided her with extremely constructive support throughout the research.

Contents

1. Introduction

The global COVID-19 pandemic is regarded as the century's largest health, economic, and social crisis. Aside from human deaths and the disease itself, the COVID-19 pandemic has delayed global economic activity due to its unusual effects and the steps taken by governments to combat it. The pandemic has resulted in record levels of unemployment and economic activity, as well as volatile price changes in several financial markets.

Unprecedentedly, several financial institutions re-visited the deadlines of the annual financial reporting for listed and unlisted firms as well, given companies unexpectedly faced multiple obstacles to fulfill the requirements and reflect their results in the most adequate and timely manner. This flexibility led to a potential increase of discretionary accruals affecting the reported annual earnings (upwards or downwards), especially this could be observed for companies, where the extension of the filing deadline was exercised and revised figures were reported later than in previous years. As the hit of the economy turned out to be a long term tendency change, this extension was eliminated in most countries for the annual reports of financial year 2020 and onwards. The research's purpose is to analyze whether the regulatory flexibility of the financial reporting has any effect on the earnings management in terms of discretionary accruals, which is considered as a noisy proxy. The paper is focused on researching whether managers tend to manipulate the companies' earnings more significantly in case they possess extended timeline to revise their results in a financial year and how this one off regulatory change impacted later reporting periods.

Research shows that reduced reliability of the financial reports during COVID 19 is applicable on Croatian listed firms (Susak, 2020). A tendency of income-increasing discretionary accrual is evidenced on the reported results in 2020 for financial year 2019, which suggests that firms manage earnings upward by alleviating the level of reported losses to rebuild investors and shareholders confidence.

The above mentioned adjustment is observed to appear most frequently in cases where firms applied and exercised the flexibility (deadline extension on financial reporting) provided by financial institutions. For financial year 2019, Croatian firms for example, tent to adjust earning management downwards suggesting a more pessimistic economic forecast and mitigate profitability deterioration for future periods (Susak, 2020).

In G-12 countries, it is shown that firms, during the pandemic period engage less in earning management than they used to before 2019, which also has a negative impact on the strength of investor protection institutions (this impact has also increased since 2019) (Ali, Amin, Mostafa, Mohamed, 2022). This effect was also observed within US listed firms, however there is very little comparable research available which focuses on the differences between European and US firms or comparison between countries where deadline extension was applicable versus countries, where deadlines remained for 2019.

While several studies have looked at earnings management during crises such as oil crises (Bugshan et al., 2020; Kjaerlanda et al., 2020) and financial crises (Cimini, 2015; Filip & Raffournier, 2014; Kousenidis et al., 2013), empirical evidence on earnings management during pandemics is limited. For example, Abdul et al. (2021) looked at the influence of the COVID-19 lockdown on earnings manipulation for a group of publicly traded Iraqi companies. Furthermore, Xiao et al. (2021) looked into the link between the COVID-19 epidemic and the earnings management techniques of Chinese public companies. These investigations (Abdul et al., 2021; Xiao et al., 2021) are done at a single-country level in a non-European environment, making the external validity of their findings suspect.

The decision to use a European sample stems from the devastating impact of the COVID-19 epidemic in this region. The study's findings add to the existing research in multiple ways. For starters, it adds to the growing body of material on COVID-19's repercussions, focusing on market reaction (Gormsen & Koijen, 2020; Singh et al., 2020; Yahya et al., 2021). Second, this is one of the first empirical studies to look into the impact of pandemic financial reporting by looking into if and how the COVID-19 problem affected financial reporting through earnings management techniques of European listed companies with an extended scope of including governmental response to the pandemic as one variable.

The majority of the published studies on the pandemic's impact on earnings quality was undertaken in a household environment (Abdul, 2021; Xiao et al., 2021). The investigation of an international sample, which was used in this study, is more thorough. The goal of the author's multinational study design is to represent the pandemic's worldwide nature. Third, the recent debate on the role of financial reporting in crises is broadened by focusing on a pandemic, whereas previous research has looked at the impact of a variety of crises on earnings quality, such as oil crises (Bugshan et al., 2020; Kjaerland et al., 2020) and the subprime mortgage crisis (Kjaerland et al., 2020, Cimini, 2015; Filip & Raffournier, 2014; Kousenidis et al., 2013).

The below content of the study is organized as follows: second chapter focuses on taking a helicopter view on existing published papers and researched in the topic with a deep dive on providing overview what is considered earnings management proxies, what can be managerial incentive on increasing or decreasing their use in the reported annual results. Also including historical results on how firms reacted on previous crises in terms of earnings management activities. Theoretical frameworks follow the literature review, where the following hypotheses are developed:

H1 Firms in countries where reporting deadlines were relaxed adjusted their earnings more significantly with discretionary accruals in 2019 as opposed to firms in countries where the deadlines remained.

H2 Firms used less discretionary accruals in their reported results in regard to earnings in 2021 than in 2019.

H3 There is a statistically significant and negative moderating effect of income-decreasing and income-increasing earnings management from 2019 to 2021 reported by analyzed firms.

Chapter 3 and 4 present the rationale of the research while, from section 5 statistical results are presented starting with robustness check followed by pooled OLS regression applied on panel data. The examination of the sampled firms, clearly suggest that H1 cannot be rejected, however H2 depending on whether the results are observed in absolute terms or not, can be rejected together with H3. The results are being analyzed, discussed and concluded up until chapter 7, where the research's limitation is being examined, followed by References.

2. Literature review

In order to gain an end to end, deep understanding on the topic, this section focuses on elaborating what exactly discretionary accruals are, why managers have an incentive on adjusting earnings and engage in a more significant earnings management and how a crisis, change in regulations might affect the impact and size of discretionary accruals applied on financial results for listed and unlisted companies. A lot is known about the use of discretionary accruals and their role in earnings management. But little research has focused on the relation of timeliness and total amount of adjustments on earnings, including how firms react on one off regulatory changes in financial reporting deadline in un-precedent times.

2.1. Impact of unforeseen events on earnings management

One of the most relevant and recent research in the topic was conducted by Toni Susak in 2020, the paper's main motivation comes from the fact that potential problems arise because accounting standards offer flexibility in financial reporting which could be opportunistically abused.

Due to the ongoing pandemic (COVID 19), stakeholders were likely more understanding in their assessments of corporate reporting conduct, therefore it is possible that some businesses sought to use accounting discretion to address stakeholders' dismal predictions for the future. It was proposed that the COVID-19 pandemic's legislative reforms that lengthened financial reporting deadlines had a statistically significant and beneficial moderating effect on the association between earnings management and accounting information delay. Discretionary accruals, a measure of earnings management, were split into income-increasing and income-decreasing categories, and this link was also studied after these divisions. (Toni Susak, The effect of regulatory changes on relationship between earnings management and financial reporting timeliness: The case of COVID-19 pandemic, (2020))

The biggest limitation of the research is its scope, the author narrowed down the sample size to 58 listed firms, all within Croatia. However, the empirical research has been carried out with modified Jones model, which provides a strong analytical evidence to identify discretionary accruals.

Research results provided strong evidence that regulatory changes regarding financial reporting deadlines introduced because of COVID-19 pandemic had positive effect on the relationship between earnings management and financial reporting timeliness. This suggests that reporting delays after regulatory changes during pandemic could be attributed to earnings management activities (Susak, 2020)

The empirical analysis in the research is built up in a similar way as this paper's, which enables to identify the clear correlation between the 2 researches. The limited scope from a sample-size and time-line perspective motivates this paper to further research in the topic, as the author only focuses on 1 country, where firms were provided with regulatory flexibility on the deadline to file their audited financial reports of 2019.

Susak's research's topic is a great Segway into the publication of Lassoued and Khanchel from 2021, focusing on a wider scope and sample size to analyze and conceptualize earning management activities during pandemic and pre-pandemic periods. The authors determined the potential impact of the COVID-19 pandemic on quarterly reported financial results and their earning management activities.

To this goal, ordinary least squares (OLS) regressions are used to compare earnings management in the pre-pandemic (2017–2019) and post-pandemic outbreak periods (2020). The findings show that during the pandemic period, the sampled firms are more likely to manage earnings than during the prior time. This conclusion suggests that the financial reports were less reliable during the COVID-19 pandemic. Further investigation reveals that major income-increasing earnings management will be implemented in 2020. This study shows that enterprises manage earnings upward by reducing reported losses in order to re-establish investor and stakeholder confidence in the economy.

The research examines quarterly financial data provided by firms, which enables the authors to find more relevant evidences of discretionary accruals regarding to the outbreak of the COVID-19 pandemic, however also raises the concern of inaccuracy due to the fact, not all results observed are audited.

The methodology used to determine discretionary does not only rely on Jones model, but also includes Dechow et al. (1995) to correct revenues in the Jones model by changing receivables during periods when earnings management is expected.

The research focuses on European firms, data collected from 15 countries with a firm-sample size in total of 2031. It provides us with an explanatory result on how the use of discretionary accruals raised from 2107 to 2020, however it excludes the timeliness factor and does not differentiate between firms who exercised the option of late submission of financial statement for the results of 2019/2020. This motivates me to further research and include time series in the regression in order to see whether the regulatory relaxation had any effect on the rise in earning management activities. The author also concludes that firms use more income-increasing accruals, as opposed to previously mentioned research focused on only Croatia, where the empirical evidence showed the complete opposite.

Not only the recent events, related to the COVID-19 pandemic had a major impact on the economy, but the economic crisis in 2008 also provided the firms with a challenge on revising their earning management and potential application of increased adjustments. Da Silva (2014) confirms that the 2008 economic crisis challenged accounting, either demanding recognition and measurement criteria well-adjusted to this scenario or even questioning its ability to inform appropriately entities' financial situation before the crisis occurred.

The goal of this study is to see if publicly traded corporations in Brazil's capital market tended to use earnings management (EM) techniques during economic downturns. The sample spanned 13 years, from 1997 to 2009, and included 3,772 firm-year observations. The authors used discretionary accruals as an EM proxy (dependent variable), crisis as a macroeconomic component (interesting dummy variable), ROA, market-to-book, size, leverage, foreign direct investment (FDI), and sector as control factors in regression models. In contrast to earlier EM investigations, data panel regression models were used in this one, and numerous crises were seen at the same time. In both methodologies utilized, statistical analyses found a substantial relationship between the economic crisis and EM practices in Brazil's listed corporations.

The relevance of the used methodology could be questionable given the analysis was ran in 2014 and focused mostly on data between 1997 and 2009, also they did not clearly differentiate between discretionary and non-discretionary accruals when analyzing the firms.

Regardless of the time period observed by the researchers, their results can highly contribute to current researches, as it can be concluded that firms tend to react the same way to economic crises by engaging in their earning management activities significantly more than during times when the economy is stable.

2.2. Discretionary accruals: definition, management's incentive and general practice

There is a lot of discussion in the literature on the reliability of financial information provided by businesses and how it affects the choices made by various users (managers, auditors, analysts). Accruals are a baseline for evaluating the profits quality and are defined as accounting adjustments that explain the variations between accrual accounting rules and cash accounting standards (Walker, 2013). These are produced by the use of both expert judgment and the precise execution of accounting regulations (options in choosing accounting treatments).

Due to their influence on the indicators calculated based on the financial information presented by the businesses, as well as on the corresponding judgments taken by investors, accruals and their components are a heavily debated issue in the literature and existing researches. Signal theory states that managers can utilize accruals as a private, discrete communication mechanism for future performance of the business (Koerniadi & Tourani-Rad, 2011). Discretionary accruals are determined by accounting judgments, managerial decisions, and different estimations, whereas non-discretionary accruals are items resulting from the application of fundamental accounting principles that cannot be modified by managers (Francis et al., 2005). Two distinct interpretations have arisen in the existing literature, despite the fact that the function of discretionary accruals in the development and dissemination of financial information is still highly disputed.

The importance of accruals in determining reported earnings is a contentious issue in accounting theory and practice. Managers utilize accruals to influence earnings, according to a number of past studies. These studies demonstrate that some accruals, known as discretionary accruals, are subject to management discretion (Hansen, 1997).

While Lambert et al. (2017) found that shortened reporting deadlines had a negative impact on earnings quality, it's unclear whether more time for financial reporting was counter-productive in terms of providing legalized opportunities for adjusting accounting information, given that it could mitigate investors' negative perceptions of financial reporting delays in these extraordinary circumstances. Furthermore, DeFond and Park (1997) discovered that management has a tendency to transfer earnings to future periods after a financially successful year and when expected future performance falls short of that norm. Because the COVID-19 crisis happened shortly after the end of the previous financial year, businesses were able to move a portion of their revenue from the previous year to the tumultuous period ahead of them.

In most of the cases, earnings management activities are triggered by a managerial incentive or by an internal target previously set by the firm. Ayers and Yeung (2006) investigate whether the positive associations between discretionary accrual proxies and beating earnings benchmarks hold for comparisons of groups segregated at other points in the distributions of earnings, earnings changes, and analyst based unexpected earnings. Results suggest that the positive association between discretionary accruals and beating the profit benchmark extends to pseudo targets throughout the earnings distribution. Which can be also interpreted as a motive to increased usage of discretionary accruals.

The notion that organizations have better incentives to control earnings around the real earnings standards is one of the difficulties facing the research. Second, tests for increased associations between discretionary accruals and beating earnings benchmarks understate the association between discretionary accruals and beating the actual benchmarks that is due to earnings management if firms manage earnings throughout the distributions of earnings, earnings changes, and unexpected earnings. Third, the presumption that the actual earnings benchmarks do not change in relation to the underlying link between discretionary accruals and performance (i.e., independent of earnings management). On the other hand, the results are significant as the topic is observed from multiple angles.

The paper provides with clear motivation from the firms' management side of adjusting earning in order to achieve target performance, which can be highly relevant in times of an economic crisis.

From a theoretical standpoint, positive accounting theory outlines a number of reasons why a company's profitability might be managed with non-discretionary and discretionary (proxies) accruals. Murdoch and Cairney (1996) investigate the extent to which such a choice may be influenced by management's past earnings forecast. The findings prove that discretionary accruals are adjusted to bring reported earnings more in line with management's projection based on a sample of 117 enterprises that released one management prediction of earnings between 1986 and

1992. It has been evidenced, that accruals are higher in absolute terms when the prediction was too low than when it was too high, and when the projection was later in the fiscal year than when it was earlier in the fiscal year. Despite having incentives to avoid appearing to have made an incorrect forecast, management is limited in its use of discretionary accruals, particularly those that increase income, owing to the materiality and conservatism of generally accepted accounting principles as enforced by professional ethics and independent audit.

The paper’s issue date might not be up to date and relevant to the current economic situation given it is observing results and firm behavior from more than 20 years ago. However, accounting standards and management motivation has not changed fundamentally since then. (Murdoch and Cairney, 1996)

The research shows that managers have an incentive to use discretionary accruals to ensure the forecasted results are close to the yearly actuals. The conclusion drawn by the authors is in line with the hypotheses I’ll be using for my research as well and could be also reflected on a crisis situation, where managers tend to adjust the earnings more to avoid deltas appearing in their forecast versus actuals analysis. The timeliness here also could be a key element, when firms possess more time to revise the annual result, they could aim for more accuracy in their comparison and apply the earning management practices more significantly (in absolute terms).

On top of it, opportunistic managers could manipulate the financial figures to hide the poor performance and portray it as a highly performing business. The manager's opportunistic actions could be addressed in terms of free cash flow and the company's profitability. High free cash flow might provide managers a chance to control profits and lead to an agency issue. Free cash flow, which may be utilized to finance any project with a positive net present value, is initially a surplus of cash (Jensen, 1986). If a company's free cash flow is improperly invested or spent in a way that the manager disregards in order to enhance the wealth of its shareholders, agency issue will result (Jensen, 1986).

Lastly, motivation of increased use of discretionary accruals and earnings management’s activities could be income minimization. Due to the fact that this strategy would require management to raise expenditures in order to lower the reported income, firms with significant profits are more likely to do it in order to escape political pressure and income tax reflection.

3. Theoretical Framework

Due to the ease of financial regulations during the outbreak of COVID 19, it is observed how firms adjusted their earning management to the impact of the pandemic, however in most of the countries deadlines to report results of 2020 and 2021 are not extended anymore or were not relaxed at all. This research is focusing on observing any statistically significant impact of the timeliness on earning management and differences between countries and industries with use of discretionary accruals as a reaction to regulatory flexibility. It is shown how firms adjusted their earnings considering the crisis, however as the economy is recovering, do they keep using the same EM practices to earn back investors and shareholders confidence? Is there any sign of economic recovery in terms of reduced earnings management proxies, if any?

The study's main focus is to shed light on the consequences of regulatory flexibility concerning financial reporting and potential earnings management proxies in their reported results. On top of it, to analyze whether an unprecedented, one-off regulatory change has any implications for later periods (2021). Hence, the research is looking into the following topics and below research questions have been formulated:

3.1. *Research question 1:* Is there a statistically significant effect of financial reporting delay/regulatory flexibility on earning management in 2019?

The decision of extending the deadline of financial reporting concerning fiscal year 2019 was not unanimous between European countries, including the extent of the ease, some countries applied 1 months, while others relaxed with 3-6 months (Financial Conduct Authority, 2022). Presumably, in countries where the regulations were relaxed, managers had more time to review their results and adjust earnings to the crisis, therefore the adjustments through discretionary accruals is more significant as opposed to countries where firms had to fulfill the original deadline to submit their financial statement.

3.2. *Research question 2:* Is there a significant change in earning management compared to 2019, in 2021 for the observed firms?

To analyze whether firms’ performance have recovered/are recovering from the crisis caused by the pandemic, it is essential to analyze and compare discretionary accruals applied to earnings for financial year 2019 and afterwards. This will represent if the firms have changed any approach regarding to their earnings management (if so, how – increase/decrease).

By comparing results reported with extended deadlines (2019) to the ones submitted by the original one (2020/2021), it will become clear whether is there any correlation between the timeliness and earning management adjustments.

3.3. *Research question 3:* Does previous year’s earning management activity affect following year’s treatment in terms of income-decreasing or income-increasing accruals?

As the pandemic affected the economy globally, firms in Europe and in the US reacted in different ways, currently very few research focuses on global overview, or at least comparing different countries, as opposed, and they analyze the behavior of one specific country. It'll be beneficial to conclude how firms in different countries/industries adjust their earning management practices while recovering from a crisis or adjusting to the new norms/reality.

3.4. Hypotheses development

In order to answer the above-mentioned research questions, multiple hypotheses have been developed:

3.4.1. H1 Firms in countries where reporting deadlines were relaxed adjusted their earnings more significantly with discretionary accruals in 2019 as opposed to firms in countries where the deadlines remained.

The appearance of discretionary accruals in earnings management is often interpreted to be a proxy for audit quality. (Ghosh, 2021) Discretionary accruals are the unobserved part of accrual after deducting the non-discretionary accruals from the total assets, it provides the managers with the possibility to influence the firm's performance and reported results.

Considering the outbreak of COVID19, many countries relaxed the reporting deadlines and granted firms with additional 1-6 months to submit their audited financial statements. This relaxation motivates my research assuming that the timeliness of the submission has an impact on adjusting the earnings with discretionary accruals, given managers had significantly more time to gain further understanding on how the economy (future performance of the firm) will be potentially impacted.

Prior research (Susak, T. 2020) showcased the impact of financial reporting regulatory changes on earning management activities focusing on countries where the reporting deadlines were relaxed to submit the results of financial year 2019 (eg. Croatia, Spain, China, Italy, Netherlands). Positive effect on relationship between earnings management and financial reporting delay can be observed, indicating that financial reporting delays after regulatory changes during a pandemic could be attributed to earnings management activities. Analyses on income-increasing/decreasing discretionary accrual suggest that, specifically in Croatia, listed companies were adjusting their financial information in accordance with pessimistic economic forecasts to mitigate probable profitability deterioration in future periods. Country specific research papers motivated to extend the scope and observe the difference between countries with and without relaxed deadlines for financial year 2019. Given increase has been observed in countries with significant reporting delay, it is assumed that listed firms in countries lacking regulatory relaxations made less use of earning management activities through discretionary accruals, let it be income-increasing or decreasing.

3.4.2. H2 Firms used less discretionary accruals in their reported results in regards to earnings in 2021 than in 2019.

Discretionary accruals in earnings management are used by managers to adjust the reported results upwards or downwards taking also in account of the expectation of the firm's future performance. If firms are granted with extended timelines to submit their statement, they are able to gain a more rounded picture on how the company is performing in future period (as time passes they could reflect the current status retrospectively). Little research is focusing on the correlation of the timeliness and earning management in this regard, the assumption is that firms filing their results later, will adjust the figures with the help of discretionary accrual as opposed to years where no deadline extension was applicable.

Recent research shows that a significant decline in the Unites States (Gouping, Jerry, 2022) can be observed in discretionary accruals from 2019 to 2020. Based on the analysis, it can be concluded that the assumption of firm engagement in more income-decreasing earning management holds true for the financial year 2020. Based on the US ran research, it is assumed that the same tendency can be observed in other countries as well, regardless of the timeliness of the results' submission. The hypothesis can be supported by multiple factors: in numerous countries the regulatory relaxations have been abandoned in 2020 (no deadline extension) providing firms with less time to finalize their reports, in the US the total amount of discretionary accruals affecting earnings lowered from 2019 to 2020 consistent with the notion that the pandemic has impaired the value relevance of earnings.

3.4.3. H3 There is a statistically significant and negative moderating effect of income-decreasing and income-increasing earnings management from 2019 to 2021 reported by analyzed firms.

Considering the economic hit of the pandemic, managers, in order to keep or gain back investors and shareholders confidence might have adjusted their earnings with discretionary accruals upwards, in that case could we observe the same approach for the following fiscal year as well?

Firms during economic and financial crises tend to increase intensity of earnings management (Da Silva, 2014) and make use of discretionary accruals to either increase or decrease reported earnings for the relevant financial year. As in 2019 a financial crisis was triggered due to the outbreak of COVID 19, the increase earnings management activities were observed in the reported results of 2019, it can be assumed that firms which had adjusted upwards or downwards in light of the crisis, will continue applying the same modification for the following year, regardless of the economic recovery. It is very unlikely that managers will apply a different treatment from one year to another, hence the hypothesis relates to the assumption that firms adjusting their earnings upwards or downwards will do the same for their 2020/2021 results as well as they did in 2019.

4. Empirical Strategy

4.1. Data Collection

The nature and aim of the research requires collection from at least 3 years historical data and a variety of countries in order to compare and analyze accurately firms' behavior and reaction to regulatory flexibility and effect of timeliness on the quality of financial statement. Hence, data collection focused on listed companies in 10 different countries within Europe.

The research sample contains 100 listed companies' financial results from 2017 until 2021 from Europe, with a division of 5 countries where the financial reporting deadlines due COVID19 pandemic were relaxed in regards of reporting the 2019 results and 5 countries where the deadlines remained.

Country	Deadlines extended	If so, how many days
Netherlands	Y	150
France	Y	90
Spain	Y	90
Italy	Y	180
Austria	Y	30
Belgium	N	-
Germany	N	-
Ireland	N	-
Norway	N	-
Hungary	N	-

Table 1, Sampled countries and summary of regulatory flexibility for reporting deadlines concerning financial year 2019

Source: Author

The selected companies operate in various industries, allowing the research to gain further understanding whether the industry has any potential impact on the earning management activities and proxies.

Industry	Count of Analyzed firms
Finance	16
Manufacturer	12
Insurance	9
Food	9
Consumer goods	7

Telecommunications	7
Energy	7
Aircraft	6
Oil	5
Pharmaceutical	5
Transportation	4
Technology	3
Tourism	2
Chemicals	2
Retail	2
Personnel services	1
Beverages	1
Real estate	1
Minerals	1

Table 2, Industry breakdown of analyzed firms

Source: Author

The original dataset consisted of annual results (required information was retrieved from Balance sheet and Income statement) between 2017 and 2021, available on Factset. For comparison purposes, sampled firms are based in IFRS reporting countries within Europe and the values were converted (where applicable) to millions of Euro, using the European Central Bank's FX spot rate on the 1st of June 2022.

The data from the audited financial statements was retrieved and analyzed in millions of Euros, which measure was also used for further analysis and for the calculation of discretionary accruals, using the Modified Jones Model.

4.2. Research design and methods

The discretionary accruals are calculated by measuring the non-discretionary accruals as a portion of the total accruals in the Modified Jones model. As a preliminary step, total accruals are calculated as follows for period 2017 - 2021:

$$TACC_t = \Delta CA_t - \Delta Cash - \Delta CL_t + \Delta DCL_t - DEP_t \qquad (1)$$

Where:

$TACC_t$ = Total accruals in year t

ΔCA_t = Change in current assets in year t

$\Delta Cash$ = Change in cash and cash equivalents in year t

ΔCL_t	= Change in current liabilities in year t
ΔDCL_t	= Change in short term debt included in current liabilities in year t
DEP_t	= Depreciation and amortization expense in year t

Determination of total accruals (TACC) is essential to proceed with estimating the Modified Jones Models (2):

$$\frac{TACCt}{At-1} = \alpha_1 \frac{1}{At-1} + \alpha_2 \frac{(\Delta REVt - \Delta RECt)}{At-1} + \alpha_3 \frac{PPEt}{At-1} + \varepsilon t \tag{2}$$

Where:

$TACC_t$	= Total accruals in year t divided by total assets in year t−1
ΔREV_t	= Revenues in year t less revenues in year t−1
ΔREC_t	= Net receivables in year t less net receivables in year t−1
PPE_t	= Gross property plant and equipment in year t
A_{t-1}	= Total assets in year t−1
α_1, α_2, and α_3	= Parameters to be estimated, namely alphas
ε_t	= Residuals in year t

α_1, α_2, and α_3 , the coefficients or parameters are estimated by means of an ordinary least squares regression (OLS). Once the alphas are calculated, they are denoted as $\hat{\alpha}_1$, $\hat{\alpha}_2$, and $\hat{\alpha}_3$. These are the estimated alphas or parameters.
Discretionary accruals can be retrieved from subtracting non-discretionary accruals (NDACC) from the total accruals (TACC) in period t, as shown in equation 3. Hence, the estimation of non-discretionary accruals is a mandatory preliminary step in order to proceed with subtraction mentioned in Equation 3.

$$DACC_t = TACC_t - NDACC_t \tag{3}$$

The estimated alpha parameters are carried forward to calculate the non-discretionary accruals (see equation 4) for each sampled company:

$$\frac{NDACCt}{At-1} = \hat{\alpha}_1 \frac{1}{At-1} + \hat{\alpha}_2 \frac{(\Delta REVt - \Delta RECt)}{At-1} + \hat{\alpha}_3 \frac{PPEt}{At-1} + \varepsilon t \tag{4}$$

$NDACC_t$	= Non-discretionary accruals divided by total assets in year t−1
ΔREV_t	= Revenues in year t less revenues in year t−1
ΔREC_t	= Net receivables in year t less net receivables in year t−1
PPE_t	= Gross property plant and equipment in year t
A_{t-1}	= Total assets in year t−1
α_1, α_2, and α_3	= Estimated parameters, namely alphas.

The results of Modified Jones model will provide independent variable DA (Discretionary Accruals) used in regression to test Hypothesis 1. First independent variable will determine whether in the firm was applicable for extended deadline to file their financial statement (dummy variable), afterwards controlling variables are applied for country and firm size (measured by the log of total assets).
Modified Jones model is applied as best practice to calculate discretionary accruals and earnings management proxies in many previous researches (e.g. Tusak 2020, Lassoued and Khanchel, 2021). It allows external researchers to identify any deviations and differentiate discretionary accruals from non-discretionary.

It is also advised (Ben rejeb attia et al., 2013) to control for the debt (Total Debt / Total Assets) effect, to measure the risk of violating debt contracts, due to the fact that managers increase earnings to avoid violating debt covenants. Also, firm size must be considered as controlling variable, given that large firms apply significantly more accounting treatments for transactions and have more assets, hence they are in a position to manage their earnings more as opposed to smaller firms.

To evidence the effect of regulatory flexibility on the earnings management, specifically on the discretionary accruals proxy, below regressions are estimated:

4. 3 Regression to test H1:

DACC i,t = β0 + β1*Regulatory flexibility i,t + β2*Firm Size i,t + β3*Country i,t + β4* DELAY + β5*INDUSTRY + u i,t

Where,

DACC = Total Discretionary Accruals estimated as per Equation 3

Regulatory flexibility =Dummy variable to include regulatory impact (1 – countries where the reporting deadlines were relaxed, 0 - countries where the original reporting deadlines remained)

Firm size= Controlling variable (considering the total assets and revenue of the observed firm)

Country = Dummy Controlling variable to observe any country effect

Industry = Dummy controlling variable, to estimate industry impact from sectors in Table 2

DELAY = the number of days when the financials results were submitted (calculated from 1st of January 2020).

U = error term

4.4 Regression to test H2 and H3

absDACC i,t = β0 + β1*Regulatory flexibility i,t + β2*absDA2019i,t + β3*DELAYi,t + β4*DA2019xRegulatory flexibilityi,t + β5*FIRMSIZEi,t+ β6*INDUSTRYi,t+ u i,t

Where,

absDACC = Total Discretionary Accruals estimated as per Equation 3 in absolute terms in 2021

Regulatory flexibility =Dummy variable to include regulatory impact (1 – countries where the reporting deadlines were relaxed, 0 - countries where the original reporting deadlines remained)

Firm size= Controlling variable (considering the total assets and revenue of the observed firm)

absDACC2019 = Total Discretionary Accruals estimated as per Equation 3 in absolute terms in 2019

Industry = Dummy controlling variable, to estimate industry impact from sectors in Table 2

DELAY = the number of days when the financials results were submitted (calculated from 1st of January 2020).

U = error term

By using the same method as above, total amount in absolute value of discretionary accruals (DACC) is calculated in absolute terms for 2019 and 2021. The independent variable DELAY, indicates the timeliness of the submission as the average value for the past 3 years (2019-2021). Regression analysis is carried out to observe the correlation between the timeliness of financial results' submission and the amount of discretionary accruals reported in 2019 and 2021 (separate regression is ran).

Interaction between discretionary accruals and regulatory flexibility is measured by DA2019 x Regulatory flexibility, where Regulatory flexibility stands for the period (in days) the deadline was extended to for report results in 2019. We control for Industry and firm size with the same method as in the first regression.

As mentioned earlier after calculating the discretionary accruals with Modified Jones model, the need to control for firm size remains essential, given also that bigger firms have the intention to reduce political costs (Nelson et al, 2002).

In order to enhance its predictive value and reduce omitted variables issue in the regression, we also control for Regulatory flexibility dummy variable, industry and firm size.

Introducing the timeliness of the results' submission as independent variable will provide with the required insights on how the amount of discretionary accruals are correlating to the fact and hypothesis that increased earning management activities will be observed with higher delay (Susak 2020).

5. Empirical results and Discussion

To ensure the robustness of the primary findings, multiple robustness checks are being conducted. After determining the discretionary accruals for each firms (DACC), Breusch Pagan and White test were performed to test for Heteroscedasticity, where the conclusion was that Heteroscedasticity is not present, hence the use of robust standard errors is not required.

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity
Ho: Constant variance
Variable: fitted values of DACC
Chi2(1) = 44.23
Prob > chi2 = 0.0000

Table 3, Breusch Pagan test

Source: Author, STATA

Residuals displayed in a plot diagram (Table 4) also support results of Breusch Pagan and White test, therefore Heteroscedasticity is not present and further empirical analysis can be carried forward.

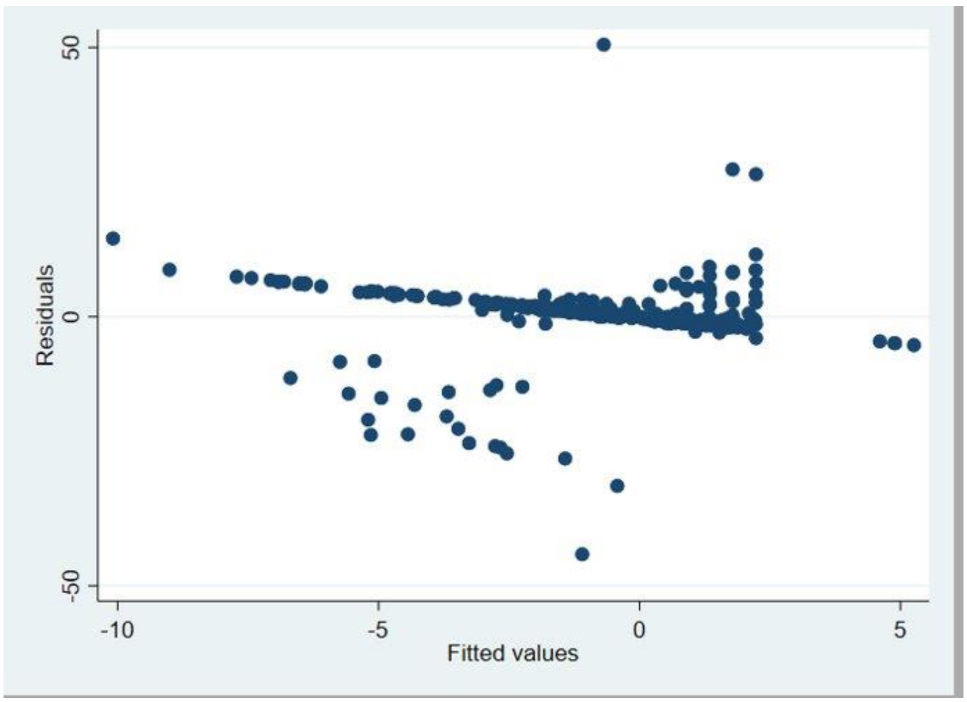

Table 4, Plot diagram for robustness check

Source: Author, STATA

	RegFlex	TACC	DACC	NDACC	DACC2021	DACC2019	21daccA	19daccA
RegFlex	1							
TACC	-0.0347	1						
DACC	-0.1296*	0.1297*	1					
NDACC	0.2292*	-0.0117	-0.0293	1				
DACC2021	-0.035	0.0407	-0.0324	0.0475	1			
DACC2019	0.0368	0.0758*	0.049	0.0056	-0.3302*	1		
21daccA	-0.0315	0.0224	0.4332*	0.1527*	-0.1498*	0.0495	1	
19daccA	-0.0383	0.1013*	0.5877*	-0.0843*	0.0014	-0.0044	-0.0002	1

Table 5, Correlation matrix

Source: Author, STATA

**Correlation coefficient is statistically significant at 5 percent level.*

Table 10 demonstrates correlation between variables used in the empirical analysis to evidence if multicollinearity is present or not. It is evident that based on Table 5, that Regulatory Flexibility has a strong significant correlation with Discretionary and Non-discretionary accruals.

Followed the preliminary analysis, OLS regression on panel data was carried out to test H1 (Firms in countries where reporting deadlines were relaxed adjusted their earnings more significantly with discretionary accruals in 2019 as opposed to firms in countries where the deadlines remained.) The results clearly suggest that regulatory flexibility has a statistically significant negative effect on the discretionary accruals in the results in 2019.

Revenue	-0.0000996* (0.0000178)
Total assets	4.76e-06 (2.92e-06)
Fiscal year	-0.4387751 (0.3403394)
Regulatory flexibility	-2.877921* (1.323034)
Delay	0.157179 (0.0103573)
Constant (DACC)	887.6822 (687.365)

Table 6, OLS regression – Coefficients and standard errors

Source: Author, STATA

**Correlation coefficient is statistically significant at 5% significance level*

Results of the first regression analysis showcased, that the regulatory flexibility has a statistically significant decreasing effect on 5% significance level on earnings management proxy, discretionary accrual. The result suggests that in countries where regulatory flexibility was granted for firms, they adjusted downwards their earnings more significantly (2.8m EUR). As a result, H1 cannot be rejected, the hypothesis stands. Which implies managerial incentives, meaning firms adjust their earning downwards triggering decrease in deferred tax, maintaining a more liquid, financially stable position at the current reporting period. Results showcase an example for earning proxies, where discretionary accruals have obvious effect on several other lines in the financial statements.

The result is also consistent with earlier studies that demonstrated increased earnings management activity during financial and economic crises (Da Silva et al., 2014 and Flores et al., 2016) as well as those by Asthana (2014) and Luypaert et al (2016) that evidenced a negative association between audit delays and financial reporting quality.

To test H2 (Firms used less discretionary accruals in their reported results in regards to earnings in 2021 than in 2019 when the financial results were submitted earlier and in countries where regulatory flexibility wasn't granted.), summary statistics were carried out. The mean of discretionary accruals in absolute terms indicate, that the observed firms adjusted their earning using discretionary accruals more in 2019 than in 2021, however in average they applied more income-decreasing accruals in 2021 than in 2019.

Variable	**Observation**	**Mean**	**Std.Dev**	**Min**	**Max**
Global company key	500	50.5	28.89498	1	100
Revenue	498	17867.38	22635.65	1.07	111240
DACC	342	-0.6950067	7.346187	-45.22849	49.85575
DELAY	500	54	65.51782	0	180
DACC2021	342	-0.2876588	3.218959	-31.34597	9.061494
DACC2019	342	-0.011044119	4.318821	-27.91898	49.85575
absDACC2021	342	0.61049	3.173468	0	31.84597
absDACC2019	342	0.7717151	4.249121	0	49.85575

Table 7, Summary statistics

Source: Author, STATA

We can also conclude that in countries where the financial reporting deadlines were relaxed, firms did submit their result later, exercising the regulatory flexibility, as shown below table.

	Coef.	Std. Err	t	P.ltl	[95% Conf.Interval]
Regulatory Flexibility	108.176*	4.111333	26.31	0.000	100.000-116.263
DACC2021values	0.3587213	0.6379854	0.56	0.574	-0.8962006-1.613643
DACC2019values	-0.3897439	0.4756237	-0.82	0.413	-1.325299-0.5458114
Constant	0.1288054	2.990499	0.04	0.966	-5.753529-6.01114

Table 8, OLS regression

Source: Author, STATA

**Correlation coefficient is statistically significant at 5% significance level*

H2 cannot be rejected when observing the results in absolute terms, however it can be rejected in terms of average values, as firms in 2021 applied more income-decreasing adjustments in earnings management. Due to the circumstances (COVID 19 pandemic), it can be assumed that firms are still unsure about how the economy will change and how their performance will accommodate and adjust to the new reality. Managers still decide to use higher earnings management activities and adjust current results, it can imply that pessimistic approach is still taken towards the future and they do not foresee quick and efficient recovery from the crisis.

In order to analyze H3 (There is a statistically significant and negative moderating effect of income-decreasing and income-increasing earnings management in regards of the timeliness from 2019 to 2021 reported by analyzed firms.), discretionary accruals in absolute terms from 2021 were regressed on the dummy variable regulatory flexibility, delay (in days), revenue and discretionary accruals from 2019 in absolute terms.

	Coef.	Std.Err.	t	P>ltl	[95% Conf. Interval]
Regulatory Flexibility	0.9139285	1.057559	0.86	0.388	-1.166319-2.994176
DELAY	-0.0197474*	0.008141	-2.43	0.016	-0.0357622--0.0037326
Revenue	0.0000385*	0.0000141	2.73	0.007	0.0000107-0.0000663
absDACC2019	0.8908007*	0.0715064	12.46	0.000	0.7501456-1.031456
Constant	1.950596*	0.4773204	4.09	0.000	1.011693-2.889498

Table 9, OLS Regression

Source: Author, STATA

**Correlation coefficient is statistically significant at 5% significance level*

As a result, the timeliness of the submission and discretionary accruals from 2019 do have a statistically significant effect on the size of the earnings management adjustment in 2021. H3 can be rejected, as observed, discretionary accruals in 2019 have a statistically significant and positive effect on earnings management activities in 2021 within the observed firms.

The overall results suggest that businesses probably prefer to pursue an income-decreasing strategy. The firms' inability to accurately predict COVID 19 (or any crises)'s consequences (Albitar et al, 2020) can explain why managers tend to decide to adjust earnings more rather than taking a qualitative approach (add notes to the financial statement e.g.). It is probable that firms won't include them in the income statement in these situations, instead they should think about include them in the notes and providing both quantitative (where possible and applicable) and qualitative information impacting the reported period. As a result, the real, true impact of COVID19 is not reflected in the financial statements for fiscal year 2019 and moving forward in 2021 either.

Further analyzing industry impact on income increasing and decreasing accruals in observed firms evidences that on 5% significance level the 3 biggest sampled industries have statistically no significant effect, however on 10% significance level firms in the Insurance industry tend to upwards adjust their earnings with 2.5 million of euros more than observed firms in other industries (Table 9).

Finance	0.4970679 (1.184489)
Manufacturing	0.1496879 (1.123339)
Insurance	2.527619** (1.510159)

Table 10, OLS regression – Coefficients and standard errors

Source: Author, STATA

**Correlation coefficient is statistically significant at 5% significance level*

***Correlation coefficient is statistically significant at 10% significance level*

The result is surprising as, hypothetically managers at insurance firms could have had incentive to adjust earnings downwards in order to increase provision, which triggers also a decrease in deferred tax. Increased provisions would have been necessary, due to the pandemic and increasing risk factors in future periods in the crisis.

Overall empirical evidence implies that the timeliness has a significant, negative effect on the quality of the financial statements, especially during an outbreak of an economic crisis, however not explicitly. This can suggest, when a new crisis occurs in the economy, firms probably take a long term pessimistic, earnings-decreasing approach by using discretionary accruals to minimize the crisis caused negative impact on their financial statements.

6. Conclusion

The findings showed that regulatory adjustments to financial reporting deadlines adopted in response to the COVID-19 epidemic had a favorable impact on the connection between earnings management and timely financial reporting. This shows that profits management actions may be to accountable for reporting delays following regulatory changes during a pandemic. Companies were more likely to alter financial statement items due to financial difficulties and uncertainties created by the coronavirus. This is consistent with previous research showing increased earnings management intensity during financial and economic crises (Da Silva et al., 2014; Flores et al., 2016; Koowattanatianchai, 2018), as well as Asthana (2014) and Luypaert et al. (2016) who found a negative relationship between audit delays and financial reporting quality.

The findings were robust, evidencing that firms granted with regulatory flexibility to report their financial results in 2019 adjusted their earnings downwards more significantly than in countries where the original deadlines remained.

Based on total amount of earnings management activities, it can be assumed that slight recovery from the crisis is shown in the slight decrease of use of discretionary accruals. On the other hand, firms still tend to adjust their income downwards, on an average, even more than they did in 2019.

Surprisingly, against preliminary assumptions, observed firms apply more adjustment in 2021 as opposed to 2019, however the later they submit their results in 2021, where regulatory flexibility is not applicable any more, the less earnings management activity can be observed. Which, raises the question for auditors, what could be the motivation from firms' management side? The firms might adjusted in the last 2 years to the new economic realities and crisis, managers might have higher tolerance level and have no more incentive to manipulate income.

It has been evidenced, that firms have carried over some of their positive results/earnings from reasonably successful periods to the time of the economic crisis. To the authors' knowledge it has not yet been previously examined and compared how regulatory changes impacted firms behavior in different countries in Europe.

This study offers significant information that regulators, auditors, investors, researchers and any other interested parties can utilize to improve and estimate financial reporting quality. Regulators should consider whether regulatory actions involving financial reporting deadline and their extensions are necessary in the future.

Investors and auditors might be better aware that in times of severe crisis, corporations are more likely to move income to future periods when they are also aware that they are provided with increased timelines to report their results. In this scenario, auditors should examine financial data more closely, with a particular focus on discretionary accruals and earnings adjustments.

For fund providers, investors, regulators or analysts the research's conclusion is significant. Because firms are during a crisis seem to misrepresent their actual financial positions, lenders and investors should exercise greater caution. This offers more thorough insights into the accuracy of accounting data for determining creditworthiness, which then are being carried forward for a longer period of time, not only during the outbreak. The results could be informative for regulators and standard-setters who want to understand how a pandemic emergency might impact the accuracy of financial statements.

7. Limitations

The research's main limiting factor is the sample size, which is narrowed down to 100 listed firms from 10 EU countries. To make it more representative, future research could extend the scope involving more countries and firms. We cannot claim that COVID 19 pandemic is definitely over as it continues to spread and the economy is not yet fully recovered, it remains uncertain whether it will get back to the same level at any point. Therefore, similar study could be carried out in the future to further analyze the crisis, once the firms are recovered, adjusted on a different level than in 2021.

Second, some corporate governance factors that were not present in the databases, such as the ownership structure or the management and internal control system, are required to complete the collection of control variables. Additionally, the data used to generate the results of the research paper has limitations that affect the conclusions that may be drawn from them. The abolition of these limitations and the inclusion of the listed businesses as a comparison dimension may be future study objectives.

Future studies could supplement this research with an empirical evidence observing larger sample size and longer period of time. It would also be beneficial to investigate additional earnings quality proxies that demonstrate the function of auditors and corporate governance procedures in the earnings' management.

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