Using Earnings Calls to Understand the Political Behavior of Major Polluters

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Abstract

The role that private actors play in accelerating or preventing progressive climate policy and true decarbonization is a core research interest of global environmental politics. Yet scholars have struggled to measure the political behavior of multinational firms due to lack of transparency about their activities and inconsistency in reporting requirements across jurisdictions. In this research note, we present a new data source – firm earnings calls – that scholars might use to better understand the political behavior of major multinational polluters. To illustrate the value of earnings calls as a data source, we construct an original dataset of all earnings calls from major oil and gas firms between 2005 and 2019. We then code these transcripts, demonstrating that although firms can be classified as more or less pro-climate, there is little evidence of the industry's public acceptance of decarbonization. These unique data could permit researchers to explore important questions about climate politics, the evolution of private governance, and the relationship between policy and firm political behavior. Moreover, we suggest extensions of our approach, including other multinational industries that are amenable to this type of analysis.

Keywords

Decarbonization, oil and gas firms, firm political behavior, lobbying, earnings calls, private governance

Word Count (excluding abstract & title): 4,996

Introduction

In this research note, we present a new data source—firm earnings calls—that scholars might use to better understand the political behavior of major polluters. There is growing interest among scholars of global environmental politics in the role private actors will play in accelerating or preventing decarbonization. Recent studies note that the principal problem of decarbonizing the economy may well be overcoming the incentives of powerful polluters to maintain the status quo (Colgan et al. 2021, Falkner 2008, Mildenberger 2020, Ovodenko 2017, Paterson 2020).

Yet, scholars have struggled to measure the political behavior of these firms. Much of their lobbying activity takes place behind closed doors and is not publicly documented. Annual reports can be frustratingly vague on environmental performance, let alone political behavior. Common metrics for measuring lobbying activity—such as campaign donations—are not publicly available in most countries. As a result, there have been relatively few large-scale comparative studies of the political strategies and behavior of multinational corporations.

To illustrate the value of earnings calls as a data source, we develop a new dataset of quarterly earnings calls by major oil and gas firms from 2005 to 2019. While the method we describe below could be applied to any publicly traded firm, we focus on oil and gas firms for two reasons. First, as economic actors, oil and gas firms' activities are primary sources of greenhouse gases. Recent analysis of historical emissions suggests that 63% of the global carbon dioxide and methane emitted into the atmosphere can be traced to a mere 90 oil and gas firms (Ekwurzel et al. 2017, Heede 2014). Second, as political actors, oil and gas firms have been amongst the most influential interest groups, particularly in the developed world (Newell and Patterson 1998, Dunlap and McCright 2011). According to one NGO report, the five largest oil majors have spent $200 million per year lobbying against climate policy since the Paris Agreement, and about the same amount annually on climate-related branding and public relations (InfluenceMap 2019).

Despite their centrality to the politics of global climate change, studying oil and gas firms has proven difficult. The relatively few studies that have tried to examine their political behavior have drawn on qualitative interviews (Pulver 2007, Skjaerseth and Skodvin 2001), analyses of business behavior and public statements (Levy and Kolk 2002, Saeverud and Skjaerseth 2007), or a combination of the two (Lovell 2010, Nasiritousi 2017, Tjernshaigen 2012, Vormedal et al. 2020). In addition, some analyses have studied the political behavior these firms by analyzing what they spend on lobbying in the United States, where there are datasets measuring firms' lobbying behavior after 1999 (e.g., Brulle 2018). While useful, these analyses are unable to compare oil and gas companies' behavior across countries, a significant limitation given the fundamentally transboundary nature of these firms.

Data from earnings calls offer two advantages. As opposed to press releases and other public statements, data from earnings calls constitute relatively "costly" speech for firms, as their content can carry legal and financial consequences (see Kimbrough and Wang 2013). Second, earnings calls are published at regular intervals over extended time periods, permitting a longitudinal analysis of firm behavior.

This research note has four goals. First, we introduce the Earnings Calls of Oil Majors [ECOM] dataset of coded earnings calls of oil and gas firms, which will be publicly available in the Harvard Dataverse. Second, we demonstrate the utility of this dataset for answering key questions in the study of climate politics. Here, we find little evidence that oil and gas majors are making meaningful efforts on decarbonization. Much of the shift in firms' political strategies is concentrated in a decreased effort to deny climate science and a growing acceptance of the implementation of a carbon price. Consistent with previous research, we also find evidence of a Transatlantic divide among firms (Levy and Kolk 2002, Skjaerseth and Skodvin 2003, Saeverud and Skjarseth 2007, Nasiritousi 2017); however, our data also reveal that intra-Continental differences are also significant, suggesting the importance of firm-level

variables (see Authors). Third, we illustrate the advantages of our dataset vis-à-vis other similar sources. Finally, we elaborate on the advantages of using earnings calls to study firm behavior in global environmental politics more generally.

Introducing the Earnings Calls of Oil Majors [ECOM] Dataset

We develop a measure of oil and gas firms' political behavior on climate change by drawing on transcripts of shareholder earnings calls. Earnings calls are regular (typically at least quarterly) interactions between firms and their major investors. They are the primary way in which firms communicate to capital markets, and therefore have a significant impact on share prices. Moreover, information in earnings calls can be used to hold firms accountable in legal proceedings. In the U.S., for example, the Exchange Act of 1934 holds firms liable to investors for any statement that is "false or misleading with respect to any material fact" – including information conveyed to investors orally as would be the case in shareholder earnings calls.[1] Additionally, some earnings calls data are directly verifiable ex-post, incentivizing managers to credibly communicate firm strategy or otherwise face significant reputation costs for future investors (Demers and Vega 2008, p. 2). Compared with other sources of corporate information, such as press releases or media reports, this makes the content of earnings calls relatively "costly" speech for firms (see Kimbrough and Wang 2013). We can interpret firms' speech in such settings as what managers think capital markets want to know about their business.

Our coded dataset covers 1,747 earnings calls from 2005 to 2019 from the top ten largest oil and gas firms on which we could acquire data through the Factiva database: BP, Total, Chevron, ConocoPhillips, ExxonMobil, ENI, Repsol, Equinor (Statoil), Shell, and Occidental.[2] Although some transcripts appear on Factiva starting in 2002, data were most consistently available for all firms starting in 2005. Combined, these transcripts total 16.1 million words. We found that there were differences in the frequency of communications among firms, with BP and Shell communicating the most often (302 and 288 calls, respectively, between 2002 and 2019) and Repsol and Total communicating the least frequently (107 and 113 calls, respectively, between 2002/3 and 2019). These call transcripts followed a similar structure with: a) a presentation from the firm, often given by the CEO or chief economist; b) questions from shareholders.

To capture the political speech of firms regarding climate change, we first filtered the text by keyword (see Table 1). This resulted in 1,194 paragraphs that were suspected to contain political speech on climate. These paragraphs were all hand coded by a team of research assistants (see below) and 55% of paragraphs were found to contain politically-relevant speech.

We asked research assistants to assign codes that capture the specific valence of each statement. Given the purposes of a broader research project (see Authors), we coded speech from these calls for six key variables: acceptance/denial of climate science, support for international agreements, support for national climate policy, attitudes towards carbon pricing, attitudes towards carbon capture and storage, and acceptance that fossil fuel use will ultimately end. For example, we coded these mentions as either accepting/supporting, neutral/partially accepting, or rejecting a given policy or approach, according to a codebook developed by the researchers and shown in Table 1. To ensure the reliability of these data, we

[1] Pub. L. 73-291, Sec. 18 (a). Note that Sec. 21 (e) of the same act releases this liability for any statement that is explicitly forward-looking.

[2] National oil companies, many of which are significantly state-owned or controlled, are also critical in this regard as they account for 43 percent of global capital expenditures, but very few of these firms hold regular earnings calls. See Heede 2014, Mahdavi 2020, Manley and Heller 2020.

had human coder overlap and developed a measure of inter-coder reliability. After training and careful refinement of the codebook, the results were found to be substantially reliable.[3]

Indicators	Value	Example search strings
Does company accept climate science?		
Accept	+1	"climate change"/"climate science"/"global
Partial acceptance	0	warming"/"Greenhouse gas/gasses"
Reject	-1	
No mention	NA	
Does company support international agreements?		
Support	+1	"environmental protection"/"regulation"/
Neutral	0	"regulatory"/"government policy"/"treaty"/
Reject	-1	"Kyoto"/"Paris Agreement/goals"
No mention	NA	
Does company support national laws & policies?		
Support	+1	"environmental protection"/"regulation"/
Neutral	0	"regulatory"/"government policy"/"Waxman-
Reject	-1	Markey"/"CAFE"/"RESD"/NDCs
No mention	NA	
Does company support carbon pricing?		
Support	+1	"emission trading"/"emission market"/"fuel
Neutral	0	efficiency"/"carbon pricing"/"carbon tax"
Reject	-1	
No mention	NA	
Does company support carbon capture & storage?		
Company is pursuing it	+1	"CCS"/"CCUS"/"carbon capture"/"carbon
"Someone" should pursue it	0	sequestration"
Reject	-1	
No mention	NA	
Does company accept an end to fossil fuels?		
This century	+1	"divestment"/"future energy"/"decarbonize"
Some vague point in the future	0	
No	-1	
No mention	NA	

Table 1: Codebook for Earnings Calls of Oil Majors [ECOM] Dataset. *For each of the six indicators, coders first used the search strings (keywords) to search for relevant passages; then used the indicator wording to code the meaning of the text where the keyword is mentioned; and then assigned the relevant value (-1,0,1) to register the data. Support of international agreements and national laws refer to major instances such as Kyoto and Paris for the former; and Waxman-Markey (US), Renewable Energy Sources Directive (EU), or Nationally Determined Contributions for the latter.*

[3] After training, a reliability analysis indicates there is substantial agreement across coders for all variables (percent agreement >90% and Cohen's Kappa >0.61).

These data do have some limitations. First, public records do not exist on Factiva before 2002 and are inconsistently available before 2005. Although this timespan offers the opportunity to conduct longitudinal analysis over almost fifteen years, it does miss important developments in the sector that occurred in the 1990s. Second, earnings calls are generally only available for publicly traded firms. Although we include some state-owned firms in our data where there are available earnings calls (such as Equinor) we are not able to include other major firms such as Saudi Aramco or Rosneft. We note that these firms are generally hard to study due to limitations on *all* kinds of data (but see Mahdavi 2020 and Manley and Heller 2020).

But these data also offer significant advantages over existing data sources that we detail below. First, they offer the ability to assess shifts in the industry as a whole over time. Second, they offer a way to understand nuanced cross-firm variation that is difficult to capture using other sources. Third, the text component offers the ability to conduct qualitative analysis of the data. And finally, the data offer better longitudinal and geographic coverage than previous data sources.

Utility for Understanding Firm Behavior

Industry Changes Over Time

Our six indicators provide little evidence of transformative political action towards decarbonization in the oil and gas industry over time. Much of the shift in firms' political strategies is concentrated in a decreased effort to deny climate science and a growing acceptance of the implementation of a carbon price (Figure 1). There is also more support for international climate agreement, particularly after the signing of the Paris Agreement in 2015. We also note a slightly positive trend in support for national laws, which contrasts sharply with staunchly anti-climate political behavior on the part of the industry in the critical 2011-2016 period.[4]

Much of this overall improvement is concentrated in changes from 2018 to 2019. Three additional firms accepted climate science (BP, ExxonMobil, Shell) and carbon pricing (Equinor, ExxonMobil, Total) in this period. And four European firms publicly acknowledged the possibility of a non-fossil-reliant energy system (BP, Eni, Equinor, Shell). This was a particularly transformative period for BP, as it went from tied from third-worst (with Chevron) in 2018 to tied for second-best (with Equinor) in 2019.

Despite these upward trends, firms remain steadfast over time in denying the end of fossil fuels. In the 2008-2016 period in particular, we find sharp resistance to the idea that fossil fuels will be phased out in the energy transition. While there is some movement away from the business as usual (BAU) assumption of the endurance of fossil fuels in 2017-2019 among the four European firms noted above, no firm has yet publicly made an effort to support a future fossil-free energy system.

[4] This trend is similar if we subdivide support for national laws into separate indicators for emissions regulations, renewable energy targets, clean car standards, and general environmental regulations on fossil fuel production. For example, all firms during the 2011-2016 period were uniformly against specific policies such as the Low-Carbon Fuel Standard, greenhouse gas emissions caps, and fuel efficiency regulations.

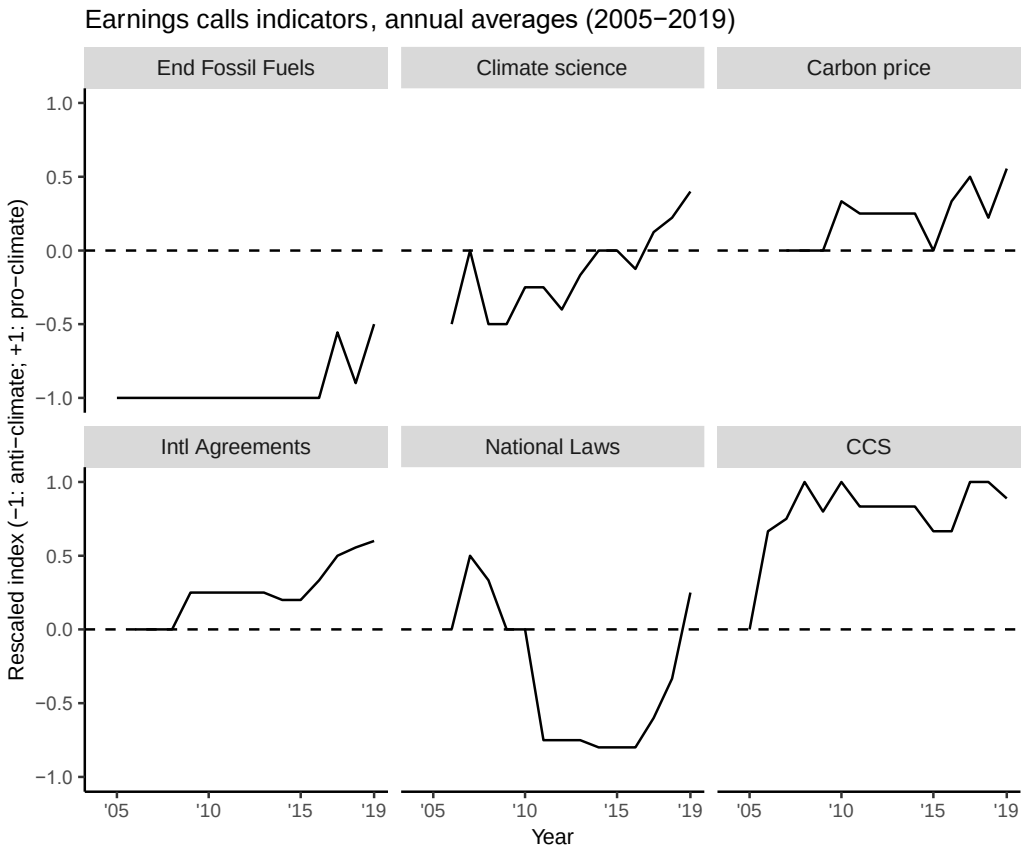

Figure 1. ECOM firm climate-related political strategy, by indicator. *Each indicator follows a scale running from strong effort against climate policy (-1) to strong support for climate policy (+1). See Table 1 for coding details.*

Differences Across Firms

While no firms marked a transformative shift towards decarbonization, there is still remarkable variation across firms over time (Figure 2). At the top of the index in 2019 are Shell, Equinor, and BP, all three of which becoming markedly more vocal in accepting climate science, a carbon price, national climate policies, and international climate accords after the Paris Agreement. BP is an interesting case in particular, having publicly rejected climate science in earlier years and pushed back against national climate policies as late as 2018.

Four firms comprise the middle of the pack: ExxonMobil, Repsol, Total, and Occidental. These firms appear to be hedging their positions on decarbonization by roundly rejecting the end of fossil fuels while tacitly accepting national and international climate plans (though not publicly supporting them), and, with the exception of Occidental, advocating for a minimal carbon price. Among this group, ExxonMobil has made significant shifts in how it talks about climate change with its investors: initially rejecting climate science and national climate policy in the 2000s to accepting the Paris Climate accords, minimal carbon pricing, and conceding that the planet is indeed warming (though not outwardly accepting anthropogenic climate change).

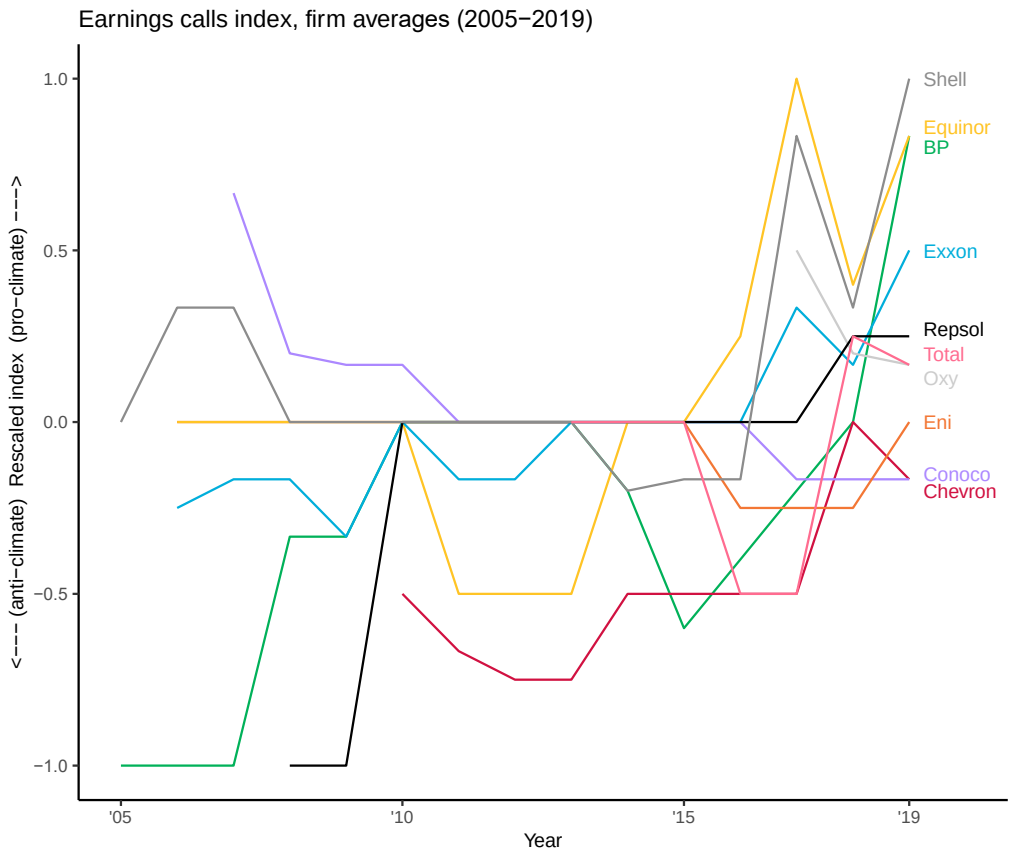

Figure 2. ECOM firm climate-related political strategy, by firm. *Each line represents a firm's average score for all six earnings calls indicators, with equal weight for each indicator.*

Eni, ConocoPhillips, and Chevron are at the bottom of the index in 2019. The latter two continued to push back against domestic climate policy in their earnings calls and maintained neutral positions on carbon pricing, carbon capture and storage, and climate science in general. Indeed, Chevron has been at or near the bottom of the pack every year for which we have data on its earnings calls. By contrast, ConocoPhillips began the period as one of the least anti-climate firms in its communications with shareholders, accepting climate change and the need for domestic climate policy as early as 2007 before reversing course in 2011.

Overall, there is some merit to earlier claims of a continental divide between European-based firms and those headquartered in the U.S. (Levy and Kolk 2002, Skjaerseth and Skodvin 2003, Skjaerseth and Skodvin 2006, Saeverud and Skjarseth 2007, Nasirtousi 2017). Yet there is considerable variation within these two groups, suggesting that geography is not destiny in determining the political behavior of the oil majors and that firm-level variables should be taken into consideration.

Discursive Strategies

Finally, these transcripts can be analyzed qualitatively to examine the discursive strategies that oil and gas firms use when communicating about climate. In analyzing the theme of the end of fossil fuels, preliminary analysis of these transcripts suggests that a dominant strategy in the post-Paris environment has been to link expanding fossil fuel production to the accomplishment of the UN Sustainable Development Goals. Two examples illustrate this point. First, ExxonMobil VP Jeffrey Woodbury stated in 2017:

> First, I'll note that dual challenge, that is, meeting society's need for energy while addressing the risk of climate change. I also want to note that the dual challenge addresses 2 of the 17 United Nations Sustainable Development Goals: #7, which is affordable and clean energy and #13 which is climate action… To meet this demand, all forms of energy will be needed, with preference to affordability and reliability.

Similarly, Ben van Beurden, CEO of Royal Dutch Shell, stated:

> Now in order to keep global warming to well below 2 degrees Celsius, the world needs to stop adding additional stock of greenhouse gases in the atmosphere... population growth will take place at the same time, as the UN Sustainable Development Goals that Chad mentioned are progressively being met, hopefully… And that will increase global energy demand as well. So this population growth together with rising living standards is likely to cause the consumption of primary energy, so oil, gas, coal, nuclear, hydro, renewables, etc. to double by the end of the century.

Understanding these strategies is important for scholars who seek to understand how firms seek to justify their activities through alignment with the dominant political discourse surrounding climate change: sustainable development (Bernstein 2013).

Comparison to Existing Measures of Firm Strategy

How do the measures from earnings calls data compare to existing data on oil and gas firm political strategy? The closest database to our own is from the advocacy organization InfluenceMap, though these data are only available for five of the firms in our sample and only for select years (2015, 2017-2019). Further, the InfluenceMap data only measure firms' activities within the United States, which represents only 27 percent of these firms' total petroleum production.[5]

With these caveats in mind, we created an index of the average score across the six variables from our earnings calls data and plotted the earnings call measure against three indicators from InfluenceMap (Figure 3).[6] The earnings call index is positively correlated with the subjective overall "grade" on climate policy as indicated in the top left panel (ranging from A+ to F-, available for 2015, 2018, and 2019) and total spending on climate-related PR activities in the top right panel (in millions of dollars, available only for 2018). Both our data and the InfluenceMap data indicate that Shell and BP (in 2019) are leaders among the oil majors, and Chevron is a clear laggard. The datasets differ slightly on Total, which InfluenceMap has tied with Shell for the highest in the sample in each year. But our data tell a different story. In their 2019 earnings calls, for instance, Total continued to deny the end of fossil fuel use in the

[5] Based on oil production estimates reported by each firm in annual reports for 2018, excluding BP and Repsol, which do not report production figures by country of operation.

[6] We leave out the comparison to InfluenceMap's carbon policy footprint (CPF), as this includes firms' profits and revenues in calculating "financial influence." By contrast, our measure is agnostic on perceived influence.

long term and to push back on the Paris Agreement—with CEO Patrick Pouyanné using the typical refrain that a 2-degree warming scenario is a "world where economic growth is reduced."[7]

The earnings call index also positively tracks with InfluenceMap's measure of lobbying (bottom panel), although the lobbying efforts of two of the five firms in the data may not be well-represented in terms of their global lobbying activities. The year 2018 might be viewed as an outlier year for BP's lobbying efforts in the United States given its outsized role in combatting Initiative 1631, the carbon tax ballot measure in Washington state. Total, by contrast, is not known for its extensive role in U.S. climate politics given its limited asset base within the country; it is no surprise, then, that it does not spend much in the way of lobbying U.S. officials.

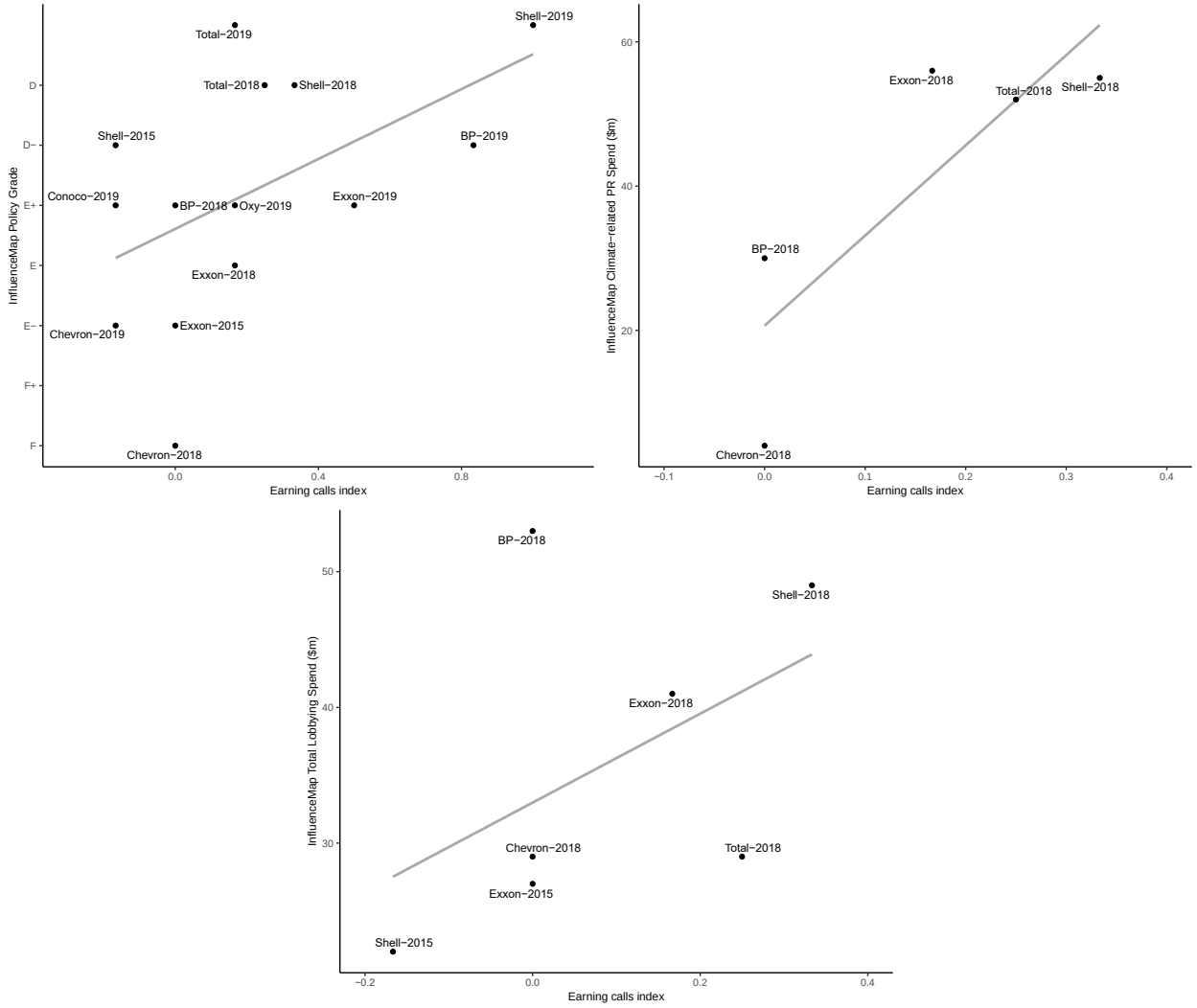

Figure 3. Comparison to InfluenceMap measures of ECOM firm climate-related political strategy. *Bivariate relationship between the earnings call index and the InfluenceMap "grade" of a firms' climate policy (top left, correlation = 0.52); the total amount spent in 2018 by each firm on climate-related PR activities (top right, correlation = 0.83); and the total lobbying amount spent by each firm plus its contributions to trade associations (bottom, correlation = 0.48).*

[7] Total earnings call on February 7, 2019 (call index 1546, paragraph index 1118).

Overall, this comparison provides further motivation for the need of a new measure of the political behavior of oil and gas firms. Existing measures inhibit cross-national analysis beyond the U.S. context and lack sufficient coverage to study within-firm changes over time and across-firm changes over differing levels of size and financial influence.

Implications for Research in GEP

Climate Politics

The ECOM dataset can help to answer important questions in the field of global climate politics. For starters, the findings from this dataset nuance our understanding of oil and gas firms as political actors. The analysis in Figure 2, for example, shows us that the industry is not monolithic, but that there are significant splits. Moreover, these differences are not solely the product of a Europe-U.S. divide (Skjaerseth and Skodvin 2003, Saeverud and Skjarseth 2007, Nasirtousi 2017), suggesting that other firm-level variables such as asset composition or diversification may also be relevant to explaining firm political behavior (see Authors). Moving forward, explaining this variation would constitute an important research agenda. If we can understand why some oil and gas firms are more likely to engage in pro-climate political behavior, we may in turn be able to develop a better understanding of the potential for larger-scale transformation towards decarbonization, as well as the contours of obstructionism.

The data presented here could also be used to address other kinds of questions about the politics of oil and gas firms. There is a particular opportunity to use each of these indicators separately, as either independent or dependent variables. For example, our data in Figure 1 show that climate denial has decreased over time in the field as a whole. What explains differences in timing? How does decreased denial in the oil and gas industry relate to trends in denialism amongst political officials and the public more generally? Our data also show that oil and gas firms have become increasingly favorable towards carbon pricing. What is the relationship between the political behavior of major polluters and the regulatory behavior of governments? While it may be possible to code variables regarding business strategy, firm assets, technological investments, and other relevant explanatory variables directly from ECOM, we suggest that pairing ECOM data with other sources will most likely be the most fruitful approach to answering these kinds of questions.

Credibility of Private Governance

Non-state or private authority is a growing component of global climate governance (Falkner 2003, Green 2013). Data from earnings calls could also be helpful in evaluating the depth of commitment to private governance initiatives. For example, the Oil and Gas Climate Initiative (OGCI)—a voluntary initiative of 13 of the largest oil and gas firms, comprising 30% of global production—claims to have the goal of rapid transformation of the sector. Its aim is to "progress to net zero emissions in the second half of this century" by investing research and development funds in carbon capture and storage technologies.[8] Tellingly, the majority of its activities to date are aimed at reducing carbon emissions rather than switching to renewable energy. This observation, combined with the fact that oil and gas companies are denying that fossil fuel use will end when speaking to their investors, allows us to more strongly conclude that this initiative may not have transformational potential. Although past actions may not indicate future plans, it may also be cause for skepticism about the proliferation of voluntary climate pledges on the part of oil and gas firms. Although this conclusion may not surprise scholars of voluntary governance, it does

[8] https://oilandgasclimateinitiative.com/our-members/#impact

sound a cautionary note for more optimistic political pundits. More broadly, this line of inquiry can help researchers distinguish greenwashing from meaningful progress on decarbonizing.

Firms in Global Governance

Finally, data from earnings calls could contribute to the study of the political behavior of firms in global environmental governance more generally (Hanegraaf 2015, Levy and Newell 2002, Pinske and Kolk 2012). As Meckling (2015) points out, an important step forward would be to examine how corporate strategies shape environmental policy. One possible use of these data could involve combining insights from textual data with qualitative data on the process of policy change in key countries or key international institutions. Another extension could follow a similar data collection approach used to study the climate-related statements made by firms in other environmentally-sensitive sectors, such as the airline industry, shipping industry, automobile industry, or petrochemical industry, permitting comparative analysis at the industry-level.

Conclusion

Long used in the fields of finance and business, earnings calls are a promising data source to understand and explain the political behavior of firms. Drawing on the case of oil and gas firms, we demonstrate how such data can be deployed: a) quantitatively, to track changes in behavior over time and across firms and b) qualitatively, to document discursive strategies. These data can help us to answer core questions about climate politics, as well as questions related to the credibility of private governance.

Further analysis of earnings calls holds the potential to expand our understanding of the political strategies and behavior of multinational corporations. When this data collection strategy is applied to the behavior of major polluters, it can help to understand how firms act to accelerate or block national or global environmental initiatives.

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