Earnings management of European oil & gas firms after the Russian invasion of Ukraine in February 2022

Abstract

Using a difference-in-differences design, this paper predicts and documents that European firms in the oil & gas sector significantly reduced the extent of income-increasing earnings management after the Russian invasion of Ukraine took place. This result is especially pronounced in the third quarter of 2022.

In addition, we find that earnings management of oil & gas firms responded more strongly in countries with strong democracies, and when the firms had a high ESGC score. However, we cannot confirm that the decrease in earnings management was significantly related to introducing a windfall profit tax.

These results suggest that legitimacy concerns rather drove earnings management of oil & gas firms than tax motives. This paper contributes to the prior literature by analyzing a cross-country setting and by addressing legitimacy concerns.

Earnings management of European oil & gas firms after the Russian invasion of Ukraine in February 2022

1. Introduction

This paper analyzes how the Russian invasion of Ukraine on February 24, 2022, affected the earnings management of European firms in the oil & gas sectors (OG firms). The Russian invasion has not only significantly changed the political landscape but also had, and still has, economic consequences, especially for European economies. In particular, the reluctance of some European countries to buy gas and oil from Russia and the response of the Russian government to stop delivering gas and oil to some European countries, have consequently significantly increased the market prices for energy in the European Union by about 40% from February 2022 to September 2022 (European Council, 2023a).

European oil & gas companies raised net profits and stock market performance significantly after the Russian invasion. While the overall stock market performance from February 24, 2022, to February 24, 2023, was negative or close to zero in the U.S. and in Europe, respectively, oil companies listed in the S&P Global Oil Index exhibited an average stock market return of 6.6% while stock prices of companies listed in the Stoxx Europe 600 Oil & Gas raised by even 18% in the same period.

There is already evidence showing that US oil firms tended to use accruals to reduce earnings in times when market prices are high (Hall, 1993), especially in times of political crises or natural disasters, e.g., after the Iraque occupation of Kuwait in 1990 (Han & Wang, 1998), after the Arab Spring event in 2011 (Hsiao, Hu & Lin, 2017) and after the Katrina and Rita hurricanes hit US American soil in 2005 (Byrad et al., 2007).

However, we do not know whether oil and gas firms' earnings management react differently to political crises in different countries, and if so, why. Investigating this question in an

international context is particularly relevant, as country-specific differences in political risk, regulatory frameworks (e.g., tax regime), and societal expectations may significantly shape firms' strategic responses. The incentive to reduce earnings may also vary with the firm's expected loss of legitimacy or reputation. Understanding these variations can provide valuable insights for regulators and capital market participants, who rely on transparent financial reporting.

While the above studies look at only one country, mainly the U.S., we can take advantage of cross-country variations within Europe in the tax treatment of windfall profits. Political actors are more likely to act on high earnings than on low earnings and may induce adverse political actions such as increased regulation or higher taxes (Watts & Zimmermann, 1978; Cahan, 1992). Indeed, shortly after the increase in energy prices, the media suspected companies in the oil & gas sectors of taking advantage of the crisis by overly raising prices.[1] This started a public discussion as to which extent price increases are justified. As a response, many, but not all, European countries charged taxes on "windfall" profits for the respective companies (see Table A3 in the appendix). We test whether oil & gas firms reduced earnings more in countries that introduced a windfall profit tax than in countries that did not.

Furthermore, we extend prior literature by explicitly addressing legitimacy and reputation concerns. According to Merchant & Rockness (1994, p. 92), earnings management presents "*probably the most important ethical issue facing the accounting profession*". On the one hand, earnings management is considered as potentially harmful as it may obscure a firm's true value and undermine trust between shareholders and companies (e.g., Graham et al., 2006; Huang et al., 2008). On the other hand, earnings management may be seen as an acceptable

[1] See, for instance, a statement by the European Central Bank, https://www.ecb.europa.eu/press/economic-bulletin/focus/2022/html/ecb.ebbox202204_01~68ef3c3dc6.en.html

outcome that allows managers to maximize shareholder value (e.g., Dye, 1988; Schipper, 1989; Kaplan, 2001; Beaudoin et al., 2015). Ethical decision-making models assume that individual ethical attitudes and the precise context of judgment shape ethical perceptions and, consequently, ethical behavior (Jones, 1991). Ethical behavior and social responsibility are closely linked, since businesses operate in a complex, interdependent social system (Davis, 1974). To be perceived as socially responsible, firms use various legitimization strategies, e.g., codes of ethics (Long & Driscoll, 2008). Firms may suffer from reputation losses and impaired legitimacy if stakeholders consider disclosed net earnings to be excessive and opportunistic, contradicting widely accepted social norms (Macintosh, 1995). As a consequence, consumers, employees, and investors might question the firm's reputation for acting with high ethical integrity. A good reputation is important to attract a talented labor force at reasonable wages and to maintain customer loyalty (Walsh et al., 2009; Bigus et al., 2024; Han & Wang, 2024) and eventually to secure legitimacy among the firm's stakeholders (Suchman, 1995). Prior research shows that stronger ethical reasoning and awareness of shareholder interests are linked to less aggressive accounting practices (e.g., Arel et al., 2012; Maroney & McDevitt, 2008; Ponemon, 1992). In line with this, we posit and test whether OG firms reduce earnings management more when (1) there is more societal pressure, and when (2) the OG firm is likely to suffer more from reputation losses regarding its ethical integrity.

We analyze the extent of earnings management of 45 non-Russian, European listed OG firms (GICS-Code 10) in the quarters after February 2022 compared to a control group of 119 firms in the "Non basic or cyclical consumer goods and private investment goods" sector (GICS-Code 25). While the market performance of the control group was similar to that of the MSCI EUROPE 600 index in the year 2022, firms in the oil & gas sector performed much better. For both the treatment and the control group, we compared the level of earnings management in the quarters 2017-2019 with the respective levels in the second to fourth quarters of 2022. We left out the years 2020-2021 due to the Coronavirus crisis.

We first find that after the Russian invasion, OG firms engage in significantly lower earnings management than firms from the control group. We find the strongest effect in the third quarter of 2022. The effect is also economically significant: OG firms managed earnings downward by at least 70% of the median value, resulting in nearly zero discretionary accruals.

The main effect took place in the third quarter of 2022, when the first windfall tax regimes were installed. We also find that OG firms managed earnings downward more in those countries that introduced a windfall profit tax than in those where this was not the case. However, this effect is not statistically significant at conventional levels. Possibly, OG firms in non-windfall-tax countries have already lowered earnings in light of the political discussions and have anticipated that a tax or other adverse consequences might be introduced at a later point in time.

In line with the legitimacy hypothesis, we report that OG firms' earnings management is significantly negatively associated with the Economist's Democracy Index. This index measures the quality of democracy in countries around the world.[2] We expected that a higher quality of democracy would put more societal pressure on both oil & gas firms and the political actors to fight seemingly opportunistic firm behavior. By that, a higher quality of democracy increases the likelihood of impaired legitimacy. Consequently, OG firms may have felt more pressure to reduce earnings.

In addition, we find that OG firms with high ESGC scores were significantly more eager to reduce earnings. ESG activities are considered to be an important strategic element for success in product market competition as they improve the firm's reputation (Sen &

[2] This index represents a weighted average based on the answers to 60 questions that are grouped in five categories: electoral process and pluralism, functioning of the government, political participation, political culture, and civil liberties, see Economist Intelligence Unit (2023).

Bhattacharya, 2001; Martínez-Ferrero et al., 2016). We expected that especially OG firms with high sustainability scores to be inclined not to endanger this reputation. Consistently, we find that OG firms with above-median ESGC scores significantly reduce earnings management, but not OG firms with lower scores.

This paper contributes to the literature on the political cost motives of earnings management (Watts & Zimmerman, 1986; Han & Wang, 1998; Byard, Hossain & Mitra, 2007), especially in the context of political crises (Hall, 1993; Han & Wang, 1998; Hsiao, Hu & Lin, 2017) and natural disasters (Byrad et al., 2007). The cross-country variation of tax treatment in Europe allows us to investigate firms' tax avoidance motives.

Second, we highlight legitimacy and reputation concerns. On the country level, we document that powerful democracies seem to encourage OG firms to decrease earnings, while we find no significant results for windfall tax-driven motives. On the firm level, our findings suggest that OG firms with high ESGC scores are more prone to lower earnings management than those with low ESGC scores, possibly not to jeopardizing the firm's legitimacy. This result was not necessarily to be expected when we consider prior research showing that firms with high ESG reputation experienced fewer negative reactions by outside stakeholders or society at large after corporate scandals, or high-profile misconduct (Christensen, Hail & Leuz, 2021).

Furthermore, in methodological terms, this paper contributes to the above literature by utilizing a difference-in-differences design. By doing so, we are confident that the event itself, the Russian invasion, mainly drives differences in earnings management, and less so differences in firm characteristics in the treatment and control groups.

Finally, we contribute to the literature that investigates the consequences of the Russian-Ukrainian conflict. For instance, Bamiatzi et al. (2025) documented that Western firms have engaged in partisan CSR activities supporting Ukraine. Patel & Richter (2025) reported that after the Ukraine invasion, firms with higher Russian market exposure were less likely

to exit the Russian market soon. Boubaker et al. (2022) and Boungou & Yatié (2022) analyzed the impact of the crisis on the financial markets, and especially, stock markets around the world. We are not aware of any accounting literature that addresses the Russian-Ukrainian conflict.

In what follows, Section 2 describes the development of oil prices after the Russian invasion and develops the hypotheses. Section 3 describes the research design. Section 4 presents the results of the main regressions and several robustness checks. Section 5 concludes.

2. Background and hypothesis development

2.1 The increase in energy prices after the Russian invasion

Figure 1, Panel A, shows that the market price for one barrel of crude oil (Brent) was relatively stable from January 2016 to December 2019, fluctuating around 60 US$ per barrel. At the beginning of 2022, the market price was about 77 US$ per barrel, jumping to more than 110 US$ in the days after February 24, 2022.

--Insert Figure 1 about here--

Accordingly, the companies' and individual consumers' energy costs increased sharply as well (see Panel B of Figure 1). After the invasion, many European countries decided to stop buying Russian oil & gas. Later, Russia started to cancel bilateral agreements with some EU countries on gas delivery (EU Council 2023b). In September 2022, the cost of energy peaked. The companies' cost of energy rose by 105.2% within one year (Eurostat 2022: 4). Consumers' energy costs increased significantly as well, reaching the top level in October 2022.

Firms in the oil & gas sectors might have taken advantage of the energy crisis by excessively raising prices. The question remains whether companies had incentives to obfuscate these

extra profits by earnings management, as reported earnings may cause public criticism or even outrage and may undermine the firm's reputation and legitimacy.

2.2 Hypothesis development

Watts & Zimmerman (1986) claimed that the disclosure of high profits may attract the attention of the media and politicians and may lead to political actions. Political costs include all expected costs from potential adverse political actions, including restrictions in business activity (antitrust or other regulation), the loss of benefits (tax benefits or government subsidies), the increase in tax or tariff burdens, etc. (Watts & Zimmerman, 1978). Early work has shown that import restriction hearings (Jones 1991), antitrust investigations (Cahan 1992), environmental misconduct (Patten & Trompeter, 2003), and the threat of losing tax benefits (Monem, 2003) induced affected firms to manage earnings downward to avoid or mitigate political actions taken against firms.

In particular, political costs are likely to occur when there is a sudden increase in prices for goods and services that are used by a majority of consumers and are therefore relevant to the media and politicians. So far, the literature has especially addressed sudden increases of crude oil prices as a consequence of political crises or war times, e.g., the Persian Gulf crisis 1990 (Han & Wang, 1998), the Arab Spring event in 2011 (Hsiao, Hu & Lin, 2016). Byard et al. (2007) documented a sharp increase in oil prices following the Katrina and Rita hurricanes in August and September 2005.

This literature shows that oil firms managed earnings downwards, possibly to mitigate public anger, political scrutiny, and adverse political costs. A typical political cost is (the threat of) the taxation of windfall profits from the oil price increases (Han & Wang, 1998). Even when price increases were not directly related to political crises, Hall (1993) found

evidence for the period 1979-1988 that the ten largest US oil companies managed earnings downwards when market prices for gasoline were high. In line with the findings of the above literature, we posit:[3]

> H1: European firms from the oil & gas industry reduce income-increasing earnings management after the Russian invasion of Ukraine in February 2022.

So far, the literature has focused on US firms in the oil & gas industry. We have a European cross-country dataset that allows us to test the political cost hypothesis in more detail. First, there is country-level variation in the tax treatment of windfall profits, which may translate into varying incentives to manage earnings downward. As mentioned above, a special cost resulting from political pressure is additional tax burdens (Byard et al., 2007). Table A3 in the appendix provides more detailed information on which countries introduced a windfall profit tax for which companies and from when on.

We expect that OG firms were more eager to decrease earnings from the 3rd quarter of 2022 on when the international discussion on windfall profit taxes peaked and the first countries started to introduce the tax. [4]

---

[3] In some countries, the windfall profit tax also applies to electricity or energy providers (see Table A3 in the appendix). We ignored these firms since the energy industry is generally price-regulated which may induce additional incentives for earnings management. Oil & gas firms are not subject to price regulation.

[4] For instance, on August 30, 2022, the International Monetary Funds (IMF) advocated to temporarily tax the excess profits from oil price increases, see Baunsgaard & Veron (2022). On October 6, 2022 Article 1 of the EU Directive 2022/1854 suggested to raise a solidarity tax from firms in the oil & gas sector, see https://eur-lex.europa.eu/resource.html?uri=cellar:71767319-9f0a-11ec-83e1-01aa75ed71a1.0001.02/DOC_1&format=PDF.

H2: Firms from the oil & gas sector decrease earnings management more in countries that applied a windfall profit tax in 2022 than in other countries.

Further potential incentives to avoid income-increasing earnings management are firms' legitimacy and reputation concerns. A more vital democracy is more likely to both detect organizational misconduct – e.g., because the media is independent – and to perceive the alleged misconduct to be inappropriate within socially constructed systems of norms and values (Suchman 1995). To put it differently, a more vital democracy is more likely to question the firms' legitimacy.

Numerous studies documented that the media acts as a monitor, which mitigates corporate tax aggressiveness (Kanagaretnam et al., 2018), reduces accounting fraud (Miller, 2006), and deters income-increasing earnings management (Nguyen, 2021; Qi et al., 2014). Moreover, several studies have investigated the impact of institutional quality on earnings management (e.g, Maijoor & Vanstraelen, 2006; Cassar et al., 2014) and the effect of public corruption on analyst forecasts (El Ghoul et al., 2023) and earnings quality (Xu et al., 2019). However, we are not aware of studies that analyzed the overall link between the quality of democracy and firms' earnings management in the context of political crises. The Economist's Democracy Index allows us to measure the quality of democracy more comprehensively using 60 indicators (Economist Intelligence Unit, 2024). In sum, we posit:

H3: Firms from the oil & gas sector reduce income-increasing earnings management more in countries with high scores on democracy than in other countries.

On the firm level, reputational concerns may drive the decision on earnings management as well. In general, a firm is likely to suffer from reputation losses if stakeholders consider the firm to be taking advantage of windfall profits. Consumers, employees, and investors might question the firm's reputation for acting with high integrity. However, a good reputation is important to attract a talented labor force at reasonable wages and to maintain customer loyalty.

Reputation is a source of a unique and nearly inimitable competitive advantage (Lange et al., 2011; Bigus et al., 2024) and significantly contributes to a firm's value.

The concepts of reputation and legitimacy are closely related (Bitektine, 2011). Legitimacy is based on the perceptions of stakeholders whether the firm's actions are in line with social norms, while reputation is generally defined as "a set of attributes inferred from the firm's past actions and ascribed to the firm" (Weigelt & Camerer, 1988: 454). A high reputation concerning the firm's *ethical integrity*, less so about its competence or ability (Bigus et al., 2024), is likely to secure legitimacy among the firm's stakeholders.

There is literature suggesting that ESG performance is positively related to the firm's reputation. Sen & Bhattacharya (2001) and Martínez-Ferrero et al. (2016) argue that ESG activities improve the firm's reputation and are therefore an important strategic element for success in product market competition. There is also evidence that firms try to improve their reputation after a financial restatement by providing more comprehensive and higher-quality ESG reports (Zhang et al., 2021). Seemingly, firms try to rebuild the trust and reputation that they lost with the financial misrepresentation. There are also studies which measure the firm's reputation directly by an ESG score, e.g., Muller & Kräussl (2011), Carlos & Lewis (2018) and Han & Wang (2024). Relatedly, many ESG disclosure studies argue that the firm's ESG reporting practices are driven by the motive to regain or maintain legitimacy (see the overview by Del Gesso & Lodhi, 2025).

We therefore argue that firms with higher ESG scores have established a higher level of reputation and legitimacy, which they are more inclined not to endanger. As a consequence, those firms may engage less in earnings management. We posit:

H4: Firms from the oil & gas sector reduce earnings management more with a higher ESG score.

3. Research design and data selection

3.1 Control group and difference-in-differences design

We aim to isolate the effect of increasing energy prices on earnings management. Thus, the treatment group of oil & gas firms and the control group should follow a parallel trend before the Russian invasion, while only the treatment group supposedly deviated from the parallel trend after the invasion. Ideally, the control group's earnings management is not affected by the Russian invasion. However, since almost all industries consume energy to varying degrees, this ideal control group probably does not exist.

We therefore chose a control group that mirrors the economic performance of European firms in 2022 relatively well. It transpired that the MSCI Europe Consumer Discretionary Index, capturing the "Non basic or cyclical consumer goods and private investment goods" industry (GICS_Code 25, see MSCI, 2023) exhibits a very similar path in market performance in 2022 as the MSCI EUROPE 600 index, with a correlation coefficient of 0.969 in the years 2017–2022, see Figure 2. Figure 2 also illustrates the diverging market performance of energy firms.

--Insert Figure 2 about here—

This control group of GICS-Code 25 firms encompasses entities that produce durable consumer goods and textile goods, retailers, and firms offering hotel, restaurant, or leisure services. We excluded the sector "automobiles and components" (GICS-Code 2510) due to specific logistical problems during 2022 concerning semiconductors.

We employed entropy balancing to account for differences between control firms and the treated firms in the oil & gas sector (GICS-Code 10). Entropy balancing is based on those control variables for which we found a significant difference in mean values between treatment and control groups before balancing, namely, on size, market-to-book ratio, leverage, incidence

of losses, standard deviation of the income to sales ratio, and labour intensity. There is no significant difference concerning ROA and institutional ownership.

The Russian invasion started on February 24, 2022. We therefore look at the levels of earnings management in the reports of the second, third, and fourth quarters of 2022 and compare them with those in the 12 quarters covering the years 2017-2019 when energy prices were relatively stable. We exclude the years 2020 and 2021 because the COVID-19 crisis severely affected economic activities and possibly accounting choices as well.

3.2 Measure of earnings management

Total accruals equal the difference between net earnings and cash flow from operations. A certain part of this difference is considered to be the outcome of accounting choices, that is, *discretionary* accruals, which are assumed to reflect intentional earnings management and thus, lower financial reporting quality (Van der Bauwhede, de Meyere & Van Cauwenberge, 2015). As the main dependent variable, we employed *discretionary* accruals.

To be able to measure discretionary accruals, we utilize the model by Dechow et al. (2003). Dechow et al. (2003) argued that the time allowed for payment is a discretionary choice and affects total and discretionary accruals. They therefore suggested to measure the proportion of sales revenues which have not been paid yet by the following regression, separately for each industry-year cluster (Dechow et al., 2003: 358f.):

(1) $$\Delta REC = \alpha + k\Delta REV + \varepsilon.$$

The coefficient k measures the expected change in receivables for a given change in sales revenues. For our sample, the median k for all quarter-industry clusters equals 0.21, i.e., an increase in sales of 1€ is associated with a 0.21€ increase in accounts receivable. Dechow et al. (2003) consider the expected change in accounts receivable to reflect non-discretionary accruals. In sum, Dechow et al. (2003) suggested the following model:

$$(2) \qquad \frac{TA_{it}}{A_{it-1}} = \alpha_0 + \beta_1 \left(\frac{(1+k)\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}}\right) + \beta_2 \left(\frac{PPE_{it}}{A_{it-1}}\right) + \beta_3 \left(\frac{TA_{t-1}}{A_{it-1}}\right) + \varepsilon_{it}.$$

The residual of the regression proxies discretionary accruals, which we call DISACC_D.

As an alternative discretionary accruals measure, we employ the model by Kothari et al. (2005). Unlike Dechow et al. (2003), Kothari et al. (2005) control for firm performance, but do not consider the k coefficient. Discretionary accruals are represented by the error term of the following equation, based on cross-sectional regressions with at least 15 observations per industry and year cluster:

$$(3) \qquad \frac{TA_{i,t}}{A_{i,t-1}} = \beta_1 \cdot \frac{1}{A_{i,t-1}} + \beta_2 \cdot \frac{(\Delta REV_{i,t} - \Delta REC_{i,t})}{A_{i,t-1}} + \beta_3 \cdot \frac{PPE_{i,t}}{A_{i,t-1}} + \beta_4 \cdot ROA_{i,t} + \varepsilon_{i,t}$$

with *TA* = total accruals,[5] *A* = total assets, Δ*REV* = change in revenues, Δ*REC* = change in receivables, *PPE* = property, plant, and equipment, and *ROA* = operating income before depreciation divided by lagged total assets.

We call the discretionary accruals based on the Kothari et al. (2005) model DISACC_K.

3.3 Measures concerning the political cost hypothesis and the legitimacy/reputation hypothesis

First, we measured tax-related political costs by the dummy variable WINDFALL_TAX, which takes the value 1 for those countries that implemented and applied a windfall profit tax for firms in the oil & gas sector in 2022.[6] Otherwise, the dummy variable takes

[5] Total accruals = net earnings before extraordinary income − cash flow from operations (Cohen & Zarowin 2010).

[6] In our sample, this includes Austria, Belgium, Bulgaria, Finland, Germany, Portugal, Romania, Slovenia, and United Kingdom.

the value 0.[7] In many analyses, we accounted for the specific quarter in 2022, from which the windfall tax has been applied. We did not specifically control for the tax rate as the reference base varies considerably.

Next, we applied the Economist's democracy score in 2022, which we think is related to the societal concerns on the legitimacy of oil & gas firms in 2022. The Economist's democracy score is based on 60 items grouped into five categories: "electoral process and pluralism", functioning of government", "political participation", "political culture", and "civil liberties" (Economist Intelligence Unit, 2024). There is considerable variation in the 2022 country scores, ranging from 4.33 in Turkey to 6.50 in Croatia and 9.81 in Norway (Economist Intelligence Unit, 2024). We define two subgroups of countries with a relatively high and relatively low democracy index via a median split.

In addition, we employed the firm's ESGC_SCORE from the LSEG Workspace database, assuming that a higher score implies a better reputation (Carlos & Lewis, 2018; Muller & Kräussl, 2011). The ESGC score not only provides a ranking on environmental and social performance but also takes into account recent ESG-related controversies, which are likely to affect the firm's reputation and legitimacy. Again, we split the sample by the median and define two subgroups of firms with a relatively high and relatively low ESGC_SCORE in 2022.

[7] Some countries announced and implemented the windfall profit tax until August 2023, including Italy, Lithuania, Luxembourg, the Netherlands, Poland, Sweden, and Spain. Latvia and Norway have not implemented this tax by August 2023.

3.4 Regression analysis

As a first step, we look at oil & gas firms only and estimate the following fixed effects regression model where *DISACC_D* are the discretionary accruals based on the Dechow et al. (2003) model:

$$(4) \qquad DISACC\_D_{it} = \alpha_0 + \beta_1 PostInvasion_t + \sum_{j=2}^{J} Control_{it} + \text{firm FE} + \text{year} - \text{quarter FE} + \varepsilon_{it}.$$

$PostInvasion_t$ is a dummy variable with value 1 for the quarters starting after February 24, 2022. In additional tests, we define the variables $PostInvasion\ Q2$, $PostInvasion\ Q3$, and $PostInvasion\ Q4$ to account for specific effects in the second, third and fourth quarter of 2022.

We included several control variables, which have been shown to affect the level of earnings management, such as firm size as measured by the natural logarithm of total assets (*Size*). Larger firms might have more opportunities and greater power over auditors to increase earnings management, but their shareholders are often more dispersed, increasing the demand for high financial reporting quality (Beyer et al., 2010).

A higher ratio of market to book value of equity (*MB*) indicates larger growth options (Mande & Son, 2012). Skinner & Sloan (2002) argued that fast-growing firms are under stronger pressure to meet earnings forecasts and may therefore be more prone to earnings management activities. Further, we controlled for leverage, which has been positively associated with earnings management (Chung & Kallapur, 2003). Other control variables are return on assets (*ROA*) and the incidence of losses, where $LOSS$ takes the value 1 when net income before extraordinary items is negative and with value 0 otherwise. Brown (2001) reported that firms disclosing losses are less likely to manage earnings. We also controlled for the firm's operating risk measured by the standard deviation of net income before extraordinary items over sales scaled by lagged total assets in the last four quarters

$StdDev(Net\ Income/Sales)_{it}$. Baker et al. (2019) found that firms with higher operating risk exhibit more earnings management. Finally, we followed Matsumoto (2002) and controlled for labour intensity ($LabourInt_{it}$) as well as for the ownership share of institutional investors ($InstOwn_{it}$), which both are positively related to earnings management. Finally, we included year-quarter and firm fixed effects. We employed robust standard errors clustered on the firm level.

In the second step, we utilized a difference-in-differences design with both OG firms and control group firms. The fixed effects regression is modelled as follows:

$$(5)\quad DISACC\_D_{it} = \alpha_0 + \beta_1 PostInvasion_t + \beta_2 Oil\&Gas_i + \beta_3 PostInvasion_t \times Oil\&Gas_i + \sum_{j=4}^{J} Control_{it} + \text{firm FE} + \text{year} - \text{quarter FE} + \varepsilon_{it}.$$

The dummy variable $Oil\&Gas_i$ takes the value 1 when the firm belongs to the oil & gas sector, the dummy is zero for firms from the control group. The main variable of interest is the interaction term $PostInvasion_t \times Oil\&Gas_i$. We expected lower discretionary accruals after the Russian invasion of Ukraine, and thus, expect the coefficient β_3 to have a negative sign. We also analyzed the effects in specific quarters. The set of control variables is the same as with the regression outlined in (4).

To keep interaction terms simple, we investigated the marginal impact of the countries' democracy score and the firms' ESGC-Score by separately analysing subsamples with below–median and above–median observations.

3.5 Data selection

We gathered financial data from Capital IQ and translated information in different currencies into euros using the exchange rates of the European Central Bank (2023) at the end of the respective quarters. We obtained data on market capitalization and ownership structure from Thomson Reuters' Eikon database.

Table 1 provides an overview of the data selection. We started with 323 European OG firms and 552 entities from the consumer goods sector. Concerning OG firms, we had to delete 36 entities due to fiscal years that do not match the calendar year, and most importantly, due to incomplete data on control variables for the period of investigation (N = 211). We also had to exclude 31 oil & gas firms in certain subgroups whose profitability is unlikely to be severely affected by raising energy prices, especially firms related to the group "Crude oil and natural gas: storage and transport" (GICS-Code 10102040). Note that in this dataset, there are no Russian oil & gas firms. The treatment group consists of 45 oil & gas firms and 669 firm-quarter observations.

--Insert Table 1 about here—

We employed similar selection criteria[8] for the control group of consumer goods firms. Again, we lost most firms due to incomplete data for the period of investigation.

4. Results

4.1 Descriptive statistics

Table 2 shows that most OG firms in the sample were headquartered in the United Kingdom, Norway, and France, while some countries did not have any listed OG firms in the period of investigation, including Denmark, the Netherlands, Portugal, and Switzerland. Still, we used control firms from those countries to improve entropy balancing.

--Insert Table 2 about here—

[8] In the control group, we excluded entities related to the group "automotive and components" with the following GICS codes: 25101010, 25101020, 25102010, and 25102020.

--Insert Table 3 about here—

Table 3 displays summary statistics on the OG firms and the control group firms. The median OG firm exhibited positive discretionary accruals of about 2.6% (DISACC_D) or 2.7% (DISACC_K) of lagged total assets; in the control group, the respective mean amounts to 0.8% (DISACC_D) or 1.4% (DISACC_K). The sign and the level of discretionary accruals are similar to other earnings management studies on publicly listed firms (Baker et al. 2019: 336; Francis et al. 2008: 125). Positive discretionary accruals indicate upward earnings management. For several reasons, publicly listed firms generally manage earnings upwards, such as to meet financial analyst forecasts (Burgstahler & Eames, 2006; Kolasinski et al., 2023), to respond to capital market pressure (Beyer et al., 2010; Du & Shen, 2018) or to increase the executives' bonus payments (Healy, 1985; Beyer et al., 2010). Correlation coefficients do not suggest severe multicollinearity problems (see Table A2 in the appendix).

The median sample firm is located in a country with a democracy score of 8.28 (United Kingdom). The median ESGC score amounts to 56.1. None of the scores suffers from severe skewness.

4.2 Results on Hypotheses 1 and 2

Table 4 depicts regression results with oil & gas firms only. In Column 1, the $PostWar$ variable exhibits a significantly negative sign (p-value < 1%), indicating that oil & gas firms reduced efforts to manage earnings upwards. The effect is also relevant in economic terms. A coefficient of 0.027 amounts to 100% of the median value of oil & gas firms' discretionary accruals, resulting in almost zero earnings management. With the Kothari et al. (2005) model, the economic effect is weaker, but still amounts to about 70% of the median value (see Column 4). Columns 2 and 5 show that earnings management decreased, especially in the third and fourth quarters of 2022. Recall that in July and August 2022, the public discussion peaked over

whether OG firms take too much advantage of the rising energy prices and whether they should be subject to a windfall profit tax.

--Insert Table 4 about here—

In those countries that introduced a windfall profit tax in 2022, OG firms seem to have managed their earnings more strongly downwards, however, the coefficient is not significant (Columns 3 and 6). OG firms may have managed earnings downward not only for tax reasons but also for reputation or legitimacy concerns, not to appear "greedy". A non-significant result can also be explained by the fact that tax statements must be provided at the end of the fiscal year, but not quarterly.

--Insert Table 5 about here—

Table 5 displays the results, including the control group firms. Column 1 shows that OG firms were more eager to decrease earnings management, but the term $PostInvasion \times Oil\&Gas$no longer shows a statistically significant sign, as control group firms also engaged downward earnings management after the invasion ($PostInvasion$). Possibly, control group firms felt lower capital market pressure to present "good figures" as executives could plausibly explain it with the Russian invasion and not with mediocre management performance.

However, differences between the OG and control group firms remain when we look at the single-year quarters. In the third quarter of 2022, OG firms managed earning significantly more downward than control group firms, regardless of which earnings management measure we used or whether we employed entropy balancing or not (see Columns 2, 4, 6, and 8). In the third quarter of 2022, we observed heightened public scrutiny and the implementation of wind-fall profit taxes. Note also that energy prices peaked in September/October 2022 and afterwards dropped (see Figure 1), implying less pressure to manipulate net earnings.

To ensure that the parallel trend assumption is fulfilled, we tested the null hypothesis that the linear trends are parallel before the first quarter of 2022. For the DISACC_D model,

we need to reject the null hypothesis at a 10% significance level (Prob > F-Stat. = 0.09), however, for the DISACC_K we fail to reject the null hypothesis (Prob > F-Stat. = 0.21).

In addition, Figure 3 exhibits the pre- and post-treatment effects of the treated oil & gas firms on DISACC_D (Panel A) and DISACC_K (Panel B) over time. The point estimates are generated by estimating the regression model (5). Except for quarter 4 (1/2018), the treatment effects are relatively stable and partly close to zero before the Russian invasion in 1/2022, that is, before quarter 11, which shows that there are no substantial effects in the pretreatment period. However, the posttreatment effect of the third quarter of 2022 (quarter 14) displays significantly lower levels of earnings management for the oil & gas firms.

--Insert Figure 3 about here—

4.3 Results on Hypotheses 3 and 4

Table 6 displays the results for firms located in countries with high and low democracy scores (median split), see Columns 1 and 2. It transpires that OG firms engaged more in downward earnings management than control firms in the third quarter, but only in the countries with stronger democracies. This finding is in line with the conjecture that political pressure was stronger in those countries. In order not to lose too much legitimacy and to mitigate potential political costs, OG firms may have felt more inclined to reduce earnings. Note that OG firms manage earnings no differently than control firms in countries with relatively low democracy scores.

--Insert Table 6 about here--

The results in Columns 3 and 4 are in line with the conjecture that only oil & gas firms that are likely to lose substantial reputation reduce earnings management more. In a sense, reducing earnings management may help maintain the reputation and legitimacy. With a low ESGC score, however, oil & gas firms do not exhibit a different earnings management level

than control firms. Current ESG controversies seem to be an important motive for using earnings management to preserve corporate reputation. The qualitative results remain robust when we employ the Kothari et al. (2005) measure of earnings management (not tabulated). We also conducted this analysis with the ESG score only. Oil & gas firms with high ESG scores still reduce earnings management more than control group firms with high ESG scores in the third quarter of 2022, albeit at lower significance levels (not tabulated).

5. Conclusion

We provided evidence that firms from the oil & gas sector significantly lowered earnings management, compared to a control group, after the Russian invasion of Ukraine on February 24, 2022. We posited that oil & gas firms were doing so to mitigate political pressure since the media and politicians were criticizing the high profits that oil & gas firms were able to generate after the invasion. Consistently, according to our findings, the efforts to reduce net earnings by earnings management were strongest in the third quarter of 2022, after the oil & gas prices and the public debate peaked.

In addition, we found that oil & gas firms reduced earnings more when they were located in a country where democracy works well and when they exhibited high ESGC scores. We did not observe significantly more earnings management of oil & gas firms in those countries that implemented a windfall profit tax. In sum, the results are in line with the conjecture that oil & gas firms attempted to maintain their reputation and legitimacy by reporting not too high profits.

Even though we were unable to find other concurrent developments which might be able to explain the findings, we cannot exclude that confounding factors drive our results, e.g., changes in CEO or CFO characteristics or changes in their compensation packages (Baker at al., 2019). In addition, quarterly reports are not subject to mandatory audits. Hence, executives might find it easier to manage earnings in the first three quarters of the firm's financial year than in the last one. Still, this limitation of our study does not explain why we robustly observe

significant differences in earnings management in the third quarter of 2022, but not in other quarters.

Appendix

Table A1: Variable definition

Variable	Definition
Panel A: Dependent variables	
$DISACC\_D_{it}$	Discretionary accruals according to Dechow et al. (2003), see equation (2).
$DISACC\_K_{it}$	Discretionary accruals according to Kothari et al. (2005), see equation (3).
Panel B: Important independent variables	
$PostInvasion_t$	Dummy variable with value 1 for quarters starting after February 24, 2022, and 0 otherwise.
$PostInvasion_t \times Oil\&Gas_i$	Dummy variable with value 1 for quarters starting after February 24, 2022 and given it is a firm from the oil & gas sector, and 0 if at least one of those conditions is not met.
$PostInvasion\ Q2\ (Q3; Q4)$	Dummy variable with value 1 for second (third, fourth) quarter of 2022 and with value 0 otherwise.
Windfall_Tax	Dummy variable with value 1 if a windfall tax was applied in 2022 in the country the firm is headquartered, and with value 0 otherwise. See Table A3.
Democracy Index	Index showing the country-level quality of democracy according to Economist Intelligence Unit (2023).
ESGC	Firm-level ESGC Score according to the LSEG Workspace, including ESG controversies (C).
Panel C: Control variables	
$Size_{it}$	Firm size measured by natural logarithm of total assets in quarter t.
MB_{it}	Market-to-book ratio of equity at end of quarter t.
$Leverage_{it}$	Ratio of debt to total assets in quarter t.
ROA_{it}	Firm profitability in quarter t $ROA = \frac{operating\ income\ before\ depreciation_t}{total\ assets_{\ t-1}}$.
$Loss_{it}$	Dummy variable with value 1 if net income before extraordinary items in quarter t is negative and with value 0 otherwise.
$StdDev(Income/Sales)_{it}$	Standard deviation of net income before extraordinary items over sales revenues, scaled by lagged total assets, of the current and last three quarters
$LabourInt_{it}$	$= 1 - \left(\frac{property,plant,equipment}{total\ assets}\right)$, measured in quarter t.
$InstOwn_{it}$	Percentage of shares held by institutional investors.

Table A2: Correlation table

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1)	DISACC_K	1										
(2)	DISACC_D	0.896***	1									
(3)	PostInvasion	0.001	-0.017	1								
(4)	Size	-0.066**	0.070***	0.045*	1							
(5)	MB	-0.027	-0.057**	-0.107***	-0.022	1						
(6)	Leverage	-0.070***	-0.016	0.068***	0.051*	-0.232***	1					
(7)	ROA	0.215***	0.180***	0.066**	0.156***	0.464***	-0.126***	1				
(8)	Loss	-0.248***	-0.194***	0.013	-0.162***	-0.200***	0.214***	-0.481***	1			
(9)	StdDev(Sales)	0.105***	0.114***	-0.026	-0.047*	-0.118***	0.097***	-0.097***	0.197***	1		
(10)	LabourInt	-0.328***	-0.368***	-0.001	-0.196***	0.133***	-0.061**	-0.109***	-0.092***	-0.268***	1	
(11)	InstOwner	0.158***	0.089***	-0.036	-0.365***	-0.130***	0.003	-0.139***	0.117***	0.032	-0.104***	1

This table depicts Pearson correlation coefficients for the full sample. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A3: Announced, proposed, and implemented windfall profit taxes in European countries[9]

Country	Tax rate	Scope	Base	Status
Austria	90% for electricity producers; up to 40% for oil & gas companies	Electricity producers and oil & gas companies.	For electricity producers, the revenue that exceeds €140 (€120 after June 2023) per MWh. For oil & gas companies, taxable profits that are at least 20% above the average profits of the previous four years.	**Implemented** (For electricity producers, applicable from December 1, 2022, to December 31, 2023. For oil & gas companies, applicable for the period from July 1, 2022, to December 31, 2023.)
Bulgaria	90% for electricity producers; 33% for the rest	Electricity producers, energy companies, and refining industries.	For electricity producers, revenue exceeding the prescribed rates per MWh. Rates vary depending on the nature of the production. For other companies, profit margin exceeded 120% of the average profit of 2018, 2019, 2020, and 2021.	**Implemented** (For the tax period between December 1, 2022, and June 30, 2023. In March 2023, the finance minister announced a new one-off solidarity contribution for all sectors and for the tax period between July 1, 2023, and December 31, 2023. Nevertheless, this proposal was dropped.)
Finland	90% for electricity producers; 33% for the rest	Electricity producers and extraction, mining, refining of petroleum, or manufacturing of coke oven products.	For electricity producers, the revenue exceeds the prescribed rates per MWh. Rates vary depending on the nature of the production, from €90 for nuclear energy, up to €175 for biogas. For other companies, profit margin exceeded 120% of the average profit of 2018, 2019, 2020, and 2021.	**Implemented** (For electricity producers, applicable from July 1, 2022, to December 31, 2023. For other companies, for the tax period between January 1, 2023, and December 31, 2023.)
Germany	90%	Electricity producers.	Revenue exceeding prescribed rates per MWh. Rates vary depending on the nature of the production.	**Implemented** (For electricity generated after November 30, 2022, and before July 1, 2023.
Italy	50% for the energy sector; 40% for the banking sector	Production, importation, and sale of electricity, natural gas, and oil products (in the case of oil products, distributors are	Profit margin exceeding 110% of the average profit of 2018, 2019, 2020, and 2021. The tax base for the banking tax is the larger of two amounts: the difference in the net interest margin—a measure of income defined as the difference between lending and	**Implemented** (Introduced on December 29, 2022, applicable to the fiscal year 2023. It replaces the previous extraordinary tax applied in 2022 of 25% on the Incremental Added-Value—the difference between the added value for the period from October 1,

[9] See https://taxfoundation.org/data/all/eu/windfall-tax-europe-2023/ (retrieved: Dec 6, 2024)

		also subject to the tax). Banking sector.	deposit rates—between 2022 and 2021, above a 5% increase, or the difference in net interest margin between 2023 and 2021, above a 10% increase.	2021, to April 30, 2022, and the added value for the period from October 1, 2020, to April 30, 2021.) **Announced** (On 7 August, the Italian government announced a new windfall profits tax on the banking sector. The bill needs to receive Parliamentary approval within 60 days of the announcement to become law. If approved, the levy will be in place for the 2023 fiscal year, to be collected by 30 June 2024.)
Lithuania	60%	Domestic banks and branches of foreign banks licensed in EU Member States and the European Economic Area.	The net interest income that exceeds a four-year moving average by 50%.	**Implemented** (Introduced on May 1, 2023, and in place for two years.)
Luxembourg	90%	Electricity producers.	Income that exceeds prescribed caps, per MWh. The revenue caps are: €100 per MWh for hydroelectric power; €130 for wind energy, solar energy, combustion of municipal and industrial waste, and gas from water treatment plants; and €180 for fuels from solid biomass or scrap wood, and biogas.	**Proposed** (On March 15, the Parliament accepted for consideration a bill to introduce a temporary windfall tax on the excess income of specific electricity producers. It would apply retroactively, from December 1, 2022, to December 31, 2023.)
Netherlands	90%	Electricity producers.	Income that exceeds prescribed caps.	**Proposed** (On January 27, 2023, the Ministry of Finance published the draft bill. The tax is proposed to apply retroactively from December 1, 2022, to June 30, 2023.)
Norway	40%	Wind farms.		**Announced/Shows Intention** (Norway is delaying plans for an onshore wind tax. The September 2022 proposal was rejected by the industry. A revised bill will be presented in the second half of 2023.
Poland	33%	Coal and mining companies.	Profit margin exceeding 120% of the average profit of the previous four years.	**Proposed** (On July 10, 2023, the Polish Council of Ministers approved a draft bill to require coal companies to pay solidarity contributions on excess profits.)
Portugal	33%	Oil, natural gas, coal, refining companies, and food distribution establishments.	Profit margin exceeding 120% of the average profit of 2018, 2019, 2020, and 2021.	**Implemented** (Introduced on December 22, 2022. To be applied for two years: 2022 and 2023.)
Romania	RON 350 ($78.53) per	Oil, natural gas, coal, and refining companies.	Tons of refined crude.	**Implemented** (Introduced on December 28, 2022. To be applied for two years: 2022 and 2023. It replaces a previous 60% tax on

	ton of refined crude			excess profits for oil, gas, and coal refining companies. Additionally, at the end of March 2023, a windfall tax on energy producers and suppliers applied an 80 percent tax on the selling price of electricity that exceeded RON 450 (€91) per MWh expired.)
Slovenia	90% for electricity producers; 33% for the rest	Electricity producers and oil, natural gas, coal, and refining companies.	For electricity producers, the revenue that exceeds €180 per MWh. For oil & gas companies, taxable profits that are at least 20 percent above the average profits of the previous four years.	**Implemented** (For electricity producers, applicable from December 1, 2022, to December 31, 2023. For oil & gas companies, applicable for two years: 2022 and 2023.)
Spain	1.2% for energy companies and 4.8% for banks	Energy companies (gas, oil, and electricity) and banks	Sales of domestic power utilities (companies with an annual turnover exceeding €1 billion in 2019). Bank's net interest income and net fees if the net income from these sources exceeded €800 million in 2019.	**Implemented** (In December 2022, two windfall taxes on the banking sector and energy companies were approved. Applicable for two years: 2023 and 2024. Previously, in September 2021, Spain approved a temporary mechanism that was in force until December 31, 2022. The mechanism consisted of a temporary reduction in the remuneration of electricity production activities to reduce windfall profits earned due to higher gas and carbon prices. The tax applies to facilities with a capacity of more than 10 MW and power plants not benefiting from public subsidies. The tax was payable if the gas price was higher than €20/MWh. The rate of the tax depended on the energy produced, the gas price, and the price of the energy produced by gas-powered plants. However, later on, a series of exclusions were approved, and many energy providers were left outside the scope of the mechanism.)
Sweden	90%	Electricity producers.	The taxable market revenue of electricity producers that exceeds SEK 1,957 ($181) per MWh of electricity.	**Implemented** (Applicable for the period from March 1, 2023, to June 30, 2023.)
United Kingdom	25%	Oil & gas companies operating in the UK and the UK Continental Shelf.	On the same profits that are already subject to the UK's oil & gas 40% headline tax, generating an effective tax rate of 65%. However, the "investment allowance" together with other reliefs already available, enables taxpayers to obtain relief of up to 91.25 pence in the pound when they reinvest profits in the UK oil & gas sector.	**Implemented** (Approved on July 11, 2022, applicable to profits generated on or after May 26, 2022, up to December 31, 2025. On September 8, 2022, the new Prime Minister announced that there will be no extension of the application of this previously introduced windfall profit tax. In June 2023, the UK Treasury announced a plan to ease a windfall tax on the profits of UK oil & gas companies.)

References

Arel, B., Beaudoin, C. A., & Cianci, A. M. (2012). The impact of ethical leadership, the internal audit function, and moral intensity on a financial reporting decision. *Journal of Business Ethics*, 109, 351-366.

Baker, T.A., Lopez, T.J., Reitenga, A.L. & Ruch, G.W. (2019): The influence of CEO and CFO power on accruals and real earnings management. *Review of Quantitative Finance and Accounting*, 52(1), 325-345.

Bamiatzi, V., Brieger, S.A., Karakulak, Ö., Kinderman, D. & Manning, S. (2025): The rise of partisan CSR: Corporate responses to the Russia-Ukraine war, forthcoming *Journal of Business Ethics*.

Baunsgaard, T. & Vernon, N. (2022): *Taxing windfall profits in the energy sector*. https://www.imf.org/en/Publications/IMF-Notes/Issues/2022/08/30/Taxing-Windfall-Profits-in-the-Energy-Sector-522617, August 30, 2022.

Beaudoin, C.A., Cianci, A.M. & Tsakumis, G.T. (2015). The Impact of CFOs' Incentives and Earnings Management Ethics on their Financial Reporting Decisions: The Mediating Role of Moral Disengagement, *Journal of Business Ethics*, 128 (3), 505-518.

Beyer, A., Cohen, D.A., Lys, T.Z. & Walther, B.R. (2010): The financial reporting environment: review of the recent literature, *Journal of Accounting and Economics*, 50(2-3), 296-343.

Bigus, J., Hua, K.P.M. & Raithel, S. (2024): Definitions and measures of corporate reputation in accounting and management: Commonalities, differences, and future research, *Accounting and Business Research*, 60(3), 304-336.

Bitektine, A. (2011): Toward a theory of social judgments of organizations: the case of legitimacy, reputation, and status, *Academy of Management Review*, 36(1), 151–179.

Boubaker, S., Goodell, J.W., Pandey, D.K. & Kumari, V. (2022): Heterogeneous impacts of wars on global equity markets: Evidence from the invasion of Ukraine. *Finance Research Letters*, 48, 102934.

Boungou, W. & Yatié, A. (2022): The impact of the Ukraine-Russian war on world stock market returns. *Economics Letters*, 215, 110516.

Brown, L.D. (2001): A temporal analysis of earnings surprises: Profits versus losses., *Journal of Accounting Research*, 39(2),221-241.

Burgstahler, D. & Eames, M. (2006): Management of earnings and analysts' forecasts to achieve zero and small earnings surprises. *Journal of Business Finance and Accounting*, 33, 633-652.

Byard, D., Hossain, M. & Mitra, S. (2007): US oil companies' earnings management in response to hurricanes Katrina and Rita, *Journal of Accounting and Public Policy*, 26(6), 733-748.

Cahan, S. F. (1992): The effect of antitrust investigations on discretionary accruals: A refined test of the political-cost hypothesis, *The Accounting Review*, 67(1), 77-95.

Carlos, W. C. & Lewis, B. W. (2018): Strategic silence: Withholding certification status as a hypocrisy avoidance tactic, *Administrative Science Quarterly*, 63(1), 130-169.

Cassar, A., d'Adda, G. and Grosjean, P. (2014). Institutional quality, culture, and norms of cooperation: evidence from behavioral field experiments, *The Journal of Law and Economics*, 57 (3), 821-863.

Christensen, H.B., Hail, L. & Leuz, C. (2021): Mandatory CSR and sustainability reporting: economic analysis and literature review, *Review of Accounting Studies*, 26, 1176-1248.

Chung, H. & Kallapur, S. (2003): Client importance, nonaudit services, and abnormal accruals, *The Accounting Review*, 78(4), 931-955.

Cohen, D. A. & Zarowin, P. (2010): Accrual-based and real earnings management activities around seasoned equity offerings, *Journal of Accounting and Economics*, 50(1), 2-19.

Davis, K. (1974). The Meaning and Scope of Social Responsibility, in J. W. McGuire (ed.), *Contemporary Management: Issues and Viewpoints* (Prentice Hall, Englewood Cliffs, NJ), 629–633.

Dechow P., Richardson A. & Tuna, I. (2003): Why are earnings kinky? An examination of the earnings management explanation, *Review of Accounting Studies*, 8(2), 355-384.

Dechow, P. M., Sloan, R. G. & Sweeney, A. P. (1995): Detecting earnings management, *The Accounting Review*, 70(2), 193-225.

Del Gesso, C. & Lodhi, R.N. (2025): Theories underlying environmental, social and governance (ESG) disclosure: a systematic review of accounting studies, forthcoming *Journal of Accounting Literature.*

Du, Q. & Shen, R. (2018): Peer performance and earnings management. *Journal of Banking & Finance*, 89, 125-137.

Dye, R. A. (1988). Earning management in an overlapping generations model. *Journal of Accounting Research*, 26, 195-235.

Economist Intelligence Unit (2023): *Democracy Index 2023: Age of conflict*, London. https://www.eiu.com/n/campaigns/democracy-index-2023/

El Ghoul, S., Guedhami, O., Wie, Z., & Zhu, Y. (2023). Does public corruption affect analyst forecast quality? *Journal of Banking and Finance*, 154, 106860.

European Central Bank (2023): *Euro foreign exchange reference rates*. https://www.ecb.europa.eu/stats/policy_and_exchange_rates/euro_reference_exchange_rates/html/index.en.html, retrieved May 2, 2023.

European Council (2023a): Energy price rise since 2021, https://www.consilium.europa.eu/en/infographics/energy-price-rise-since-2021/, retrieved July 14, 2023.

European Council (2023b): *Impact of Russia's invasion of Ukraine on the markets: EU response*. https://www.consilium.europa.eu/en/policies/eu-response-russia-military-aggression-against-ukraine-archive/impact-of-russia-s-invasion-of-ukraine-on-the-markets-eu-response/, retrieved August 22, 2023.

Eurostat (2022): Industrial producer prices down by 2.9% in the euro area and by 2.5% in the EU, 2 December 2022, https://ec.europa.eu/eurostat/documents/2995521/15533477/4-02122022-AP-EN.pdf/988300fa-50fe-5b4e-b6c3-db26c79187be, retrieved August 20, 2023.

Francis, J., Huang, A.H., Rajgopal, S. & Zang, A.Y. (2008): CEO reputation and earnings quality, *Contemporary Accounting Research*, 25(1), 109-147.

Hall, S. C. (1993): Political scrutiny and earnings management in the oil refining industry, *Journal of Accounting and Public Policy*, 12(4), 325-351.

Han, J. C. Y. & Wang, S. W. (1998): Political costs and earnings management of oil companies during the 1990 Persian Gulf crisis, *The Accounting Review*, 73(1), 103-117.

Han, S. & Wang, Y. (2024): Reducing dependency: Corporate ESG profiles and costumer structure, *The Managerial & Decision Economics*, 45(6), 4053-4071.

Healy, P.M. (1985): The effect of bonus schemes on accounting decisions, *Journal of Accounting and Economics*, 7, 85-7.

Hsiao, D. F., Hu, Y. & Lin, J. W. (2016): The earnings management opportunity for US oil and gas firms during the 2011 Arab Spring event, *Pacific Accounting Review*, 28(1), 71-91.

Huang, P., Louwers, T. J., Moffitt, J. S., & Zhang, Y. (2008). Ethical management, corporate governance, and abnormal accruals. *Journal of Business Ethics*, 83(3), 469-487.

Jones, J. J. (1991): Earnings management during import relief investigations, *Journal of Accounting Research*, 29(2), 193-228.

Jones, T. M. (1991). Ethical decision making by individuals in organizations: An issue-contingent model. *Academy of Management Review*, 2, 366-395.

Kanagaretnam, K., Lee, J., Lim, C.Y. & Lobo, G. J. (2018): Cross-country evidence on the role of independent media in constraining corporate tax aggressiveness, *Journal of Business Ethics*, 150(3), 879-902.

Kaplan, S. (2001). Ethically related judgments by observers of earnings management. *Journal of Business Ethics*, 32(4), 285-298.

Kolasinski, A., Li, X., Soliman, M. & Xin, Q. (2023): Ambiguity aversion and beating benchmarks: Does it create a pattern?, *Management Science*, 69(11), 7059-7078.

Kothari, S. P., Leone, A. J. & Wasley, C. E. (2005): Performance Matched Discretionary Accrual Measures, *Journal of Accounting Economics*, 39(1), 163-197.

Lange, D., Lee, P. M. & Dai, Y. (2011): Organizational reputation: A review, *Journal of Management, 37*(1), 153-184.

Lo, K. (2008): Earnings management and earnings quality, *Journal of Accounting and Economics*, 45(2-3), 350-357.

Long, B. S., & Driscoll, C. (2008). Codes of Ethics and the Pursuit of Organizational Legitimacy: Theoretical and Empirical Contributions. *Journal of Business Ethics*, 77, 173-189.

Maijoor, S.J., & Vanstraelen, A. (2006). Earnings management within Europe: the effects of member state audit environment, audit firm quality and international capital markets, *Accounting and Business Research*, 36 (1), 33-52.

Mande, V. & Son, M. (2012): CEO centrality and meeting or beating analysts' earnings forecasts, *Journal of Business Finance & Accounting*, 39(1-2), 82-112.

Matsumoto, D. A. (2002): Management's incentives to avoid negative earnings surprises, *The Accounting Review*, 77(3), 483-514.

Macintosh, N.B. (1995): The ethics of profit manipulation: a dialectic of control analysis, *Critical Perspectives on Accounting*, 6, 289-315.

Maroney, J. J., & McDevitt, R. E. (2008). The effects of moral reasoning on financial reporting decisions in a post Sarbanes Oxley environment. *Behavioral Research in Accounting*, 20, 89-110

Merchant, K. & Rockness, J. (1994): The morality of managing earnings: An empirical test, *Journal of Accounting and Public Policy*, 13, 79-94.

Miller, G.S. (2006): The press as watchdog for accounting fraud, *Journal of Accounting Research*, 44(5), 1001-1033.

Monem, R.M. (2003): Earnings management in response to the introduction of the Australian gold tax, *Contemporary Accounting Research*, 20(4), 747-774.

MSCI (2023): *The Global Industry Classification Standard (GICS): Definitions of GICS Sectors effective close of March 17, 2023*. https://www.msci.com/documents/1296102/11185224/GICS+Sector+Definitions+2023.pdf/822305c6-f821-3d65-1984-6615ded81473?t=1679088764288, retrieved June 10, 2023.

Muller, A. & Kräussl, R. (2011). Doing good deeds in times of need: A strategic perspective on corporate disaster donations, *Strategic Management Journal*, 32(9), 911-929.

Nguyen, T. (2021): Freedom of the press and corporate misconduct, *Journal of Business Finance and Accounting*, 48, 1168-1710.

Patel, P.C., & Richter, J.I. (2025): Self-interest over ethics: Firm withdrawal from Russia after the Ukraine invasion, forthcoming *Journal of Business Ethics*.

Patten, D. & Trompeter, G. (2003): Corporate responses to political costs: An examination of the relation between environmental disclosure and earnings management, *Journal of Accounting and Public Policy*, 22(1), 83-94.

Ponemon, L. (1992). Accountant underreporting and moral reasoning: An experimental lab study. *Contemporary Accounting Review*, 9, 171-189.

Qi, B., Yang, R. & Tian, G. (2014): Can media deter management from manipulating earnings? Evidence from China. *Review of Quantitative Finance and Accounting*, 42, 571-597.

Schipper, K. (1989). Commentary on earnings management. *Accounting Horizons*, 3, 91-102

Sen, S. & Bhattacharya, C. B. (2001): Does doing good always lead to doing better? Consumer reactions to Corporate Social Responsibility, *Journal of Marketing Research*, 38(2), 225-243.

Skinner, D. J. & Sloan, R. G. (2002): Earnings surprises, growth expectations, and stock returns or don't let an earnings torpedo sink your portfolio, *Review of Accounting Studies*, 7(2-3), 289-312.

Suchman, M.C. (1995): Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*, 20(3), 571-610.

Walsh, G., Mitchell, V.-W., Jackson, P.R. & Beatty, S.E. (2009): Examining the antecedents and consequences of corporate reputation: A costumer perspective. *British Journal of Management*, 20(2), 187-203.

Watts, R. L. & Zimmerman, J. L. (1978): Towards a positive theory of the determination of accounting standards, *The Accounting Review*, 53(1), 112-134.

Watts, R. L. & Zimmerman, J. L. (1986): *Positive accounting theory*, Prentice Hall, Englewood Cliffs, New Jersey.

Weigelt, K. & Camerer, C. (1988). Reputation and corporate strategy: a review of recent theory and applications, *Strategic Management Journal*, 9(5), 443–454.

Xu, H., Dao, M., & Wu, J. (2019). The effect of local political corruption on earnings quality, *Review of Quantitative Finance and Accounting*, 53, 551-574.

Zhang, L., Shan, Y.G. & Chang, M. (2021): Can CSR disclosure protect firm reputation during financial restatements?, *Journal of Business Ethics*, 173(1), 157-184.

Figure 1: Oil and energy prices 2017-2022

Panel A: Development of oil prices in US-$ per barrel of crude oil (https://tradingeconomics.com/commodity/crude-oil)

Panel B: Development of industry and consumer energy prices (EU Council, 2023a)

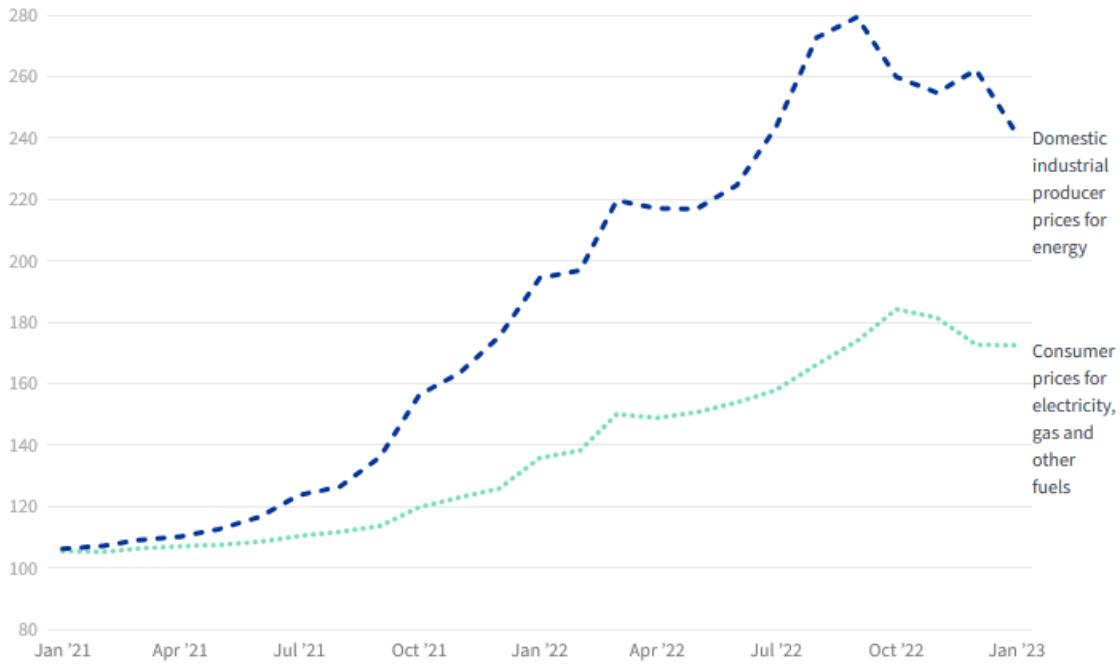
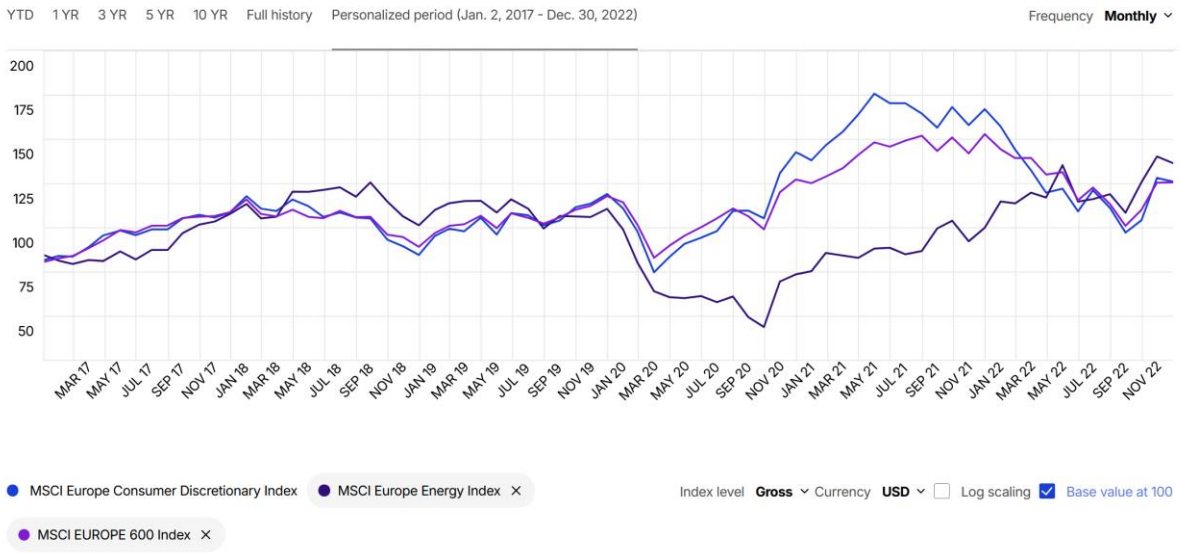


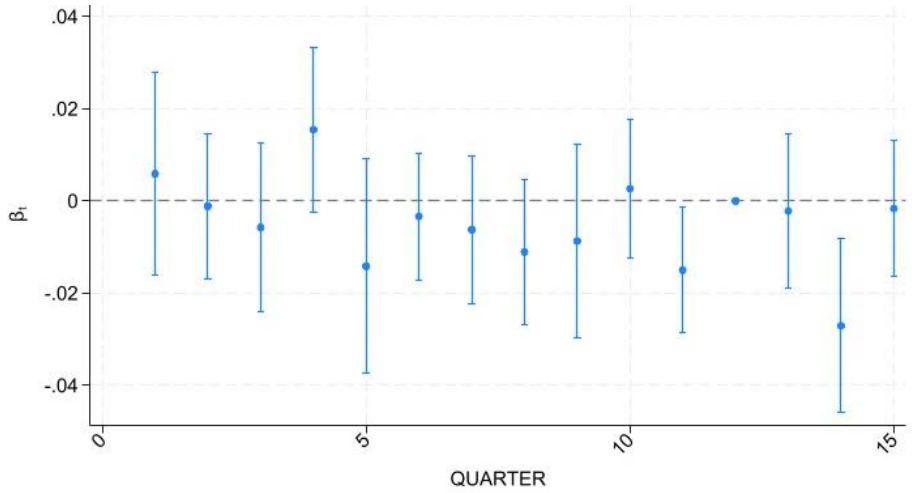
Figure 2: Development of several European stock market indexes (https://www.msci.com/indexes)



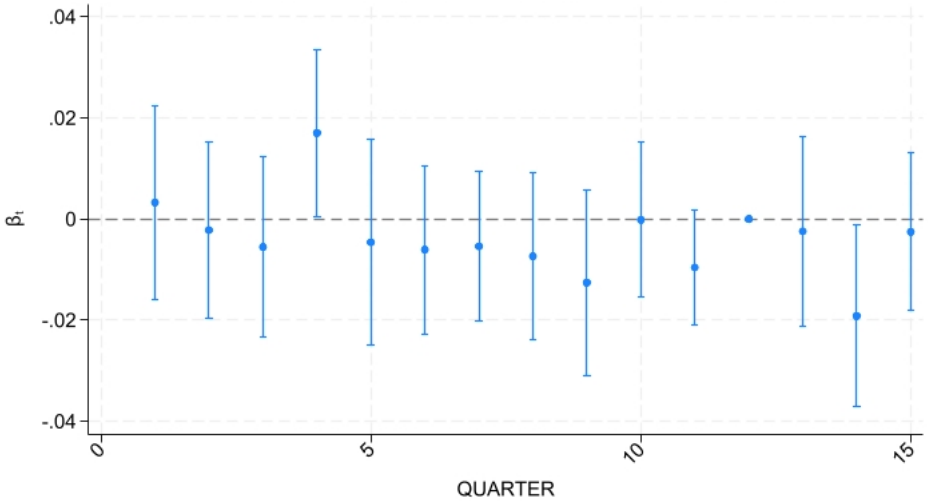
This figure displays the performance of the MSCI Europe Consumer Discretionary Index (GICS-Code 25), the MSCI Europe Energy Index (GICS-Code 10), and the MSCI Europe 600 Index including the largest 600 securities. The lines show the monthly gross index level in USD with a base value of 100 for the period from January 2, 2017 to December 30, 2022.

Figure 3: Treatment effects over time

Panel A: DISACC_D



Panel B: DISACC_K



This figure plots the pre- and posttreatment effects of the treated oil & gas firms on DISACC_D (Panel A) and DISACC_K (Panel B) over time. The point estimates are generated by estimating regression model (5). Quarter 12 represents the first quarter of 2022, when the Russian invasion in Ukraine in February 2022 took place. The solid points indicate point estimates and the lines represent 95% confidence intervals. The quarter 1/2017 is omitted as it serves as the benchmark quarter.

Table 1: Data selection

Selection criteria	**Number of firms**	
	Oil & Gas GICS-Code 10	Consumer Goods GICS-Code 25
Firms incorporated and publicly listed in Europe from 2017 – 2019 and in Q2/Q3/Q4 2022	323	1,133
Minus fiscal year ≠ calendar year	(36)	(252)
Minus unsuitable sub-industries	(31)	(115)
Minus incomplete data in the period of investigation	(211)	(647)
Number of firms	45	119
Number of firm-quarter observations	669	1,774

Table 2: Distribution across countries

Number of observations					
	Oil & Gas GICS-Code 10	Consumer Goods GICS-Code 25		Oil & Gas GICS-Code 10	Consumer Goods GICS-Code 25
Austria	30	15	Netherlands	0	30
Bulgaria	15	0	Norway	165	45
Denmark	0	30	Poland	30	150
Estonia	0	15	Portugal	0	15
Finland	15	105	Romania	45	0
France	60	225	Serbia	15	0
Germany	15	180	Slovenia	0	15
Iceland	0	15	Spain	12	27
Italy	45	205	Sweden	15	240
Lithuania	0	30	Switzerland	0	90
Luxemburg	30	15	United Kingdom	177	312
Malta	0	15			
Total of firm-quarter observations				669	1,774

Table 3: Descriptive statistics

Variable	N=	mean	1st quartile	median	3rd quartile	standard deviation
Panel A: Treatment group oil & gas sector						
Dependent variable						
DISACC_D	669	0.024	0.001	0.026	0.045	0.045
DISACC_K	669	0.023	0.003	0.027	0.045	0.046
Control variables						
PostInvasion	669	0.202	0	0	0	0.402
Size	669	7.600	6.056	7.773	9.148	2.583
MB	669	0.562	0.290	0.449	0.672	0.452
Leverage	669	0.529	0.340	0.536	0.660	0.220
ROA	669	0.032	0.015	0.028	0.047	0.032
Loss	669	0.296	0	0	1	0.457
StdDev (Net income/Sales)	669	0.325	0.028	0.069	0.250	0.655
LabourInt	669	0.549	0.402	0.538	0.711	0.220
InstOwn	669	0.414	0.196	0.455	0.639	0.274
Panel B: Control group consumer good firms						
Dependent variable						
DISACC_D	1,774	0.009	-0.011	0.008	0.030	0.045
DISACC_K	1,774	0.016	-0.006	0.014	0.035	0.042
Control variables						
PostInvasion	1,774	0.200	0	0	0	0.400
Size	1,774	5.850	4.525	5.795	6.978	1.744
MB	1,774	1.283	0.453	0.829	1.512	1.456
Leverage	1,774	0.562	0.437	0.559	0.690	0.189
ROA	1,774	0.033	0.016	0.029	0.046	0.029
Loss	1,774	0.202	0	0	0	0.401
StdDev (Net income/Sales)	1,774	0.055	0.014	0.029	0.058	0.102
LabourInt	1,774	0.774	0.680	0.821	0.923	0.187
InstOwn	1,774	0.406	0.134	0.432	0.646	0.276
Panel C: ESG and Democracy Variables						
ESGC	1,486	55.343	40.170	56.087	70.652	20.494
Democracy Index	2,443	8.409	7.960	8.280	9.280	0.8440

Table 4: Earnings management after February 24, 2022 in the oil & gas sector, basic analysis

Oil & gas firms only Coefficient (t-value)						
Dependent variable	*DISACC_D*			*DISACC_K*		
	(1)	(2)	(3)	(4)	(5)	(6)
PostInvasion	-0.027*** (-3.27)			-0.020*** (-2.79)		
PostInvasion Q2		-0.013 (-1.35)	-0.013 (-1.42)		0.002 (0.21)	0.001 (0.16)
PostInvasion Q3		-0.041*** (-4.09)	-0.037*** (-3.47)		-0.023*** (-2.77)	-0.019* (-1.92)
PostInvasion Q4		-0.027*** (-3.27)	-0.021** (-2.11)		-0.020*** (-2.79)	-0.013 (-1.35)
Windfall_Tax			-0.018 (-1.49)			-0.015 (-1.49)
Size	0.008 (1.18)		0.007 (1.00)	0.007 (0.73)		0.005 (0.55)
MB	-0.010* (-1.97)		-0.010* (-1.90)	-0.011* (-1.88)		-0.010* (-1.78)
Leverage	-0.068** (-2.63)		-0.063** (-2.49)	-0.120*** (-4.02)		-0.114*** (-3.85)
ROA	0.263* (1.92)		0.269* (1.97)	0.355** (2.67)		0.363*** (2.79)
Loss	-0.026*** (-4.19)		-0.025*** (-3.99)	-0.030*** (-4.96)		-0.029*** (-4.77)
StdDev(Sales)	0.008** (2.26)		0.008** (2.32)	0.011** (2.46)		0.012** (2.52)
LabourInt	-0.102*** (-3.53)		-0.099*** (-3.55)	-0.107*** (-2.96)		-0.103*** (-3.00)
InstOwn	-0.011 (-0.46)		-0.008 (-0.30)	0.007 (0.19)		0.011 (0.31)
Constant	0.083 (1.50)		0.085 (1.62)	0.107 (1.42)		0.110 (1.50)
Firm FE	yes	yes	yes	yes	yes	yes
Year-quarter Dummies	yes	yes	yes	yes	yes	yes
N =	669	669	669	669	669	669
Adj. R^2 in %	19.7	19.7	20.0	28.9	28.9	31.8
F-Stat. (p-value)	17.9 (0.000)	17.9 (0.000)	15.9 (0.000)	34.9 (0.000)	34.9 (0.000)	32.3 (0.000)

This table shows how firms in the oil & gas sector changed earnings management after the Russian invasion in Ukraine. PostInvasion is a dummy variable with value 1 for quarters starting after February 24, 2022, and 0 otherwise. PostInvasion Q2 (Q3, Q4) stands for the second (third, fourth, respectively) quarter of 2022. DISACC_D stands for the discretionary accruals according to Dechow et al. (2003) and DISACC_K for the discretionary accruals according to Kothari et al. (2005). For a definition of control variables, see Table A1 in the appendix. The coefficients of control variables are the same with Columns 1 and 2, and with Columns 4 and 5. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively, using a two-tailed test. Standard errors are adjusted for heteroscedasticity and clustering at the firm level.

Table 5: Earnings management after February 24, 2022, in the oil & gas sector and in the control group, difference-in-differences design

Oil & gas firms and control firms Coefficient (t-value)								
	Without entropy balancing				After entropy balancing			
Dependent variable	*DISACC_D*		*DISACC_K*		*DISACC_D*		*DISACC_K*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PostInvasion	-0.025***		-0.022***		-0.027***		-0.018**	
	(-4.06)		(-4.01)		(-4.39)		(-2.53)	
PostInvasion Q2		-0.015**		-0.001		-0.021***		-0.006
		(-2.34)		(-0.25)		(-3.29)		(-1.24)
PostInvasion Q3		-0.018***		-0.010*		-0.017**		-0.006
		(-2.67)		(-1.87)		(-2.22)		(-1.03)
PostInvasion Q4		-0.027***		-0.023***		-0.031***		-0.018**
		(-4.27)		(-4.04)		(-4.47)		(-2.20)
PostInvasion × Oil & Gas	-0.006		-0.005		-0.002		-0.002	
	(-1.38)		(-0.97)		(-0.48)		(-0.39)	
PostInvasion Q2 × Oil & Gas		0.002		0.001		0.011		0.010
		(0.25)		(0.09)		(1.61)		(1.54)
PostInvasion Q3 × Oil & Gas		-0.023***		-0.016**		-0.023***		-0.015**
		(-2.88)		(-2.29)		(-2.88)		(-2.18)
PostInvasion Q4 × Oil & Gas		0.002		0.001		0.006		-0.001
		(0.37)		(0.11)		(0.99)		(-0.11)
Constant	0.053	0.053	0.074*	0.073*	0.065	0.064	0.051	0.049
	(1.57)	(1.55)	(1.87)	(1.86)	(1.59)	(1.58)	(0.78)	(0.76)
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Firm FE	yes	yes	yes	yes	yes	yes	yes	yes
Year-quarter Dummies	yes	yes	yes	yes	yes	yes	yes	yes
N =	2,443	2,443	2,443	2,443	2,443	2,443	2,443	2,443
Adj. R^2 in %	11.9	12.2	18.1	18.2	20.0	21.0	26.4	26.9

F-Stat. (p-value)	9.9 (0.000)	9.5 (0.000)	9.8 (0.000)	9.7 (0.000)	30.0 (0.000)	32.0 (0.000)	22.3 (0.000)	24.5 (0.000)

This table shows how firms in the oil & gas sector changed earnings management after the Russian invasion in Ukraine, compared to the control group of "Non basic or cyclical consumer goods and private investment goods" (GICS-Code 25). PostInvasion is a dummy variable with value 1 for quarters starting after February 24, 2022, and 0 otherwise. PostInvasion Q2 (Q3, Q4) stands for the second (third, fourth, respectively) quarter of 2022. Oil & gas is a dummy variable with value 1 when the firm is from the oil & gas sector and with value 0 if it is a control group firm. DISACC_D stands for the discretionary accruals according to Dechow et al. (2003) and DISACC_K for the discretionary accruals according to Kothari et al. (2005). Control variables include Size, MB, Leverage, StdDev(sales), LabourInt, and InstOwn. For a definition of control variables, see Table A1 in the appendix. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively, using a two-tailed test. Standard errors are adjusted for heteroscedasticity and clustering at the firm level.

Table 6: Earnings management after February 24, 2022 in the oil & gas sector, democracy index and ESGC scores, difference-in-differences design

Oil & gas firms and control firms Coefficient (t-value)								
	Without entropy balancing				With entropy balancing			
Dependent variable	*DISACC_D*				*DISACC_D*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	High democracy index	Low democracy index	High ESGC score	Low ESGC score	High democracy index	Low democracy index	High ESGC score	Low ESGC score
PostInvasion Q2	-0.016**	-0.015	-0.027**	-0.011	-0.022**	-0.019***	-0.010	-0.018*
	(-2.04)	(-1.48)	(-2.58)	(-1.36)	(-2.59)	(-3.16)	(-1.48)	(1.81)
PostInvasion Q3	-0.010	-0.033***	-0.014	-0.008	-0.017*	-0.019*	-0.006	-0.020*
	(-1.22)	(-3.11)	(-1.48)	(-0.76)	(-1.93)	(-1.80)	(-0.91)	(-1.86)
PostInvasion Q4	-0.022**	-0.039***	-0.030***	-0.024**	-0.021***	-0.056***	-0.021**	-0.016**
	(-2.44)	(-4.66)	(-3.05)	(-2.67)	(-2.91)	(-5.51)	(-2.29)	(-2.65)
PostInvasion Q2 × Oil & Gas	0.009	-0.008	0.013	-0.003	0.013	0.002	0.008	-0.002
	(1.00)	(-0.88)	(1.60)	(-1.36)	(1.37)	(0.19)	(1.19)	(-0.12)
PostInvasion Q3 × Oil & Gas	-0.035***	-0.004	-0.030**	-0.011	-0.028***	-0.017	-0.026***	-0.006
	(-3.28)	(-0.34)	(-2.35)	(-1.09)	(-3.36)	(-1.19)	(-2.87)	(-0.54)
PostInvasion Q4 × Oil & Gas	-0.001	0.008	0.004	0.014	-0.003	0.020**	0.005	-0.000
	(-0.08)	(0.85)	(0.63)	(1.40)	(-0.43)	(2.29)	(0.76)	(-0.06)
Constant	0.105***	-0.067	0.068	0.007	0.083	-0.185**	0.120	-0.197***
	(2.63)	(-1.00)	(1.30)	(0.15)	(1.21)	(-2.19)	(1.22)	(-2.81)
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Firm FE	yes	yes	yes	yes	yes	yes	yes	yes
Year-quarter Dummies	yes	yes	yes	yes	yes	yes	yes	yes
N =	1,449	994	754	732	1,449	994	754	732
Adj. R^2 in %	9.8	16.3	11.9	8.7	20.6	25.4	18.8	23.6
F-Stat. (p-value)	6.0	10.3	11.0	20.2	29.0	48.3	351.6	1,389
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

This table shows how firms in the oil & gas sector changed earnings management after the Russian invasion in Ukraine, compared to the control group of "Non basic or cyclical consumer goods and private investment goods" (GICS-Code 25), and how this depends on the democracy score of the country the firm is headquartered in (Economist Intelligence Unit, 2023) and the firm's ESGC score (LSEG Workspace database). PostInvasion is a dummy variable with value 1 for quarters starting after February 24, 2022, and 0 otherwise. PostInvasion Q2 (Q3, Q4) stands for the second (third, fourth, respectively) quarter of 2022. Oil & gas is a dummy variable with value 1 when the firm is from the oil & gas sector and with value 0 if it is a control group firm. DISACC_D stands for the discretionary accruals according to Dechow et al. (2003). Control variables include Size, MB, Leverage, StdDev(sales), LabourInt, and InstOwn. For a definition of control variables, see Table A1 in the appendix. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively, using a two-tailed test. Standard errors are adjusted for heteroscedasticity and clustering at the firm level.