Firm Lobbying in the European Union

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Abstract

The EU Single Market is the largest internal market worldwide in terms of GDP, and the EU has far-reaching policy authority, particularly as they pertain to the single market. Hence, policy stakes are high, and a wide array of actors try to exert influence in the EU; firms in particular play a prominent role in this process. Yet, a systematic empirical account of the determinants and effects of firm lobbying in the EU is lacking. Leveraging novel data on firms' meetings with the EU Commission, I first document that larger, more profitable, and more valuable companies lobby more and that firms strategically choose lobbying targets within the multi-level European political structure. I then explore the effects of firm lobbying in the EU. I employ an event study approach and a difference-in-differences design and show that stock markets value firm lobbying. Examining real-world outcomes, I demonstrate that firm lobbying is associated with companies receiving higher grant amounts from the EU Commission. I argue for a causal interpretation of this finding based on two instrumental variable designs. Further analyses imply that these results may generalize to the study of regulatory politics in the EU; lobbying companies may benefit from more favorable regulations. I discuss my findings against the backdrop of the lobbying literature, and argue that while lobbying in the EU context may best be viewed as informational rather than quid-pro-quo, i.e. companies provide policymakers information rather than resources, lobbying may nonetheless result in private benefits to firms.

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1 Introduction

"30,000 lobbyists and counting: is Brussels under corporate sway?" - Traynor et al. (2014)

In 2014 - the year before the so-called "Dieselgate" scandal came to light - the EU Commission was considering stricter auto emissions tests, including so-called "high-speed road tests". These tests might have revealed that emission levels were considerably higher than some car manufacturers claimed them to be. However, the high-speed test was struck from the ultimate EU Commission proposal after Volkswagen told the Commission in an email that was later made public through freedom of information requests that those "... topics like cold start or high speed [tests] must be deleted."[1]

This anecdote suggests that companies may affect EU Commission policies, and resonates with journalistic accounts of corporate influence in European Union (EU) politics. Moreover, case studies (see e.g. Haar et al. (2018)), anecdotal evidence (see e.g. GreenPeace (2019) and Grammaticas (2015)), and qualitative and descriptive research (see e.g. Coen, Katsaitis, et al. (2021); Coen (1997)) have documented instances of firms' influence in the EU, which appears to have grown over the past decade (Hanegraaff and Poletti (2021)). On the other hand, some academic research (see e.g. Mahoney (2007), Klüver (2013)) as well as my own interviews with lobbyists of firms and business associations in Brussels suggest that businesses' scope of influence in the EU may be limited.[2] This has been attributed to the EU's role as a facilitator of compromises; in order to forge compromises, EU institutions seek input from a wide array of actors such as NGOs, trade associations, and independent experts,

[1] https://www.nytimes.com/2015/12/02/business/international/vw-argued-for-easing-new-eu-tests-on-emissions.html

[2] One trade association representative for instance told me that the failed TTIP negotiations were proof that business interests have a hard time making their voices heard in the EU. Another lobbyist specifically pointed out the REACH regulation by the EU Commission which according to his interpretation is overly burdensome for industry, and a sign that industry has little influence in the EU. It should however be noted that I have heard very mixed accounts overall through the course of my interviews: NGO representatives and policy experts at think tanks pointed out the pervasiveness of business influence, and its potentially problematic effects. It has also been acknowledged by various EU Commission officials I have spoken to.

which may limit each particular group's sway over EU policy. Yet, systematic quantitative empirical evidence on the effects of firm lobbying is wanting. This scarcity of quantitative accounts is even more striking given that the number of lobbyists in Brussels - the political center of the EU - is the second-highest worldwide after Washington, DC (Grammaticas (2015)). Understanding lobbying in the EU is important for at least two reasons: first, the EU Single Market is the largest internal market in the world in terms of GDP, and the EU has far-reaching policy authority, especially in economic matters.[3] The policy stakes are therefore high. Second, the institutional environment differs between the US and the EU, which gives rise to a form of lobbying in the EU that is distinct from the well-studied quid-pro-quo lobbying in the US. The EU features a relative absence of money in politics, and there are few cases of revolving doors; on the other hand, the provision of information and technical expertise appear to play a larger role, which is why EU lobbying may primarily be understood as informational.[4] Studying firm lobbying in the EU thus allows for advances in our theoretical understanding of lobbying more generally. Yet, while the last decade of scholarship in the US context has seen considerable progress on this front (see for an overview Bombardini and Trebbi (2020)), important aspects of interest groups, lobbying, and firms' political activities are still poorly understood in the context of the EU.

To address this gap, I study firm lobbying in the EU with a particular focus on the lobbying of the EU Commission. The EU Commission plays a prominent role as one half of the executive branch in the EU institutional setup[5] by proposing legislation, enforcing EU law, and directing administrative operations. Studying companies' meetings with the EU Commission is therefore interesting in its own right and should also allow us to draw conclusions about EU firm lobbying more broadly. Moreover, focusing on executive branch lobbying has the advantage of allowing me to closely trace firm level benefits of lobbying such as the receipt of EU Commission funding or EU regulations. This approach contrasts

[3]Adhering to the principle of subsidiarity, the EU's exclusive competences are for instance in the areas of trade, competition, and monetary policy. The EU shares competences with the member states in areas such as social policy, transport, environment, agriculture, energy, consumer protection, and research.

[4]A more detailed argument will be provided in the discussion section.

[5]The other one being the EU Council that is made up of the heads of governments of the member states.

with that of other studies that analyze legislative lobbying in which benefits in the form of more favorable legislation are usually harder to attribute to the lobbying of specific officials.

Measuring lobbying is a main difficulty in the literature as both lobbying and lobbied actors may have incentives to conceal such activities. In this paper, I operationalize firm lobbying by firms' meetings with the EU Commission for three reasons: first, meetings are costly for firms in terms of time and money[6]; it therefore appears plausible that companies may seek to influence the EU Commission through such meetings.[7] Second, in a lobbying environment that features a relative absence of money, meetings may be a more accurate metric for lobbying than lobbying expenditures, which are often used in the US context.[8] Third, the data on EU Commission meetings convey information as to which company meets with which commissioner on which date, which therefore allows me to exploit the variation of a three-dimensional panel with a firm, year, and commissioner dimension in my analysis. This level of detail enables me to closely trace firm lobbying and its effects.

The data on company representatives' meetings with EU Commissioners as well as their subordinates is a novel data source that captures all meetings that EU commissioners, their cabinet members, and directors general had with trade associations and firm representatives (including lobbyists working on their behalf) as well as with NGOs and labor unions between December 2014 and November 2019.[9] As I have data on over 3600 firm meetings with EU Commission officials, this measurement is arguably an improvement over previous ones, such as firms having an office in Brussels (Bernhagen and Mitchell (2009)) and the 2016 lobbying expenditure data (Dellis and Sondermann (2017)).[10]

Relatively little is known about which types of firms lobby in the EU. Based on my

[6] If a professional lobbyist is hired for such meetings

[7] "Lobbying" generally implies that an actor tries to influence a policy-maker. While I assume that this is mostly the case, note a firm-commissioner meeting woud arguably not fit the definition of "lobbying" if e.g. the firm provided an expert testimonial without any policy interests at stake whatsoever.

[8] Additionally, lobbying expenditure data in the EU are not available at the same level of detail and quality as the EU Transparency Register is voluntary.

[9] This captures the time frame when Jean-Claude Juncker was the EU Commission president.

[10] Contrary to my measure, the former does not capture the intensive margin of lobbying. The latter is arguably inferior to my measure for the above mentioned reasons of level of detail and quality of the expenditure data compared to the meetings data.

improved metric of firm lobbying and a panel with firm-years as units of observation, I provide descriptive accounts of the correlates of firm lobbying in the EU: larger, more profitable, and more valuable companies lobby more. These results provide context for the type of firms studied in this paper, and enable a more informed discussion of welfare effects. The results on firm size are broadly consistent with the ones from previous EU papers (see Bernhagen and Mitchell (2009) and Dellis and Sondermann (2017)) and with the US lobbying literature, while results on firm profitability and firm value diverge from the US literature.[11] Moreover, companies from countries with more business-friendly governments lobby more in their home countries rather than on the EU-level; this effect appears especially pronounced for companies from more influential countries on the EU stage.

Having provided context as to which types of companies are lobbying in the EU, I then examine the benefits firms may receive from lobbying in the EU. First, I employ an event study design to show that lobbying leads to higher stock market value for the firms that lobby. Around dates when companies meet with EU Commission officials, firms experience cumulative abnormal returns (CARs) between 0.3% and 0.6%. This is a sizable increase over the average daily return of 0.02% in my sample. The effect suggests that financial markets value companies' lobbying efforts in the EU. Note however that meetings are endogenous as companies have some control of when they meet with EU Commission officials. The these effects thus cannot be interpreted as causal.

In order to provide a causal account of the effect of firm meetings on stock market returns, I exploit the surprise outcome of the 2016 Brexit referendum. Contrary to what polls previously predicted, the United Kingdom decided by a thin margin in the June 23rd 2016 referendum that it would leave the European Union. I conjecture that lobbying companies' connections to the EU Commission lost value when the UK - then the third largest member state of the EU - decided to leave the EU. Therefore, I compare lobbying and non-lobbying companies in a difference-in-difference analysis. More specifically, I compare the stock market returns of companies that lobbied the EU Commission before 2016 with the stock market

[11] See e.g. Huneeus and Kim (2018), Hill et al. (2013); Brown and Huang (2020); or Bombardini and Trebbi (2020).

returns of companies that did not. I document that the former experienced significantly lower cumulative abnormal returns than the latter on the day after the referendum, while stock market returns followed similar trends before the referendum date. The evidence therefore indicates that the value loss of EU connections led to a decrease in firm value.

Stock markets valuing firm meetings suggests that companies may be able to reap tangible benefits from lobbying in the EU. With this in view, I examine real-world outcomes such as EU Commission funding decisions and EU regulatory politics. Data on EU Commission grants, prizes, and procurement allocations to firms allow me to concisely measure monetary private gains from lobbying at the firm-commissioner level as the disbursed EU Commission funding can be attributed to each of the 27 politically responsible commissioners. Based on an instrumental variable strategy, I demonstrate that firm meetings with EU Commissioners - or their subordinates - lead to companies receiving greater amounts of funds from the respective commissioner. More specifically, I leverage the fact that firms are more likely to meet with commissioners from their respective home countries, and instrument for meetings with shared nationality of company and commissioner in a given year. For the exclusion restriction to hold, one needs to assume that shared nationality only affects commissioners' funding allocation decisions through the meeting channel; the assumption would be violated for example if commissioners favored companies from their home countries regardless of meetings. In order to address such concerns, I present a placebo check - the comparison of reduced form effects of shared nationality on firm grant amounts for the subsets of lobbying and non-lobbying companies - that suggests that these concerns are likely moderate at most: the intent-to-treat effect for the subset of lobbying companies is an order of magnitude larger than the one for non-lobbying companies. To further strengthen the causal argument, I instrument for meetings with firms' exposure to the tariffs implemented by the US during the 2018 trade war.[12] Exposure to tariffs induced companies to lobby the EU Commission more, which in turn led to these companies receiving higher amounts of EU Commission

[12]This design comes with the drawback that exposure to tariffs is measured at the industry level. Providing a complementary causal approach helps further alleviate exclusion restriction concerns from the shared nationality instrument.

funding in 2019, further suggesting that lobbying in the EU causally leads to firm-level benefits. [13]

For most firms of arguably even greater economic importance than EU Commission grants and procurement awards is EU regulatory politics. For example, EU regulations pertaining to EU trade policy or EU-wide product standards have potentially far-reaching impacts on firms.[14] Having established the causal effects of firm lobbying on receiving EU Commission funds, I then assess their generalizability to EU regulations. One caveat applies here: regulatory benefits are difficult to quantify and mainly accrue on the industry level rather than on the firm level. I address these issues in the following way: to operationalize firm-level effects of regulations, I estimate cumulative abnormal returns for each firm around each date when EU commissioners proposed regulations. I then examine whether companies that met with the proposing commissioner before the proposal date experienced more positive abnormal returns when regulations were proposed. Note that this approach relies on more assumptions than the examination of firm lobbying and EU Commission grants: one needs to assume that stock markets are informed about firms' previous meetings with the respective EU Commission officials; moreover, traders need to be sufficiently informed about the anticipated firm-specific effects of the proposed EU regulations. Based on this design, I show that lobbying firms may benefit from EU regulatory politics. By exploiting the three-dimensional panel with year, firm, and commissioner dimensions, I show that companies that met with a commissioner in the year before a new regulation was proposed may indeed experience positive abnormal returns shortly after the proposal date. This is particularly true for EU Commission proposals that were to be adopted promptly and presumably with few amendments. Having lobbied the EU Commission before the initial regulation was proposed should be the more valuable for firms if the initial Commission proposal is expected to survive the legislative process - where the EU Parliament and the EU Council weigh in - relatively un-

[13]The exclusion restriction requires that tariff exposure only affects EU Commission funding decisions through meetings. This would be violated e.g. if the Commission preemptively compensated firms most affected by the US tariffs with grants and procurement awards. It should be noted that this design suffers from a somewhat weak instrument however.

[14]One example would be regulations on carbon emission prices that affect companies with different production processes differently.

changed.[15] Moreover, companies that met with the responsible EU commissioner between the proposal and adoption dates of a given regulation experience higher CARs around the adoption date compared with companies that did not meet with the respective EU commissioner;[16] this effect is particularly strong for the subset of companies that were most affected by the initial proposal as evidenced by their low CARs around the proposal date of a given regulation. More generally, I interpret these effects of lobbying on CARs around regulation proposal and adoption dates as capturing the increased policy benefits that stock markets expect lobbying companies to experience. Note that financial markets may have already partially priced in the expectation of future beneficial EU regulations around the meeting dates already. The magnitude of the effects of lobbying on regulatory benefits may thus be seen as a lower bound on the true effect.

Companies receive benefits such as improved stock market valuations, EU Commission funding, and more favorable regulation from lobbying in the EU. The manner in which companies are lobbying in the EU differs from the more thoroughly researched US context; I contrast the two, and provide a theoretical assessment of their differences. I argue that the observed firm lobbying may be viewed as informational, rather than as quid-pro-quo: there are very little campaign contributions in EU politics, and revolving doors are relatively rare. Moreover, anecdotal accounts - from my interviews, journalistic reports, and previous research - further support the narrative that information transmission plays a prominent role in EU lobbying. Lastly, I operationalize lobbying by meetings, which is arguably closer to the concept of informational lobbying than lobbying expenditure data, for instance. I discuss how informational lobbying can lead to private benefits for firms despite its relatively benign image.[17]

The main contributions of my study are the following: first, I shed light on the under-

[15]Note that this effect refers specifically to cases where companies lobbied the EU Commission before a proposal was put forward. Conditional on a company having lobbied the EU Commission before a regulation was proposed, lobbying is more valuable if the proposal is adopted quickly.

[16]The Commission can still affect the proposal through the so-called Trilogue negotiations between EU Commission, EU Parliament, and EU Council at this stage.

[17]It is unclear which type of information companies may convey; it may be about their type, or about the the broader effects of EU Commission actions for example.

explored phenomenon of firm lobbying in an institutional environment that differs from the US, namely the European Union, utilizing new data. I provide evidence that financial markets value lobbying, and trace potential mechanisms in the form of EU Commission funding allocation decisions as well as EU regulatory politics. Secondly, the paper contributes to the understanding of the effects of informational lobbying more generally; in the EU, where money in politics arguably is less prevalent than in the US, firms may still receive private benefits from lobbying. I first discuss related literature (section 2), give background on the EU institutional environment (section 3), and elaborate on the data (section 4). Based on the results (section 5), I then provide a discussion of the nature of EU lobbying (section 6) and potential welfare effects (section 7)[18].

2 Literature

The literature on the political economy of firm lobbying largely focuses on the US. Past research in the US context has found a robust positive correlation between firm size and lobbying.[19] Larger firms may stand more to gain from affecting political outcomes, they may be better positioned at overcoming collective action problems within industries as they internalize more of the benefits, and they may absorb fixed costs associated with lobbying - e.g. establishing government affairs departments or offices in politically important cities - more easily than smaller firms (see e.g. Kerr et al. (2014)).

Given the fact that the nature of lobbying differs between the US and the EU, expectations about the role of firm size in the EU could differ. The relatively smaller role of money in politics could suggest that larger firms may have less of an advantage in the EU. On the

[18]My results suggest that there may be two opposite forces at play in terms of potential welfare effects. On the one hand, corporate lobbying in the EU generates private benefits to firms that may be distortive from an allocative perspective. This may be the case particularly if high markup firms are lobbying more, as suggested by the strong correlation between firm size and lobbying. Hence, if lobbying boosts companies with more monopoly power, the welfare effects may be detrimental. On the other hand, when controlling for profitability, firm size may capture efficiency. Hence, if lobbying leads to grants being allocated to more efficient firms, the welfare effects may indeed be positive.

[19]Measured by total assets, sales, revenues, or employee numbers, see e.g. Huneeus and Kim (2018), Hill et al. (2013); Brown and Huang (2020); or Bombardini and Trebbi (2020) for an overview.

other hand, larger firms may have an advantage at navigating the more complex institutional EU setup. As noted above, there is suggestive evidence for a positive correlation of firm size and lobbying in the EU, too.[20]

With informational lobbying being arguably more prominent in the EU than in the US, one might expect other firm characteristics that may signal the quality of information a firm can convey to play different roles than in the US context. For instance, profitability or R&D intensity may be interpreted as cues by EU officials, and contribute to these companies being more politically active. That would contrast with the US context, in which companies - if anything - appear to make up for their economic shortcomings by engaging in political activities: while researchers have theorized that firm profitability should correlate positively with firm lobbying if companies spend excess cash flows on political activities, empirical patterns in the US do not appear to support this claim. For instance Hill et al. (2013) and Brown and Huang (2020) have found negative correlations of firm profitability and lobbying expenditures in the US. In line with the above conjecture, things may differ in the EU context; Dellis and Sondermann (2017) suggest that profit margins are positively correlated with firm lobbying expenditures in 2016.[21]

Given the discussed nature of lobbying and the different institutional setting in the EU, it is unclear whether one should expect the firm-level effects of lobbying to mirror those in the US. Huneeus and Kim (2018) and Brown and Huang (2020) are arguably the most closely related US-focused studies to my paper. Employing an event study, the latter find that political access is associated with greater firm value. I use a similar approach in the EU setting; additionally, I exploit firm-commissioner-year variation in the EU to closely trace the mechanisms - namely, EU grants and procurement awards as well as firms' regulatory benefits - and investigate causal effects. In that vein, my study is also related to Huneeus and Kim (2018). The authors operationalize lobbying by expenditures and show that lobbying

[20]To my knowledge, only two papers have examined this relationship in the EU context, and both use relatively coarse metrics of lobbing: Bernhagen and Mitchell (2009) operationalized lobbying by companies having an office in Brussels, and Dellis and Sondermann (2017) by the 2016 expenditure data from the voluntary EU Transparency Register.

[21]Yet, they also provide suggestive evidence that firm productivity may be negatively correlated with firm lobbying in the EU. The overall picture is thus mixed.

in the US leads to firm-level revenue gains, while I examine the more direct outcomes of lobbying in the form of EU grants and procurement awards as well as regulatory benefits.[22] [23] In the latter vein, this paper is also related to research on firms' political activities and public procurement more generally.[24][25]

Apart from the above mentioned Bernhagen and Mitchell (2009) and Dellis and Sondermann (2017), the quantitative empirical literature on firm lobbying in the EU is underdeveloped, as Bombardini and Trebbi (2020) and Hanegraaff and Poletti (2021) note. Thus far, the literature on EU lobbying has focused mainly on business and trade associations, see e.g. Klüver (2013), Belloc (2015), and Berkhout et al. (2018).[26] In my paper, I go beyond business and trade association lobbying in the EU, and provide a firm-centered account of the correlates and firm-level effects of lobbying in this institutional environment.[27]

[28]

[22]Note that their shift-share instrument bears some resemblance to the instrument used in this paper, as discussed below. Huneeus and Kim (2018) differs from my paper in that they estimate a structural model to assess the welfare effects due to misallocation induced by lobbying.

[23]Note that Hill et al. (2013) and Chen et al. (2015) investigate similar firm lobbying associations in the US without making a causal argument.

[24]Goldman et al. (2013), Brogaard et al. (2015), and Mironov and Zhuravskaya (2016) show that in the US, and in Russia, respectively, firms' political connections and activities positively affect their success at winning public contracts.

[25]Further examined mechanisms behind firm level benefits of lobbying in the US are lowered fraud detection probability (F. Yu and X. Yu (2011)) and more beneficial antitrust decisions (Mehta et al. (2019)).

[26]Klüver (2013) provides a detailed account of interest groups, lobbying coalitions, and policy outcomes. She argues that EU institutions trade influence for information, citizen support, and economic power, and finds mixed evidence on the effects of business associations' lobbying efforts. Focusing more narrowly on trade policy, Belloc (2015) shows that trade associations' lobbying efforts in the EU are associated with greater protectionist measures in those sectors. Berkhout et al. (2018) assess the relative influence of interest groups in the EU on the national and the EU level.

[27]This approach has been taken by recent US lobbying research (Kim (2017), Kim and Osgood (2018), Osgood (2018))

[28]Beyond the above cited research, my paper also speaks to the literature on firm political activities more broadly, e.g. Kim (2017), Osgood (2018), Kim and Osgood (2018), Johnson and Mitton (2003), Akcigit et al. (2018), and Khwaja and Mian (2005). This research has focused on the firm's product differentiation (see Kim (2017)) and supply chain position (see Osgood (2018)). For an overview of firm lobbying as it related to trade politics, see also Kim and Osgood (2018). For literature on the effects of firms' political connections see e.g. Johnson and Mitton (2003) in the Malaysian context, Akcigit et al. (2018) in the Italian context, and Khwaja and Mian (2005) in the Pakistani context. Furthermore, see Faccio (2006) and Faccio et al. (2006) for literature on firm political connections across countries.

3 EU Institutional Setup

My paper focuses on the EU Commission. I argue that the Commission is the most prominent and therefore most important institution in the EU to study; moreover, data availability (my data cover firm meetings with the EU Commission) facilitates studying firm lobbying of the EU Commission. The EU features a relatively complex institutional setup, within which the EU Commission and the EU Council - which in turn is composed of the individual member states' heads of governments - make up the executive branch. [29] The EU Commission plays an agenda setter role on the EU level by virtue of its being tasked with drafting legislation and drawing up the EU budget. Moreover, the Commission enforces EU law and directs administrative operations.[30] Firm lobbying of the EU Commission is therefore important in its own right. Furthermore, the results may be generalize to firm lobbying in the EU more broadly.

The EU Commission consists of 27 commissioners; each member state is represented in the EU Commission by one commissioner. Apart from the Commission president, each commissioner is in charge of a portfolio that corresponds to a specific policy area, such as trade, competition, or agriculture.[31] Commissioners are proposed by the EU Council which is made up of the heads of government of the member states, and are elected by the EU Parliament. [32]

One important way in which the EU Commission differs from the US Congress or the White House is that it only faces very indirect electoral accountability. The implications of

[29]Furthermore, the EU Parliament and the Council of the EU - composed of the respective member states' ministers for each policy area - form the legislative branch, and the Court of Justice of the EU and the European Court of Auditors represent the judicial branch. In addition, each member state has its respective domestic institutions.

[30]While it would be desirable to study lobbying of the EU Commission, the EU Council, and the EU Parliament simultaneously, data availability reasons restrict my focus to the EU Commission. I see the Commission as the best place to start examining firm lobbying in the EU.

[31]Note that the Juncker Commission - which is the commission during the time period that I study - further designated five commissioners as vice-presidents. I will not elaborate further on this distinction as its impact on day-to-day policy-making appears negligible.

[32]This usually happens once every five years, after the elections to the EU Parliament. Please refer to https://www.cfr.org/backgrounder/how-does-european-union-work for further information on the EU institutional setup.

this feature are ambiguous: on the one hand, a lack of electoral accountability may make EU Commission members more susceptible to the influence from lobbies as there are no electoral consequences to fear; on the other hand, it eliminates EU officials' need for resources such as campaign contributions, thus removing a potential tool for firm influence.

Note that institutional and politico-economic features have been highlighted as a potential determinant for firm lobbying in the EU. Understanding these features better is important for assessing the scope of my results as well as for identifying further open questions on firm lobbying in the EU. The above outlined multi-level structure of the political system in the EU requires companies to strategize about which lobbying channels they choose - that is, whether they do the lobbying by themselves, or through sectoral, national, or multinational trade associations - and whom they target: national governments and EU institutions such as the European Parliament and the EU Commission are possible target groups, and companies' choices have been argued to vary across issues and relative ease of access (see e.g. Ydersbond (2014); Baumgartner (2007); Bernhagen and Mitchell (2009), Coen (1997)). Yet, these theoretical claims have yet to be subject to quantitative testing. Beyond firm level correlates of lobbying, I present empirical evidence for the phenomenon of "venue shopping", i.e. the strategic choice of lobbying targets by companies in the European Union.

4 Data

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I assess the determinants and effects of firm lobbying in the European Union. Lobbying activities can be difficult to quantify since limited transparency may be in the interest of all parties. Previous research, particularly in the US context, has quantified lobbying in terms of expenditures since their disclosure is mandatory by the Lobbying Disclosure Act (LDA) from 1995 (see e.g. Kerr et al. (2014), Kim (2017), Huneeus and Kim (2018)). However, such detailed accounts of lobbying expenditures do not exist in the European Union[33].

[33]The EU lobbying register does provide expenditure estimates, however registration is voluntary, and entries are updated infrequently. Moreover, an organization could understate its EU lobbying expenditures

Moreover, in the EU context, lobbying expenditures include activities that target various actors, ranging from the legislative and executive branches to the general public, and therefore complicate the tracing of potential benefits. Hence, I zero in on the EU Commission, arguably the most prominent EU institution, and quantify firm lobbying as meetings of firm representatives with the EU Commission. Since November 2014, the EU Commission has been publishing information on meetings of commissioners and their respective cabinet members as well as directors general with a wide array of actors including business and trade associations, unions, think tanks, NGOs, and firms.[34] As the commissioners are ultimately the politically responsible actors for their portfolio, I attribute all firm meetings with cabinet members and directors general, the latter of whom represent the highest level of non-political EU Commission officials, to their superordinate commissioner.[35] [36] The level of detail of the meeting data allows for the variation across firms and years as well as the variation across commissioners to be exploited. The data were gathered and kindly provided to me by Transparency International (TI (2020)).[37] To my knowledge, this information has so far not been used to study firm lobbying in the EU. As data availability restricts my focus to meetings, I use firm-Commission meetings and the term 'lobbying' interchangeably for the purposes of this paper. The following two caveats about the EU Commission meetings data shall be noted: companies may in fact just be gathering information from the Commission; if information only flows in one direction from the Commission to a firm, then this activity may arguably not qualify as "lobbying" which implies that an actor is seeking influence. How-

by attributing some expenditures to the member state level. Apart from data issues, meetings may be a preferable metric of lobbying from a conceptual point of view, too, as money in politics plays a less prominent role in the EU compared with the US.

[34]Prior to November 2014, i.e. prior to the Juncker EU Commission presidency, EU Commission meetings were not publiziced in a systematic manner. Expenditure data from the voluntary EU Transparency register are available since 2011.

[35]For the sake of expositional clarity, I will henceforth refer to all meetings with a commissioner or his or her subordinate officials by 'meetings with commissioners', unless otherwise noted.

[36]I do not know to which extent firm-commissioner meetings are driven by companies and commissioners respectively. I assume that firms usually initiate contact; given my personal interactions with EU Commission officials, the Commission is likely relatively receptive to granting meetings. I cannot rule out however that there are also cases where the Commission initiates meetings with firms.

[37]The data can be accessed on https://integritywatch.eu/ecmeetings

ever, as meetings are costly for firms in terms of time and money[38], this appears relatively implausible. Moreover, anecdotal evidence from my interviews suggests that that companies meet with the EU Commission predominantly in order to lobby for their interests; multiple EU Commission officials I spoke to acknowledged that companies during meetings with the Commission for example attempt to influence regulations across the policy spectrum.[39] Secondly, it is possible that company-Commission meetings do not end up in the register as both companies and EU Commission officials may have incentives to hide their contacts. That would lead to an underestimation of firm lobbying and a potentially biased measurement of the concept. If one assumes that firms and Commission are disinclined to report meetings especially when companies strongly affected EU policy, then the results shown in this paper would likely be biased downwards.[40]

Since the firm-Commission meetings data are only available after November 2014, and since the abnormal returns analyzed in the event study subsection rely on the Stoxx Euro 600 index benchmark, I have restricted the universe of firms studied in this paper to all firms that were a constituent of the Stoxx Euro 600 index at any time between 2014 and 2019 - the time frame corresponds to the period when Jean-Claude Juncker was EU Commission President.[41] Therefore, despite the fact that I use several different datasets, the sample of firms used across the analyses is consistent.[42] My final sample then consists of 779 publicly traded companies. 253 unique companies out of these 779 firms have at least one meeting during the period of study; the total number of firm meetings with the EU Commission is 3611. Note that I capture more than 50 percent of firm-Commission meetings this way, and

[38] if professional lobbyists are hired

[39] E.g. financial regulations, agricultural regulations, as well as trade policy in the form of tariffs and non-tariff barriers.

[40] It should be noted that concealing meetings at higher levels of the Commission, i.e. Commissioners, cabinet members, and directors generals, would be illegal, and my qualitative knowledge suggests that contacts are recorded in a thorough manner. In fact, several EU Commission officials I have spoken to even wanted to register their meetings with me, despite that not being mandatory. Note also that meetings would have to be reported even if they happen outside of Brussels. In fact, the location where meetings took place is recorded in the data as well.

[41] In general, Juncker initially made promises of ensuring more of a balance between meetings with corporate lobbyists and public interest lobbyists, but it is unclear whether he achieved much in this area, see https://euobserver.com/opinion/145762

[42] Moreover, I was able to ensure data accuracy manually after merging datasets.

many of the remaining meetings were by non-European (primarily US) firms.

In addition to the EU Commission meetings data, I furthermore rely on firm-level (financial) covariates from ORBIS (BvD (2020)) and Refinitiv Eikon Worldscope (Thomson-Reuters (2020)),[43] as well as hand-coded Commissioner nationality information.[44] The two mentioned data sources cover firm information such as firm assets, market-to-book value, and R&D expenditures.[45] The reader is referred to the appendix for details regarding the data preparation and merging process (see section §C). The EU Commission grants, prizes, and procurement data will be discussed below. Beyond the quantitative data, I also draw on interviews I have conducted in the European Union between 2018 and 2021 (see section §D).

5 Results

The results section is divided into four parts: first, I establish stylized facts about firm lobbying in the EU, whereupon I discuss three sets of results regarding the firm-level effects of lobbying in the EU: I examine firms' stock market values, the allocation of EU Commission funding to companies, and EU regulations as potential effects of firm lobbying in the EU.

5.1 Correlates of Corporate Lobbying in the EU: Stylized Facts

Given the prominence of the EU Commission meetings data in this paper, I discuss them in more detail here. One remark on how meetings by commissioners are distributed across firms' industries is in order: one might expect that firms' industries are strongly correlated with the commissioners they meet. However, Figure 1 in the appendix section §B shows that such a pattern does not appear to be overly strong: while it is the case that the transport

[43] Financial variables - for instance firm assets, employees, returns on assets, and leverage - were winsorized at the 1st and 99th percentile.

[44] See e.g. http://bijwaardopinion.eu/the-2014-2019-juncker-european-commission/

[45] The data for each firm-year should be consistent across these two datasets. However, both data sources display missing values for a considerable amount of firm-years. I therefore combine the two data sources to minimize data loss. I have double checked cases of vast discrepancies between the two data sources, and ensured the more plausible value was being used. For minor discrepancies, I have used the ThomsonReuters (2020) data as a default.

commissioner almost exclusively meets with manufacturing companies, for instance, most commissioners meet with companies from a relatively wide array of sectors. Similarly, one might be concerned about individual companies meeting with just one specific commissioner throughout the time period of the study.[46] At a first glance, this appears like a valid concern: a company meets with 1.6 different commissioners on average. However, among the companies that had at least one meeting with the EU Commission, the average company meets with 4.9 different commissioners throughout the time frame of the study, suggesting that companies meet with a variety of commissioners conditional on entering the EU lobbying market.

It is furthermore informative to examine the distribution of meetings across firms in order to get a sense of whether the results are driven by relatively few companies.[47] Most companies in the sample have no meetings with the EU Commission in any given year. More exactly, companies on average have just below one meeting with the EU Commission in a given year, however only 22 percent of companies have at least one meeting with the EU Commission in a given year (see in the appendix section §A Table 1); that suggests that meetings across firms are distributed in a somewhat skewed fashion. The summary statistics for firm-commissioner-years as units of analysis further show that 2.3 percent of companies have had at least one meeting with a given commissioner in a given year (see in the appendix section §A Table 1). Given that the mean value of firm meetings with a commissioner in a given year is 0.038 (see in the appendix section §A Table 3), it appears to be the case that companies rarely meet with the same commissioner more than once per year.[48] Overall, the

[46]Such a pattern would be particularly problematic for inference if unobservables drove company-commissioner meetings.

[47]I provide summary statistics separately for the whole sample and for the subset of companies that had at least one meeting during the time frame of my study; I label the latter type of companies "lobbying companies". I use firm-years - as used in the determinants of lobbying results section - and firm-commissioner-years respectively as units of analysis (see in the appendix section §A Table 1, Table 2, Table 3, and Table 4). Naturally, the firms' financial covariates are unchanged regardless of the unit of analysis chosen, as these variables only vary by time and year.

[48]In terms of the intensive margin - i.e. for the subset of lobbying companies - , one can observe that companies have about 3 meetings per year with the EU Commission on average (see in the appendix section §A Table 3). As can be gathered from Table 4 in the appendix section §A, 6.9 percent of firms in this subset of the sample have at least one meeting with a given commissioner in a given year.

distribution of meetings across firms appears moderately skewed. I therefore use the logged number of meetings and a dummy for whether a company had a meeting or not as metrics for meetings in the analysis part. These operationalizations should ameliorate concerns one might have about relatively few companies driving the results.

Naturally, it would be highly informative to know exactly what EU Commission officials and firms discuss during these meetings. The EU Commission publishes brief bullet points about the contents of the meetings, which are illustrated in a word cloud in the appendix (see Figure 3 in section §B). It appears that regulatory issues may be discussed most during these meetings, as suggested by the relative frequency of words such as "policy" or "regulation"; moreover, financial regulation, energy policy, and digitization were prominent topics during the Juncker EU Commission presidency, and related words were often used in the meeting descriptions.[49]

I next assess which firm characteristics are correlated with lobbying in the EU. I let the choice of explanatory variables on the firm level be guided by the US literature discussed in the introduction (see e.g. Hill et al. (2013) and Kerr et al. (2014)). Specifically, I examine the effects of firm size (measured by the natural logarithm of total assets), firm profitability (measured by returns on assets), firm leverage (measured by the ratio of debt over equity), the number of employees (logged), firm value (as measured by market to book value), R&D intensity (R&D expenditures scaled by sales)[50] and market share (based on sales by industry). As discussed in the literature review section, firm size in the US context appears to be positively correlated with firm lobbying and there is a negative association between firm profitability and lobbying; the relationship of the other variables and firm lobbying appears to be inconclusive.

Table 1 presents results on the correlation between firm-level characteristics and firm-level lobbying - as measured by meetings with the EU Commission or a meetings dummy ; I include year, country, and industry fixed effects in the regressions. More specifically, I

[49]See appendix for meetings by commissioner party, Figure 4 in section §B

[50]I replaced missing variables of R&D expenditures with zeros, as is common practice in the literature.

estimate the following equation(s):

$$Y_{i,t} = log(Assets_{i,t-1}) + RoA_{i,t-1} + Leverage_{i,t-1} + log(Employees_{i,t-1}) + MTB_{i,t-1} + R\&D_{i,t-1} + MarketShare_{i,t-1} + \lambda_s + \lambda_t + \lambda_c + \epsilon_{t,i}$$

, where i stands for firms, and t stands for years; λ_s represents industry fixed effects, λ_t stands for year fixed effects, and λ_c for country fixed effects.[51] The outcome variable $Y_{i,t}$ captures either the $log(Meetings_{t,i}+1)$ or a meeting dummy that takes 1 if $Meetings_{t,i} > 0$, and 0 otherwise. I interpret the coefficient on $log(Assets_{i,t-1})$ as the association of firm size and firm lobbying of the EU Commission, and find them to be a strongly and significantly correlated. Note that when standardizing the independent variables, firm size appears to be the strongest correlate of firm lobbying by an order of magnitude. To get a substantive sense of the magnitudes of these results, one can compare a given firm to one twice its size in terms of assets: the latter has between 23 and 24 percent more meetings with EU Commission officials per year, and a 14 percent higher likelihood that the company has at least one meeting with the EU Commission. Note that the coefficients are greater when the outcome variable is meetings (column 1 and column 3), rather than the meeting dummy (column 2 and column 4), which suggests that the size is positively correlated with firm lobbying both at the extensive and at the intensive margin. Results for the subset of "lobbying firms" - i.e. firms that had at least one meeting during the period of study - are shown in columns 3 and 4.[52] Column 3 suggests that larger companies are not only more likely to meet with the EU Commission, but also more likely to have more meetings with the EU Commission. This finding is consistent with findings in the literature on US and EU firm lobbying as discussed above, and may be explained by larger firms' greater ability to absorb the fixed costs associated with lobbying. This result gives rise to Stylized Fact 1.

[51] Panel data analysis throughout the paper was conducted using the R-package lfe, Gaure (2013). Results were exported using texreg, Leifeld (2013)

[52] Here, the variation comes from the whether companies had meetings in a given year (Column 4), and the number of meetings per year (Column 3).

Fact 1. *Larger firms lobby more in the EU.*

Another important correlate of firm lobbying according to Table 1 is firm profitability as measured by returns on assets.[53][54] Comparing for illustrative purposes a company whose returns on assets are in the first quartile with a firm whose returns on assets are in the third quartile implies that the latter has 4 percent more meetings with the EU Commission, and a 2.7 percent higher probability that the company has at least one meeting with the EU Commission. Note that previous EU research has been inconclusive on this matter (see Bernhagen and Mitchell (2009) and Dellis and Sondermann (2017)), and the correlation in the US context appears to be negative, as discussed in the introduction. In the case of EU Commission lobbying however, it may actually be the case that companies with greater excess cash flows are more politically active.[55] Stylized Fact 2 therefore reads as follows:

Fact 2. *More profitable companies lobby more in the EU.*

Thirdly, Table 1 suggests that the market-to-book value of firms is positively correlated with lobbying in the EU. Like the previous two effects on firm size and firm profitability, this effect is statistically significant at the 1 percent significance level. A company with book value in the third quartile has 3.5 percent more meetings with the EU Commission every year than to the first quartile, and a 1.7 percent higher probability of having at least one meeting with the EU Commission.[56] Note that the empirical patterns on firm value and lobbying in the US context appear inconclusive.[57]

Fact 3. *More valuable companies lobby more in the EU.*

[53]Returns on assets measure a firm's net income scaled by its total assets. The metric captures how efficiently a company utilizes its assets, which directly impacts firm profitability. Note however that a firm may choose to forego higher short-term returns on assets, for example to increase market shares. This strategy may boost long-term profitability, but the operationalization chosen here would not capture such phenomena.

[54]Note that when standardizing the independent variables, it appears that the relative magnitude of the profitability effect is considerably smaller than the magnitude of the firm size effect.

[55]Note however that the correlation is not significant at the intensive margin only, i.e. for the subset of lobbying firms alone.

[56]Similar to the profitability effects, the firm value effect, too, seems driven by the extensive margin.

[57]Hill et al. (2013) find a positive correlation, while Brown and Huang (2020) report a null effect.

Lastly, note that the other variables, namely, employees, R&D expenditures, and market share, do not significantly predict companies' lobbying activities in the examined setting[58]; leverage appears to be negatively correlated with firm lobbying, but the relationship appears to be substantively small. I therefore refrain from interpreting this result further.

Taken together, facts 1 through 3 imply that firm lobbying in the EU appears to differ from patterns known from the US context in that "higher quality" companies lobby more in the EU. These differences may be driven by the fact that the EU institutional setup gives rise to informational lobbying rather than quid-pro-quo lobbying since "higher quality" companies may be in a better position to provide information to policymakers.[59] The question of which firms self-select into lobbying has implications for the interpretation of the effects of firm lobbying results; I will get back to these implications in section 7.

How comprehensively these results capture the effects of firm lobbying in the EU also depends on the degree to which companies lobby through alternative channels. Therefore, I investigate the extent to which companies engage in "venue shopping", the strategic choice of lobbying venues, in the European Union. As touched upon in the introduction, political actors such as firms are expected to strategically choose the lobbying avenues in which they are more likely to be heard. I therefore expect companies to lobby more at the member state level rather than on the EU level if their respective home country government is more business-friendly. Note, however, that in theory EU-level lobbying and home-country lobbying could also be complements, particularly since most EU policy decisions require support from the EU Commission, the Council[60] and the European Parliament.

In Table 2, I present results on whether companies from countries with a more business-friendly government lobby the EU Commission less; a "business-friendly" government is de-

[58]Similar correlations are inconclusive or null in the US context, too.

[59]In general, I do not think there is much of a selection effect from the commissioners' side as EU Commission officials in my own interaction with them seemed quite receptive to meeting. One could however conjecture that the Stylized Fact 2 and Stylized Fact 3 effects may be due to the fact that commissioners see firm profitability and firm value as proxies for firm quality, and are thus more likely to meet with them in hopes of receiving higher quality information. One could also perceive of other contextual differences that may lead to the difference in lobbying natures, such as differences in the political and business cultures between the US and the EU.

[60]which represents member state governments

fined as one that is more right on the one-dimensional state-market scale. Data on EU countries' government composition were taken from ParlGov (2020), and parties' state-market score is based on Benoit and Laver (2006).[61] For each country-year, I calculated the government's state-market score by taking the sum of the state-market scores of the coalition parties, which were weighted by their relative cabinet share; higher values of the state-market score indicate a lower willingness to regulate the economy, which I interpret as business friendliness. I therefore expect that the state-market score should be negatively associated with lobbying on the EU level, as companies from such countries should prefer lobbying in their home country.[62] The "venue shopping" argument furthermore implies that a potential substitution effect should be amplified by country importance/strength: affecting EU policies indirectly through member state governments rather than directly through the EU Commission should be more attractive for firms from countries with business-friendly governments if the country is relatively influential. I measure country strength by the weight each country is assigned in the qualified majority voting (QMV) system in the EU.[63] This approach has been used before, e.g. by Fjelstul and Carrubba (2018). Based on the outlined logic, one should expect the interaction effect of QMV weights and the state-market score to be negative as companies from more powerful countries with more business-friendly governments should particularly gravitate away from EU lobbying.

I assess the "venue shopping" hypothesis, and present results in Table 2 based on regressions with industry and year fixed effects as well as with the firm-level covariates included in Table 1. Specifications 1 and 2, with logged meetings as the dependent variable, partially confirm the "venue shopping" conjectures; while companies from countries with a higher

[61] Also the left-right dimension in the appendix section §A is based on the same source.

[62] One caveat with this logic shall be pointed out here: I assume that business-friendliness of home governments is associated with greater lobbying activities here; however, having a business-friendly government in a company's home country could also reduce the need for lobbying there, and thus free up resources to lobby on the EU level. In this case, one might expect a positive correlation between business-friendly home governments and EU lobbying of a firm.

[63] In a decision under QMV, EU Council votes from each country are weighted by population; however, this weighting is done in such a manner that smaller countries are relatively overrepresented. In total, there are 345 votes in the EU Council; Germany and France have 29 votes for instance, while Malta being the smallest member state has 3 votes. Overall, a country's QMV weight appears to be a reasonable indicator for country strength in EU decision making.

state-market score lobby less on the EU level (specification 1), the interaction effect between QMV weights and state-market score is not statistically significant. However, my preferred specifications are columns 3 and 4, as they capture the extensive margin of firm lobbying. The extensive margin is arguably the more important dimension since firms pay fixed costs in order to establish a lobbying presence in Brussels. The trade-off of whether or not to lobby in Brussels at all therefore seems like the more salient one, compared with the intensive margin. As expected, the state-market score in these columns indeed appears to be negative, which suggests that companies from countries with more business-friendly governments appear to lobby less on the EU-level, likely implying a substitution effect. The interaction effect of the state-market score and a firm's home country's QMV weight in column 4 - where the dependent variable is a dummy on whether a company met with the EU Commission in a given year - is also negative, as expected. Thus, companies from more powerful countries with more business-friendly governments appear to lobby less on the EU-level; note that this finding contrasts with the result in specification 2, where logged meetings is the dependent variable.[64] Hence, while companies may gravitate away from lobbying on the EU-level as their home country government is more business-friendly, and their home country more powerful, this effect appears to only hold at the extensive margin. A speculative interpretation of this finding may be that if companies find one venue more profitable than the other, they decide to shift their entire lobbying efforts to that level.

Overall, the results provide suggestive empirical support for the existence of "venue shopping" by firms in the EU, indicating that firms may substitute direct EU Commission lobbying with the lobbying of member state governments, which in turn may affect EU policies through the Council.

Fact 4. *Companies from countries with more business-friendly governments lobby more in their home countries, rather than at the EU level. This association is stronger for companies from more influential countries.*

[64]Note that the results in general appear to be robust to different measurements of government business friendliness, see in the appendix section §A Table 5.

Firms face a strategic decision not only with regard to which level of government they lobby, but also as to whom within the EU Commission they decide to lobby. Based on several interviews with officials at the Commission, lobbyists and firm representatives, and NGOs, I get the sense that, despite the Commission's self-image of being a supranational and entirely independent body, the respective Commissioner from companies' home countries may be more receptive to these firms' needs and thus be more likely to be approached by these firms. In Table 3, I test whether "venue shopping" occurs not only across levels of government, but also within the EU Commission. More specifically, I examine whether companies are more likely to meet with commissioners from their home country. Utilizing a three-dimensional panel with company, commissioner, and year fixed effects, I find that companies are indeed lobbying the EU Commissioner from their respective home country more than other EU Commissioners. The shared nationality between company and commissioner is associated with a 10 percent higher likelihood that a given firm meets with a commissioner. Note that this effect is sizable given that, on average, there is a 2-3 percent probability of a firm-commissioner meeting in a given year (see in the appendix section §A Table 3). The effect is statistically significant at the 1 percent significance level, and gives rise to the last stylized fact:

Fact 5. *Shared nationality of EU Commissioner and firm is associated with firm-Commissioner lobbying meetings.*

The above results establish stylized facts about firm lobbying in the EU. As in the US, larger firms lobby more in the EU. However, in contrast to the US, it appears to be the case that "higher quality" firms, i.e. more profitable and more valuable firms, are lobbying more in the EU context. This may be due to EU institutions giving rise to a more informational rather than a quid-pro-quo nature of lobbying. Moreover, companies strategically choose lobbying venues within the multilevel EU institutional setup. When discussing the potential welfare effects of firm lobbying in the EU, I shall refer back to the selection effects of firms into lobbying, discussed in this subsection.

5.2 Stock Market Effects of Firm Lobbying

Having established correlates of lobbying in the previous subsection, I now turn to examining the effects of firm lobbying in the EU on stock market returns. Gauging the effects of lobbying in the EU is imperative for assessing the extent to which EU politics is under a "corporate sway". In order to do so, I examine whether stock markets see firm lobbying as valuable, and assess potential underlying real-world benefits for firms such as EU grants and procurement awards EU regulations.

I begin by studying stock market reactions to firm meetings. For this piece of the analysis, I rely on daily stock price data from Refinitiv Eikon Datastream (ThomsonReuters (2020)) and analyze cumulative abnormal returns (CARs). I follow standard event study procedures (see e.g. Campbell et al. (1997) and Kothari and Warner (2007)) by estimating expected returns based on Fama and French's three factor model (see Fama and K. R. French (1993)) - data from K. French (2020) - and the price of the Stoxx Euro 600 index on any given day. Intuitively, I generate firm-level expected returns based on the Stoxx Euro 600 index returns on a given day (factor 1) and the two additional factors introduced by Fama and K. R. French (1993), namely the size premium and the value premium. For each firm, I estimate how closely correlated each of these factors are with past firm-level return. Based on these estimates, I calculate expected returns for each firm and day. Abnormal returns are then defined as the difference between observed firm returns on a given date, and the respective expected returns. As the name suggests, cumulative abnormal returns are abnormal returns cumulated over days after an event date. For a more detailed account on the CAR estimation, see the appendix (see section §E).

For the first set of results, I employ an event study around meeting dates of firms with EU Commission officials and examine whether stock markets value companies' lobbying activities in the EU. To this end, I analyze CARs after companies meet with EU Commission officials, which I estimate based on the above outlined methodology. In order for stock markets to respond to an event, traders need to know about it. The EU Commission, with some

variation across commissioners, publicizes meetings information with a lag of one to four weeks, which is one reason why one might expect the data to reflect a delayed reaction by stock markets.

Figure 1 provides evidence that companies experience positive and significant cumulative abnormal returns (CARs) after they meet with EU Commission officials. It can be seen from Figure 1 that companies appear to experience CARs after meetings; these CARs are statistically significant at the 10 percent significance level starting around five days after the meetings took place. These effects may be attributed to markets' expectations that meetings with EU Commission officials grant political clout to firms. This political clout may then be expected to translate into tangible firm-level benefits in the future, if one assumes that the market is efficient and that the market prices in expected firm-level benefits of meetings with the EU Commission. The effects only start showing up in the data after day 5 and reach between 0.2 and 0.6 percent. Given that the Euro Stoxx 600 had an average daily return of about 0.02 percent during the time frame of my study, these cumulative abnormal returns after meetings with the EU Commission are of considerable magnitude. The lag in stock market reactions may be due to publicizing delays by the EU Commission, as mentioned above. Overall, I take the findings of this subsection as evidence that firm-level lobbying is associated with private gains to companies. Lastly, note that companies' meetings with the EU Commission are endogenous; these results may thus not be interpreted as causal. The findings are in line with to the ones presented in Brown and Huang (2020), whose event study detected CARs of around 0.2-0.4 percent within the 15 days after companies meet with White House officials in the US.[65]

Thus far, I have established a positive association of firm meetings with the EU Commission and stock market prices based on more than 3000 meetings over a five year time span.

[65]For robustness checks where I examine excess returns (i.e. the differences between companies' stock performances and the Euro Stoxx 600 index) as dependent variable, see in the appendix section §B Figure 8. Also, note that companies appear to react more strongly to meetings with EU Commissioners, rather than subordinate stuff, see in the appendix section §B Figure 7. Commissioner-firm meetings are more likely to have been covered by the press, compared with firms' meetings with lower level officials, so a stronger reaction by the markets would appear plausible; also, financial markets may expect that meetings with higher level officials confer greater political clout to companies, and thus react more strongly.

The timing of these meetings is endogenous, which complicates a causal interpretation; for example, if companies were more likely to seek meetings with the EU Commission shortly before they have good news to announce, then the estimated CARs around meeting dates would at least partially reflect the positive news the firm shared. In order to mitigate this endogeneity problem, I employ another event study that leverages an unexpected event - the UK Brexit referendum in June 2016 - in order to gauge the premium the stock market places on firm lobbying of the EU Commission. Note that addressing the endogeneity concern this way comes at the price of zeroing in on firms' stock market returns around one particular day. On June 23rd, the United Kingdom held a referendum on whether or not to remain a member of the European Union. Polls such as an the YouGov poll, which was conducted on the day of the referendum, suggested that a slight majority was in favor of staying in the EU (52 percent vs 48 percent; see YouGov (2016)). Yet, contrary to these expectations, the UK voted with 51.9 percent in favor of leaving the EU. The outcome of the referendum was therefore relatively surprising, and its ramifications were substantial for the EU. In this part of the analysis, I employ a difference-in-differences design: the set of companies that had connections to the EU Commission - defined as companies that had at least one meeting with the EU Commission in 2015 (labeled "lobbying firms" in Figure 2) - was to experience a loss in the value of these connections, as the EU as a whole lost importance as a result of its third largest member state deciding to leave the EU. The set of companies without connections to the EU Commission - i.e. the companies that had not met with the EU Commission in 2015 (labeled "non-lobbying firms") - serve as control units. I then assess the effects of companies' connections to the EU Commission losing value by comparing CARs of lobbying and non-lobbying companies before and after the day of the Brexit referendum. More specifically, I examine whether the conjectured value loss of companies' EU Commission connections translates into lower stock market returns after the Brexit referendum. The difference in differences estimator captures the causal effect of lobbying companies' connections to the EU Commission losing value under the assumption that both types of companies would have experienced comparable stock returns had the referendum not taken place. Fig-

ure 2 illustrates the CARs of lobbying and non-lobbying firms respectively around the Brexit referendum date (day zero). During the two days preceding the event, the CARs of both types of firms appear to follow a relatively flat and parallel trajectory, which suggests that the parallel trends assumption holds. However, starting on day 1 - the day when the Brexit news were first priced into firm returns - , lobbying firms' CARs appear to underperform the market significantly, while non-lobbying firms' CARs outperform the market. This effect is consistent with the interpretation that companies' lobbying connections to the EU Commission lost value after the UK decided to leave the European Union. Table 4 presents the difference-in-differences effects in regression form. I regress companies' CARs one day before the referendum, on the day of the referendum, and one day after the referendum on a binary variable that takes on 1 if a company had at least one meeting with the EU Commission in 2015 ("Lobbying"), a binary variable that takes on 1 for the day after Brexit ("Post"), and the interaction of these two variables.[66] The interaction effect formally captures the difference-in-differences effect. The effect is statistically significant at the 1 percent significance level. In terms of magnitude, lobbying companies appear to experience 2.5 to 2.8 percent lower CARs due to their connections losing value around the Brexit referendum date. Relative to average daily returns of about 0.02 percent in my sample, the magnitude of these effects is considerable.[67] [68] [69]

5.3 The Effects of Lobbying on Grant Allocation Decisions

Having established that firms receive benefits from lobbying in the form of increased stock market valuations, I will now examine underlying real outcomes more closely. In this sub-

[66]Note that in the appendix section §B Figure 2 suggests that the abnormal returns are predominantly realized on the day after Brexit.

[67]It should be noted however that these effects were somewhat mitigated by stock price developments in the following days.

[68]See in the appendix section §B Figure 10 and in section §A Table 6 for robustness checks with excess returns instead of CARs based on the Fama and French three factors model.

[69]See Figure 11 in the appendix section §B for event study effects around Brexit by lobbying status and firm origin (i.e. UK firm or not). As one might expect, lobbying companies from the UK appear to experience particularly sharp losses in terms of stock market returns after the Brexit referendum. However, this effect is somewhat underpowered due to the relatively small number of lobbying UK firms in the sample.

section, I analyze EU grant and procurement allocations to firms as an outcome variable.

I do so by use of data on grants, prizes, and procurement expenditures by the Commission, which, to my knowledge, have not previously been analyzed in the context of firm lobbying in the EU. While these expenditures are important in their own right, in so far as they make up about 20 percent of the EU budget and amount to around 22 billion Euros per year, they may not be the most coveted benefit firms may receive from the EU Commission, which contrasts with EU Commission regulations.[70] However, the private monetary gains from winning grant and procurement awards can easily be observed, and are thus to be studied first in this paper.

The utilized grants and procurement data are published by the Financial Transparency System (FTS) of the EU Commission (see EU (2020)), and cover the beneficiaries of funds awarded by the EU Commission from both the EU budget, which is directly administered by the EU Commission or by executive agencies, and the European Development Fund.[71] The following funding types are publicized: grants, prizes, public procurement, financial instruments, budget support, and external experts. The first three funding types may go to firms and are thus the only types that I merge into my data. About 75 percent of the data in my sample are grants given to companies, while another 20 percent represent procurement contracts awarded to firms by the EU Commission.[72] [73] Through these channels, the Commission finances a wide array of causes, ranging from infrastructure programs and research grants to climate impact assessments and education mobility programs. I illustrate the EU

[70] Affecting EU Commission regulations - which I analyze in the following subsection - likely carries with it even stronger firm-level benefits, particularly if these regulations relate to product standards or production processes. One example of the latter would be regulations on carbon emission prices that affect companies with different production processes differently. Yet, measuring firm-level regulatory benefits is challenging; while the monetary benefits of grants and procurement awards can easily be observed, this is not possible for regulatory benefits. Additionally, regulatory benefits may also largely occur on the industry level, rather than on the individual firm level.

[71] Note that funds from the European Development Fund are irrelevant for my paper as they do not go to companies, but rather to public sector and non-government beneficiaries within and outside of the European Union.

[72] For the purposes of assessing the effects of firms lobbying the EU Commission, it appears justified to combine these categories for the analysis. Note however that the main results remain qualitatively unchanged when focusing on grants only.

[73] For the sake of clarity, I will refer to the sum of Commission funding a firm may receive, i.e. to the sum of grants, prizes, and procurement funds, by 'EU grants'.

Commission funds firms receive with the example of Siemens: the German conglomerate received 15.275 million Euros from the EU Commission in 2018, including 5.2 million Euros from the Transport commissioner for an offshore wind project, 598,000 Euros from the Commissioner for Digital Economy for a project on "digital reality in zero defect manufacturing", and 580,000 Euros from the Research commissioner for a project on "dynamic virtualization".

The summary statistics (Table 1 in the appendix section §A and the following tables) reveal that the majority of companies do not receive grants ("Amount (log)" in the summary tables) in a given year. In fact, only 913 firm-years display non-zero EU Commission grants, which amounts to 23.4 percent of firm-years; 1971 firm-year-commissioner observations are non-zero, which corresponds to 2 percent of the sample. The average log amount of grant funding a given company receives in a given year is 3.176[74], and a total of 328 of the 779 companies received a grant from an EU commissioner at some point during my study. Figure 2 in appendix section §B illustrates EU Commission grant amounts across commissioners by companies' industries; each panel represents a commissioner, so that the figure shows the distribution of EU Commission grant and procurement awards across industries for each commissioner. As with the distribution of meetings, the distribution of grants appears to be spread across industries for most commissioners.

I aggregate grant and procurement amounts on the company-year-commissioner levels, and merge the meetings and grants data by company, year, and commissioner dimensions based on a fuzzy merging algorithm (see section §C for a detailed explanation), which yields a three-dimensional panel for analysis.[75][76][77] I manually double-check the obtained matches

[74]The average unlogged amount of grant funding a company receives per year is 608,201 Euros.

[75]Note that grants given to subsidiaries were attributed to the ultimate parent company.

[76]The mapping of some executive agencies, e.g. the Research Executive Agency (REA), to Commissioners is somewhat ambiguous. The agency funds a variety of R&D projects, which I have attributed to the Research, Science and Innovation Commissioner in order to minimize double counting. However, the Environment, Maritime Affairs and Fisheries Commissioner, the Transport Commissioner, and the Climate Action and Energy Commissioner also have a strong say in the allocation of REA funds. Moreover, the competences of the Commissioner for Digital Economy and Society and of the Vice President for Digital Single Market overlap considerably, leading to an overlap in attribution of grants to these two commissioners in my sample. Note that the results are robust to changes in these mappings. Also, see in the appendix section §B Figure 5 for a broad overview of EU Commission hierarchies.

[77]Many grants are given to multiple recipients. However, since I aggregate on the firm-year-commissioner level, I cannot take this clustering into account in the analysis. The thus induced potential underestimation

for accuracy.

I then examine whether companies that met with a specific commissioner (or his or her subordinate staff) in year $t-1$ receives higher amounts of grant and procurement awards from the commissioner in year t.[78] Thus, the results in this subsection are based on data from a three-dimensional panel that has a year, commissioner, and firm dimension. I estimate equations of the following form:

$$log(Grant_{i,t,c}+1) = Meet_{i,t-1,c} + X'_{i,t-1,c}\beta + \lambda_i + \lambda_t + \lambda_c + \epsilon_{t,i,c}$$

, where $Grant_{i,t,c}$ operationalizes the amount of funds that a firm receives in a given year from a given commissioner. $Meet_{i,t-1,c}$ captures either the log of the number of meetings $+1$ a firm had with a commissioner in a given year, or a dummy that takes on 1 if the company met with the commissioner in a given year, and 0 otherwise. All specifications include firm, year, and commissioner fixed effects, and standard errors are clustered at the firm and commissioner levels.[79][80] The inclusion of these fixed effects mitigates omitted variable bias due to unobservable firm, year, and commissioner characteristics[81]; standard errors are clustered at the firm and commissioner level since "treatment assignment", i.e. firm-commissioner meetings, is clustered at the firm and at the commissioner levels.[82] Moreover, the same firm-level variables as the ones presented in the "Stylized Facts" section have been included

of standard errors should be negligible though since two or more firms in my sample rarely receive a grant or procurement award jointly.

[78]See Figure 6 for an illustration of lobbying and grant and procurement awards allocations by EU Commissioners.

[79]In section 5.1, the specifications included industry rather than firm fixed effects; in section 5.1 I am interested in the types of company that lobby, i.e. in variation across firms, while in subsection 5.3 I assess the firm-level effects of lobbying.

[80]Note that the results are robust to the use of industry fixed effects instead of firm fixed effects.

[81]For example, if a commissioner's portfolio gave him or her a disproportionately high lobbying exposure, and simultaneously a large budget of EU Commission funding, then the inclusion of a commissioner fixed effect would address such time-invariant commissioner variables and thus mitigate a potential (upward) bias. Similarly, if a firm is more likely to meet with the EU Commission and receive EU Commission funding for reasons that are not captured by the included covariates, for example management quality or personal political connections, then the firm fixed effect would similarly address time-invariant firm variables and mitigate the risk of omitted variable bias.

[82]Firm lobbying across years and commissioners is likely correlated; likewise, commissioner meetings across years and firms are likely correlated. Clustering takes these correlations into account when quantifying the uncertainty, i.e. standard errors.

in the regressions as controls.[83] Including these covariates should mitigate omitted variable bias if one is concerned that factors such as a firm's size, profitability, or R&D intensity affect its lobbying and grant allocation. For example, if firm size simultaneously increased the probability that a company meets with the EU Commission (as suggested by Stylized Fact 1) and the chances of the company receiving funding from the EU Commission, then the "Meetings"-coefficient may be biased upwards. Note, however, that the inclusion of firm fixed effects already addresses a large part of this concern as they control for time-invariant firm-specific factors; to the extent, however, that year-to-year changes e.g. in firm size or profitability may affect firm lobbying, the inclusion of these covariates should further mitigate bias. A word on why lagged meetings were chosen to operationalize lobbying is in order: based on interviews with EU Commission officials, there are two plausible mechanisms for how companies' meetings may translate into advantages in the grant allocation process. First, companies may gain private information on requirements for winning grants, procurement, and prize awards from the EU Commission, and can therefore submit stronger applications that are specifically tailored to those requirements.[84] Second, grant requirements are set when so-called EU Commission work programs are decided upon; this happens each fall for the following year, and firms may attempt to influence grant and procurement criteria. Hence, both of these explanations suggest that lobbying meetings in t-1 are the most relevant for affecting grant allocation decisions by the EU Commission.[85]

Company meetings with commissioners in the preceding year are indeed strongly and significantly correlated with grant amounts; results from the regressions are presented in Table 5. All specifications include firm, year, and commissioner fixed effects. Columns 1 and 3 include logged meetings as the main explanatory variable, while meetings are operationalized as a dummy that takes on 1 if a firm met with a commissioner in a given year,

[83]The lobbying literature has found or conjectured that these covariates are correlated with firm lobbying. Hence, their inclusion should help address omitted variable bias.

[84]One might think that a pure transmission of information from the Commission to a firm may not classify as lobbying. However, I argue that to the extent that the information is not public knowledge, such activities may be regarded as lobbying as firms exert influence on the Commission with the aim of selective disclosure of information.

[85]See in the appendix section §A Table 7 for explorations of different lag and lead correlations of meetings and grants.

and 0 otherwise. Since most companies meet with a specific commissioner at most once per year, the magnitudes of the coefficients is similar. Furthermore, the inclusion of control variables in columns 3 and 4 only leads to moderate increases in coefficient magnitudes.[86] Interpreting the meeting coefficients of between 0.98 and 1.31 substantively, grant amounts that a firm receives from a commissioner more than double if the company had a meeting in the previous year. [87]

While the above discussed results show a strong correlation of meetings and EU Commission grants, companies' meetings may arguably be endogenous to grants, precluding a causal interpretation. That is, if companies seek meetings in order to secure grants from commissioners, and if companies that meet with EU Commissioners therefore fundamentally differ from companies that do not, then the above shown results may not be interpreted causally.[88] [89] Hence, I utilize two instrumental variable designs in order to argue that companies' lobbying meetings causally affect commissioners' grant allocations: first, I instrument for meetings with a dummy variable that takes on 1 if a given commissioner and firm share nationality in a given year, which, as described in Stylized Fact 5, is a strong predictor for meetings. As a second approach, I instrument for firm-commissioner meetings with a firm's industry's exposure to the Trump tariffs of 2018.

I first discuss the effects of lobbying on grant amounts, when instrumenting for meetings with shared nationality of company and commissioner in a given year (see Table 6).[90]

[86]This - and the non-significant and substantively small covariate coefficients - suggests that the time-variant parts of the covariates only marginally account for bias.

[87]In the Online Appendix, I furthermore present robustness checks with regards to firm size, and specific countries and sectors. The results do not appear to be driven by firms from specific countries or sectors; however, the correlation of meetings and grant amounts is stronger for large firms. In fact, the correlation between meetings and grant amount is insignificant for small firms.

[88]Conversely, endogeneity causing a bias in the other direction is conceivable if some companies - for unobservable reasons - are at a disadvantage at receiving EU Commission funds, and therefore feel the need to lobby the EU Commission more.

[89]Due to measuring meetings in year $t-1$, reverse causality should arguably be a second-order concern in this setting. Moreover, note that the omitted variable bias is already partially addressed by the inclusion of firm fixed effects in all my regression equations.

[90]Note that the instrumental variable strategy bears some semblance to the shift-share instrument used in Huneeus and Kim (2018) who study the effects of lobbying in the US. The authors instrument for firm lobbying expenditures by using an instrument that takes into account Congress members' districts of origin and their committee assignments. The firm specific instruments then are based on a weighted sum of the committee assignments of Congress members from the firm's district.

The reported first stage F-statistics reaffirm that shared nationality is a strong instrument that therefore fulfills the inclusion restriction required for a valid instrumental variable approach.[91] Moreover, the instrument - shared nationality of commissioner and firm - needs to be exogenous to the firm. For that assumption to be violated, one would have to assume that individual companies can affect the portfolio assignment of EU commissioners. Given that portfolio assignments in the EU Commission are usually embedded in more broad European personnel politics and are the results of complex inter- and intragovernmental bargaining processes, it seems unlikely that individual companies are able to sway these decisions in their favor. After EU elections, 27 EU Commissioner positions, as well as the President of the EU Parliament and oftentimes the head of the European Central Bank need to be filled while balancing competing national and partisan interests.[92] Lastly, for the instrumental variable approach to be valid, the instrument (here shared commissioner-firm nationality) may not affect the outcome (in this case EU Commission grants, procurement, and prizes given to firms) through any channel beyond firm-commissioner meetings. I shall discuss the validity of the exclusion restriction below.

Table 6 presents the IV results of meetings on grant amounts, where meetings are instrumented by a dummy that takes on one if commissioner and firm share nationality in a given year and zero otherwise. Meetings with commissioners lead to companies receiving greater funds from the EU Commission; this result is statistically significant at the 5 percent significance level in all specifications. The magnitudes of the IV results are comparable to the magnitudes of the OLS specifications. That suggests that the meeting effects in the full sample are similar to the meeting effects for the subset of firms that met with a commissioner from their home country.[93] Note that the specifications include year, firm, and commissioner

[91] In the Online Appendix, I present robustness checks with regards to firm size, and specific countries and sectors. The first stage appears weaker for smaller firms, and the results fail to achieve statistical signficance when splitting the sample at the median firm size. In terms of individual countries, German and French companies appear to be particularly important for the described effect. However, the fact that the results appear to lose statistical significance is arguably also due to the reduced power when dropping companies from the two largest EU member countries. No single sector appears to be driving the results I observe in the overall sample.

[92] See for instance https://www.politico.eu/article/junckers-careful-balancing-act/ for a more detailed account.

[93] In other words, the average treatment effect (ATE) and the local average treatment effect (LATE) are

fixed effects to control for unobservables beyond the included covariates; standard errors are clustered at the commissioner and country level. As mentioned, the first stage F statistic takes on values greater than 10 in all specifications, the threshold below which instruments are commonly considered to be weak (see Stock and Yogo (2002)).

In the appendix (see Table 8 in section §A), I moreover show that the causal effects of meetings on grant awards at the intensive margin - i.e. for the subset of firms that had at least one meeting with an EU Commission representative during the time period of my analysis - are also statistically significant.[94]

Let me now address the exclusion restriction assumption that shared firm-commissioner nationality only affects grants received by the company through the meetings channel: one counter-narrative that one may construct is that commissioners may favor companies from their home countries regardless of whether they had previously met with them or not. Fortunately, my data allow for a placebo check that should address concerns about the validity of the exclusion restriction: since about two thirds of the companies in my sample had no meeting with the EU Commission throughout the period of my study, I can compare intent-to-treat effects (ITT) of shared nationality on grant amounts for the subset of firms with at least one lobbying meeting (henceforth "lobbying firms"), and for the subset of firms with no lobbying meetings ("non-lobbying firms"). If the exclusion restriction holds, the ITT for the former should be zero, indicating that shared nationality alone does not lead to firms receiving more grants from a commissioner. As can be seen in Table 9, the ITTs of shared commissioner-firm nationality (see columns 4-6) are an order of magnitude lower than the ITTs for non-lobbying firms than the ITTs for lobbying firms (see columns 1-3).

One can go a step further and directly incorporate the endogeneity bias estimate in the IV estimates, following work by Conley et al. (2012) and Kippersluis and Rietveld (2018) (see section §F for details). Applied to my context, one needs to assume that the direct

of comparable magnitudes, suggesting that the omitted variable bias in the OLS is moderate at most.

[94]If costs for firms to enter the lobbying market are high, then one may expect the shared nationality instrument to work mainly at the intensive margin. Indeed, at the intensive margin, meetings lead to firms receiving greater amounts of EU grants from a given EU Commissioner, and the effects are statistically significant at the 5 percent level in all specifications. Notice that the first stage F statistic is somewhat larger than in Table 6, suggesting that the instrument is stronger when zeroing in on the intensive margin.

effect of shared nationality on grants is the same for lobbying and non-lobbying firms; I then obtain an unbiased IV estimate β of 0.45 for specification 1. Given the standard errors in Table 8, that would correspond to a p-value of 0.14.[95] While the thus obtained "true" IV estimate fails to reach statistical significance at conventional levels, the p-value is nonetheless relatively low even when explicitly taking into account the endogeneity bias due to a potential exclusion restriction violation. I therefore interpret the IV results as suggestive evidence for the hypothesis that firms' lobbying meetings cause companies to receive higher grant amounts.[96]

I provide further support for a causal interpretation of firm meetings on commissioners' grant allocation decisions by instrumenting for meetings with company exposure to the 2018 Trump tariffs. Fajgelbaum et al. (2020) examined the effects of the 2018 trade war on the US economy.[97] Based on their sector and country-specific data on tariffs that were imposed by the Trump administration in 2018, I created an instrument at the NAICS-6 level of exposure of European companies to the Trump tariffs in 2018. For the exclusion restriction to hold, one needs to assume that tariff exposure did not lead to companies receiving more EU Commission grants other than through the meetings channel. This assumption would for instance be violated if the EU Commission targeted their funds towards affected firms in an effort to alleviate the burden imposed by the trade war. Companies that were more exposed to the Trump tariffs met with the EU Commission more often in 2018 (see Table 11 in the appendix section §A). Instrumenting for meetings in 2018 (note that the analysis here only focuses on one year), one can see that meetings lead to companies receiving higher amounts of grants from the Commission in 2019 (see Table 7). Note, however, that the instruments are relatively weak.[98] Conducting a placebo check similar to the one in the previous subsection,

[95]Note that the obtained p-values are very similar across specifications.

[96]In further robustness checks to these placebo checks, it appears that the exclusion restriction may hold more plausibly for the subsample of large companies. When dropping individual sectors or countries, the ITT for lobbying firms always is greater than for non-lobbying firms. However, in some specifications this difference may not be statistically significant.

[97]The tariffs were implemented in three waves, taking place in March, July, and September 2018. EU firms in sectors producing aluminum, iron, and steel products were the most affected by the US tariffs.

[98]The IV coefficients with magnitudes between 9.5 and 12.75 are much larger than the OLS coefficients that take values between 0.95 and 1.31. This difference could be driven by omitted variable bias. However,

one can see that the ITT for lobbying firms is greater than for non-lobbying firms; however, the coefficients are not statistically significant for either subset of firms (see Table 12 in the appendix section §A). Relying on two separate instrumental variable approaches - one based on the shared nationality of firms and commissioners, the other on exposure to the US tariffs in 2018 - thus demonstrates that firm lobbying in the EU causally affects commissioners' grant allocation decisions.

5.4 Firm-Level Effects of Regulations

So far, I have established that firm lobbying confers benefits on companies in the form of stock market prices and EU Commission grants and procurement awards. While analyzing the latter allowed for a precise measurement of monetary benefits from lobbying at the firm-commissioner level, one may argue that EU regulatory politics are in fact of greater economic importance to most firms; for example, EU regulations that establish EU-wide product standards have the potential to strongly favor companies that can more easily adapt. In this section, I go beyond anecdotal evidence such as the Volkswagen example from the introduction to assess the generalizability of the grant and procurement effects to EU regulatory politics. EU regulations are usually the product of complex interactions between multiple actors: normally, the EU Commission proposes regulations, which then need to be approved by the Council of the European Union and the European Parliament to become law. Hence, it stands to reason that firm lobbying of the EU Commission may be particularly effective at influencing regulations before a concrete proposal is put forward.[99] However, the EU Commission, the Council of the European Union, and the European Parliament also meet in the so-called "Trilogue" after proposals have been made. Throughout this negotiation process, the three bodies attempt to reach a compromise so that the regulations can become law. Thus, lobbying the EU Commission may still allow companies to affect EU regulations

the combination of exclusion restriction violations and a relatively weak instrument may also account for the large IV coefficient magnitudes.

[99]EU regulations relevant to firms mainly pertain to the Single Market; product regulations and financial regulations are examples. On the other hand, social issues, for example on employment safety or minimum wage, are usually regulated/legislated at the member state level.

even after the original proposal has been published. In order to measure firm-level benefits of regulations, I calculate firms' cumulative abnormal returns around dates when the EU Commission proposed or adopted a regulation.[100][101] I then consider as the main explanatory variable whether a company had met with the proposing Commissioner (or one of his/her staff members) in the year before the regulation was proposed, and between the proposal and adoption dates of regulations, respectively. More specifically, I estimate the following equations:

$$CAR_{i,t,c,r} = Meet_{i,t-250,c} + X'_{i,t-365,c}\beta + \lambda_s + \lambda_t + \lambda_c + \epsilon_{t,i,c}$$

$$CAR_{i,t,c,r} = Meet_{i,r,c} + X'_{i,t-365,c}\beta + \lambda_s + \lambda_t + \lambda_c + \epsilon_{t,i,c}$$

where CAR captures the cumulative abnormal returns around the day t when a regulation r is proposed (equation 3) or adopted (equation 4), respectively. This outcome variable is regressed on the firm covariates used throughout the paper and on a dummy variable that either indicates whether company and proposing commissioner c met within the year (i.e. 250 trading days) before a regulation was proposed ($Meet_{i,t-250,c}$ in equation 3) or whether company and commissioner met between proposal and adoption date of a given regulation ($Meet_{i,r,c}$ in equation 4). All specifications include industry (s), year (t), and commissioner (c) fixed effects. I present results for days -1 (i.e. the day before) until day 10 after regulation proposal and adoption days t. Note that the analysis in this subsection relies on stronger assumptions than the ones in the previous subsections. First, one needs to assume that stock markets are informed about companies' meetings with EU Commission officials before

[100] As in the main specifications in the event study results, I calculate expected returns based on the Fama and French three factor model. Here, too, CARs are estimated based on data from Refinitiv Eikon Worldscope (ThomsonReuters (2020)).

[101] Throughout the time period of my study, the EU Commission proposed a total of 611 regulations. Data have been obtained through https://eur-lex.europa.eu/homepage.html. In the presented specifications, I allow for double-counting firm-regulation days; i.e., if on a given day, two or more regulations were proposed, each firm enters the analysis three times with the same stock return value. Note however that the results are robust to only counting each firm-day observation at most once.

the proposal or adoption dates of regulations.[102] Secondly, markets must have sufficient information about the anticipated effects of regulations on the firm level in order to price in these expectations.

Panel A in Table 8 suggests that companies who met with the commissioner before regulations were proposed may experience higher returns on the proposal date than companies who had not met with the proposing commissioner (see Figure 3 for visualization). In terms of magnitude, the effects are comparable to the meetings effects in section 4.2; however, the results are only statistically significant at the 5 percent level on day 1 in Panel A in Table 8. One might expect that meetings with the proposing commissioner are more valuable the faster regulations are adopted; these regulations will likely be passed without many amendments introduced throughout the Trilogue negotiations such that having lobbied the EU Commission should be especially effective at influencing regulations in these cases. Note, however, that this interpretation relies on the assumption that it is common knowledge on the date of the proposal that a regulation will be adopted relatively quickly.[103] The meeting effect on CARs around regulation proposal dates indeed appears to be driven by regulations that were adopted relatively quickly (within the first 25 days after proposals, which corresponds to the quartile of proposals that were adopted the fastest); see Panel B in Table 8 (and Figure 4 for visualization), which is consistent with the laid out conjecture that lobbying the EU Commission should be more valuable the faster regulations are adopted. The magnitude of the "meetings dummy" coefficients around proposal dates is larger for quickly adopted proposals; as Panel B in Table 8 indicates, five days after a regulation was proposed, lobbying companies' CARs were about 0.6 percent larger than non-lobbying companies' CARs.[104] These results are statistically significant at the 1 percent level.

Moreover, I examine whether companies that met with the proposing commissioner after

[102] Additionally, there should be no concurrent events systematically coinciding with proposal or adoption dates of regulations.

[103] While this may be a strong assumption, it may be possible for the public to get a sense of how controversial a regulation may be relatively quickly after a first draft is proposed. This may vary depending policy areas, issue salience, and media coverage.

[104] Given an average daily return of 0.02 percent in my data, the coefficient magnitude is substantial.

the proposal date experienced higher returns around the date of proposal adoption. Panel C in Table 8 (visualized in the left panel in Figure 5) suggests that, five days after a proposal was adopted, lobbying companies' CARs were about 0.4 percent higher than the CARs of companies that had not met with the proposing commissioner between the proposal and adoption date of a given regulation. Additionally, affecting regulation proposals may be particularly valuable for companies that are expected to be most negatively affected by a regulation. In these cases, lobbying may serve to mitigate harm to the company by weakening the potentially costly provisions of the proposed regulations. It is in fact the case that, for the subset of companies that experienced the lowest returns around the proposal date [105], meeting with the proposing commissioner between proposal and adoption date appears to be especially valued by financial markets, as demonstrated in Panel D in Table 8 and the right panel in Figure 5. The effects of meetings for this subset of companies appears meaningful: CARs for companies that met the proposing commissioner between the proposal and adoption dates of a given regulation are between 0.7 and 1.8 percent higher three to five days after a given regulation is adopted.

Overall, I interpret the effects presented in this subsection as capturing the increased policy benefits stock markets expect lobbying companies to experience.[106] Financial markets may have partially priced in the expectation of future beneficial EU regulations for firms around the meeting dates; as demonstrated in section 4.2, companies experience positive and significant CARs after meetings with the EU Commission. The magnitude of the effects of lobbying on regulatory benefits discussed in this subsection may therefore be interpreted as a lower bound on the true effect.

[105] more specifically, for the companies in the lowest quartile of returns around the proposal date

[106] Note that in Panels B, C, and D in Figure 3, there appear to be anticipation effects. Statistically significant CARs can be detected already before the respective regulation proposal or adoption dates. I therefore cannot rule out that lobbying firms merely experience higher CARs on any given day, regardless of whether a regulation is proposed or adopted.

6 Discussion: The Nature of Lobbying in the EU

Thus far, I have elaborated on the correlates and effects of firm lobbying in the EU. To better evaluate the extent and potential consequences of the alleged "corporate sway" (see opening quote) in EU politics, it is useful to assess the nature of lobbying in the EU against the backdrop of two stylized types of lobbying that have been widely discussed in the literature: quid pro quo lobbying and informational lobbying. The former perceives of lobbying as an exchange of political resources, such as campaign contributions or prospective jobs in a revolving doors context, for policy favors. This strand of literature goes back to Stigler (1971) and Peltzman (1976), upon which the seminal Grossman-Helpman model (see Grossman and Helpman (1992)) builds. Most empirical research - particularly when studying lobbying in the US context - conceptualizes lobbying implicitly or explicitly in this way (see e.g. Bertrand et al. (2014); Goldberg and Maggi (1999); Bombardini and Trebbi (2011)).

The literature on informational lobbying, on the other hand, is largely theoretical, emphasizing the complexity of policy making and the need for information from interest groups. In general, information transmission is hampered by a misalignment between the preferences of interest groups and politicians. However, there are equilibria where some information flow occurs, which usually entails welfare gains for all involved parties (see e.g. Potters and Van Winden (1992); Austen-Smith (1995); Krishna and Morgan (2001)). It should be noted that studying informational lobbying is usually complicated by measurement shortcomings as well as by the difficulty of disentangling informational and quid pro quo lobbying; this is particularly true in the US context, where both forms of lobbying arguably occur simultaneously.

Against this backdrop, how should we classify lobbying in the EU context? I argue that lobbying in the EU should be thought of as largely informational for the following three reasons: first, it appears to be a matter of conventional wisdom that, in contrast to the US, "... in the EU, companies provide public authority with technical expertise, in exchange for access to policy making" (Coen and Vannoni (2020); see also Chalmers (2011) and Klüver (2012)). The quote resonates with first-hand accounts from several interviews I conducted

with officials at EU institutions, lobbyists and firm representatives, and researchers at think tanks in the EU. Second, EU-level politics has long been characterized by a virtual absence of campaign contributions. While contributions have been on an upward trajectory since 2008, the absolute total of about 400,000 Euros (see Katsaitis (2018)) that EU parties received in 2015 are nevertheless dwarfed by the 1.6 billion dollars received by parties in the US in 2016 (see FEC (2017)).[107] The types of dependency structures seen in the US where political actors are often very reliant on contributions from industry should therefore be less common in the EU. Third, revolving doors, while not an entirely foreign concept in the EU context, as evidenced for instance by former EU Commission president Barroso's move to Goldman Sachs [108], feature less prominently on the EU level (see e.g. Coen and Vannoni (2016)). The permeability between industry and the EU Commission appears especially low, since career bureaucrats usually stay there for a long time. Taken together, these characteristics of EU lobbying imply that quid pro quo lobbying should be relatively less salient than informational lobbying in the EU context. Therefore, the results presented in this paper may not only fill a gap in the literature by providing quantitative evidence about firm lobbying in the European Union, but may also shed light on the effects of informational lobbying more generally.[109] The interpretation of EU lobbying as informational is furthermore aided by the fact that I operationalize lobbying as company-Commission meetings, which arguably gets relatively close to measuring information flows, particularly compared to studies that operationalize lobbying by lobbying expenditures. What types of information companies convey through the lobbying process is still an open question.[110] During my interviews in Brussels, EU Commission officials suggested that firms may be able to signal their own quality and thus increase their chances of receiving benefits in the form of grants from the Commission. It is also conceivable that companies transmit information about the impacts

[107]It should be noted however that the cost of campaigns is likely much lower in the EU.

[108]see https://www.goldmansachs.com/media-relations/press-releases/current/jose-manuel-barroso-appointed.html

[109]The only paper to my knowledge to explicitly assess the effects of informational lobbying in the US context is Ludema et al. (2018).

[110]The reader is referred to the word cloud in the appendix, see Figure 3. It appears as though firms and EU Commission officials may predominantly discuss regulatory matters. Yet, I do not know which type of information companies convey on these topics.

of certain policies or grant allocations more broadly. Lastly, as suggested by my interviews with Commission officials, information may also flow from the Commission to companies: by virtue of understanding policies or grant application requirements better, they may be more successful at securing benefits from the EU.[111]

As mentioned above, informational and quid pro quo lobbying likely occur at the same time in the US; I view those two types of lobbying as stylized forms on both ends of a continuum. Analogously, the nature of lobbying in the EU may not be purely informational. Yet, for the reasons outlined in the above paragraph, I argue that lobbying in the EU should be understood as more informational than quid pro quo, which contrasts with the US case.[112]

7 Heterogeneous Effects and (Tentative) Welfare Implications

In the results section, I first presented descriptive evidence on firms' self-selection into lobbying the EU Commission. I then presented findings suggesting that firm-level lobbying in the EU leads to companies experiencing positive cumulative abnormal stock market returns and receiving greater amounts of EU funds. The welfare implications of these results are ambiguous. Lobbying firms receiving higher amounts of EU Commission funding could imply allocative distortions. Given that larger firms lobby more, the welfare effects may be particularly detrimental if lobbying helps high markup companies strengthen their market power. I have also shown descriptive evidence that lobbying firms are more profitable and more valuable. Controlling for profitability, firm size in Table 1 is still significant at the

[111] However, the latter phenomenon in and of itself would arguably not classify as lobbying.

[112] Note, however, that the presented EU lobbying characterization would also be consistent with an interpretation of lobbying as a legislative subsidy, as theorized by Hall and Deardorff (2006); the authors posit that interest groups provide "legislative subsidies" such as drafted bills to ideologically aligned lawmakers. The lobbied legislators become more productive this way, and the likelihood that an interest group's favored policy will be implemented increases. The concept of "lobbying as a legislative subsidy" hence also relies on information transmission rather than the exchange of resources for policy favors. Compared to the literature on informational lobbying, "lobbying as a legislative subsidy" focuses on the fact the interest groups can decide to lobby actors that vary in terms of ideological alignment with the interest group's goals. Yet, given my data, it is not possible to empirically distinguish between these two lobbying types.

1 percent significance level, and the magnitude of the coefficient is substantially large. In a Melitz-type model (Melitz (2003)), firm size can capture efficiency when controlling for profitability. Hence, lobbying companies in the EU may be more efficient. If firm lobbying contributes to funds - such as EU grants and procurement awards - being targeted at more efficient companies, then lobbying may in fact be welfare enhancing in this context. This line of reasoning resonates with Choi (see Choi (2021)) who finds that lobbying can increase efficiency by mitigating resource misallocation. This effect holds if more productive firms are more burdened by exogenous distortions to begin with.

I further try and get at potential welfare effects by examining heterogeneous effects of meetings on grant amounts: Table 9 presents heterogeneous effects of firm meetings and R&D intensity. I interact meetings and a meeting dummy, respectively, with companies' R&D intensity and find that these interaction effects are positive and statistically significant in all specifications. This may suggest that meetings are particularly effective for firms' chances of receiving grant money if they display greater research intensity, which in turn may be seen as a proxy for firm quality.[113] Moreover, increased information flows from companies to EU policymakers could entail additional positive welfare effects. Beyond the scope of my empirical analysis, the EU Commission may become better informed about the state of the world due to lobbying contacts with firms. This improved state of information may then allow the EU Commission to draft higher quality proposals, which in turn may have welfare-enhancing implications. Naturally, the extent to which informational flow may occur in these contexts depends on the magnitude of the ideological differences between a given firm and the EU Commission, as the informational lobbying literature points out.

A full assessment of potential welfare effects of firm lobbying furthermore needs to take into account the costs of lobbying. Direct monetary transfers from companies to policymakers are rare on the EU level, as discussed above. The costs of lobbying in the EU context are therefore mainly due to overhead costs of internal and external lobbyists firms

[113]Note that heterogeneous effects with respect to firm profitability yield results consistent with that narrative, see in the appendix section §A Table 13. On the other hand, firm size does not appear to moderate meeting effects, see Table 14 in appendix section §A. In other words, meetings are not more strongly correlated with firms receiving grants for firms with varying firm sizes.

hire, and to the fixed costs of maintaining offices in Brussels, Strasbourg, and Luxembourg (in 2019, the total costs of all lobbying actors, i.e. firms, trade associations, unions, NGOs, amounted to 1.8 billion Euros;[114] in contrast, lobbying expenditures in the same year in the US were estimated to be about 3.5 billion US dollars[115]). Overall, these costs may make lobbying inefficient if their effects are not offset by the allocative or informational gains discussed above.[116]

Lastly, it should be noted that I only observe company lobbying of the EU Commission. Given that I have established in the stylized facts section that firms engage in venue shopping (Stylized Fact 4) and are more likely to target their home country governments if they are particularly amenable to business needs, it may be the case that I underestimate or overestimate potential distortions induced by firm lobbying in the EU.

8 Conclusion

This paper examines the correlates and effects of firm lobbying in the European Union. First, I have established stylized facts about firm-level lobbying in the EU. Larger, more profitable, and more valuable firms lobby the Commission more. Next, I employ an event study to demonstrate that stock markets value firm lobbying in the EU. Investigating underlying real outcomes, I show that firm lobbying is associated with companies receiving greater amounts of EU Commission funds; drawing on two instrumental variable approaches, I argue that this finding has a causal interpretation. These results appear to be generalizable to EU regulatory politics. I provide a more theoretical assessment of the nature of lobbying in the EU: with quid-pro-quo lobbying dynamics being less prominent, firm-level advantages in gaining and conveying information to policy-makers may result in firm-specific benefits.

[114] see https://transparency.eu/priority/eu-money-politics/

[115] see https://www.cnbc.com/2020/10/05/q1-lobbying-spend-was-record-938-million-but-lobbyists-decry-stereotype.html

[116] Related to the issue of costs of lobbying is the question of whether firms actually profit from lobbying. After all, it may be the case that marginal costs equal marginal benefits from lobbying for firms in a perfectly competitive lobbying market. However, two features in the lobbying market suggest that lobbying companies may indeed reap positive profits from lobbying: first, fixed costs may represent entry barriers into the lobbying market. Secondly, companies' differing levels of product differentiation may allow for profits.

Thus, I contribute to the literature on lobbying more generally by providing suggestive evidence that informational lobbying, which is generally seen as a more benign form of lobbying, may nonetheless lead to private firm-level gains.

Returning to the opening quote, these findings taken together are consistent with the existence of a "corporate sway"; however, the welfare effects are ambiguous. In fact, the heterogeneous effects discussed in section 7, which shows that lobbying by more R&D-intensive firms is more strongly correlated with EU Commission grant allocations, suggest that the fallout from this "corporate sway" is moderate at best; in fact, firm lobbying in the EU could even be welfare enhancing.

Lastly, the "venue shopping" argument and results suggest that companies may act strategically in choosing lobbying venues in the EU multi-level political system. Hence, in order to get a fuller picture of the effects of firm lobbying in the EU, future research should take into account the lobbying of EU institutions such as Commission and EU Parliament as well as national legislative and executive branches.[117]

[117]Note that such an endeavor needs to overcome serious hurdles in terms of data availability and quality.

9 Tables

9.1 Correlates of Lobbying

Table 1: Firm-Level Correlates of Lobbying

	Full Sample		Lobbying Firms	
	Meetings	Meet Dummy	Meetings	Meet Dummy
Assets	0.237***	0.142***	0.215***	0.082***
	(0.022)	(0.012)	(0.054)	(0.024)
RoA	0.006***	0.004***	0.008	0.002
	(0.002)	(0.001)	(0.007)	(0.004)
Leverage	−0.000***	−0.000*	−0.001***	−0.000*
	(0.000)	(0.000)	(0.000)	(0.000)
Employees	0.014	0.004	0.064	0.005
	(0.016)	(0.010)	(0.049)	(0.022)
Market to Book	0.014***	0.007***	0.003	−0.001
	(0.004)	(0.002)	(0.018)	(0.008)
RnD	0.008*	0.004	0.004	0.001
	(0.005)	(0.002)	(0.012)	(0.005)
Market Share	0.064	0.025	0.062	−0.009
	(0.070)	(0.040)	(0.130)	(0.050)
Industry FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Country FEs	YES	YES	YES	YES
Num. obs.	3221	3221	1064	1064
Adj. R^2	0.358	0.340	0.298	0.134

Dependent variable 'Meetings' is log(meetings+1) or a dummy that takes 1 if a firm had at least one lobbying meeting in a given year ('Meet Dummy'). Assets is operationalized as log(assets+1), RoA is net income scaled by total assets, Leverage is a firm's debt scaled by the firm's equity, Employees is captured by log(employees+1), Market to Book captures common shareholders equity scaled by market capitalization of the firm, RnD captures the firm's R&D intensity as measured by R&D expenditures scaled by sales, and Market Share stands for the share of the firm's sales in its industry. Notice all independent variables are lagged by one year. Columns 1 and 2 refer to the full sample, columns 3 and 4 are correlations for the subset of firms that had at least one meeting during the period of study. All specifications include industry, year, and country fixed effects. Standard errors clustered on the company level. ***p<0.01, **p<0.05, *p<0.1.

Table 2: Correlates of Lobbying: Home Country Government and Home Country Importance

	Meetings	Meetings	Meet Dummy	Meet Dummy
StateMarket Gov	-0.02^{**}	-0.01	-0.01^{**}	0.01
	(0.01)	(0.02)	(0.01)	(0.01)
QMV		0.50		1.26
		(1.48)		(0.77)
QMV x StateMarket		-0.13		-0.23^{*}
		(0.25)		(0.14)
Industry FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Controls	YES	YES	YES	YES
Num. obs.	3167	2837	3167	2837

Dependent variable 'Meetings' is log(meetings+1) or a dummy that takes 1 if a firm had at least one lobbying meeting in a given year ('Meet Dummy'). StateMarket Gov captures how willing to regulate the market the government in the company's home country is in a given year. 'QMV' measures the firm's home country's qualified majority voting weight. Control variables are assets, returns on assets, leverage, employees, market to book value, R&D intensity, and market share. All specifications include industry and year fixed effects. Notice all independent variables are lagged by one year. Standard errors clustered on the country level. ***p<0.01, **p<0.05, *p<0.1.

Table 3: Correlates of Lobbying: Home Country Commissioner

	Meetings	Meet Dummy	Meetings	Meet Dummy
Co Nationality	0.10***	0.10***	0.10***	0.10***
	(0.03)	(0.02)	(0.03)	(0.02)
Firm FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Commissioner FEs	YES	YES	YES	YES
Controls	NO	NO	YES	YES
Num. obs.	74120	74120	67849	67849

Dependent variable 'Meetings' is log(meetings+1) or a dummy that takes 1 if a firm had at least one lobbying meeting in a given year ('Meet Dummy'). 'Co Nationality' measures whether a company's home country is equivalent with a commissioner's country of origin. Control variables are assets, returns on assets, leverage, employees, market to book value, R&D intensity, and market share. All specifications include firm, year, and commissioner fixed effects. Notice all independent variables are lagged by one year. Standard errors clustered on the country and commissioner level. ***p<0.01, **p<0.05, *p<0.1.

9.2 Effects of Lobbying: Event Study Data

Table 4: Diff-in-Diff Around Brexit

	CAR	CAR
Lobbying	-0.0064^{***}	0.0023
	(0.0022)	(0.0055)
Post	0.0254^{***}	0.0253^{***}
	(0.0087)	(0.0085)
Lobbying x Post	-0.0275^{***}	-0.0252^{***}
	(0.0069)	(0.0068)
Controls	NO	YES
Num. obs.	1362	1274

Dependent variable is cumulative abnormal returns (CARs), measured based on Fama and French's three factor model. 'Lobbying' stands for companies that had at least one lobbying meeting in 2015, 'Post' captures the day after the Brexit referendum took place. The interaction effect of 'Lobbying' and 'Post' yields the difference-in-differences estimator. Standard errors clustered on the industry level. ***p<0.01, **p<0.05, *p<0.1.

9.3 Effects of Lobbying: Grant Data

Table 5: Effects of Lobbying: OLS Meetings and Grant Amounts

	Amount	Amount	Amount	Amount
Meetings	1.25**		1.31**	
	(0.50)		(0.53)	
Meet Dummy		0.98**		1.03**
		(0.40)		(0.42)
Assets			0.01	0.01
			(0.03)	(0.03)
RoA			−0.00	−0.00
			(0.00)	(0.00)
Leverage			−0.00	−0.00
			(0.00)	(0.00)
Employees			0.01	0.01
			(0.03)	(0.03)
Market to Book			0.00	0.00
			(0.00)	(0.00)
RnD			−0.00	−0.00
			(0.01)	(0.01)
Market Share			−0.23	−0.22
			(0.21)	(0.21)
Firm FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Commissioner FEs	YES	YES	YES	YES
Num. obs.	74195	74195	67849	67849

Dependent variable 'Amount' is log(amount +1), where amount is the amount of grants, procurement, and prizes funding a company received from a commissioner. 'Meetings' is log(meetings+1) or a dummy that takes 1 if a firm had at least one lobbying meeting in a given year ('Meet Dummy'). Assets is operationalized as log(assets+1), RoA is net income scaled by total assets, Leverage is a firm's debt scaled by the firm's equity, Employees is captured by log(employees+1), Market to Book captures common shareholders equity scaled by market capitalization of the firm, RnD captures the firm's R&D intensity as measured by R&D expenditures scaled by sales, and Market Share stands for the proportion of the firm's sales in its industry. All specifications include firm, year, and commissioner fixed effects. Notice all independent variables are lagged by one year. Standard errors clustered on the company and commissioner level. ***p<0.01, **p<0.05, *p<0.1.

Table 6: Effects of Lobbying: IV Meetings and Grant Amounts

	Amount	Amount	Amount	Amount
Meetings	1.00**		1.10**	
	(0.42)		(0.46)	
Meet Dummy		1.04**		1.14**
		(0.44)		(0.48)
Firm FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Commissioner FEs	YES	YES	YES	YES
Controls	NO	NO	YES	YES
Num. obs.	51684	51684	47168	47168
1st Stage F	14.31	20.34	13.26	18.46

Dependent variable 'Amount' is log(amount +1), where amount is the amount of grants, procurement, and prizes funding a company received from a commissioner. 'Meetings' is log(meetings+1) or a dummy that takes 1 if a firm had at least one lobbying meeting in a given year ('Meet Dummy'); these variables respectively are instrumented with company-commissioner shared nationality. Control variables are assets, returns on assets, leverage, employees, market to book value, R&D intensity, and market share. All specifications include firm, year, and commissioner fixed effects. Notice all independent variables are lagged by one year. Standard errors clustered on the country and commissioner level. First stage results in Table 3. ***p<0.01, **p<0.05, *p<0.1.

Table 7: Effects of Lobbying: Trump Tariffs IV

	Amount	Amount	Amount	Amount
Meetings	12.75***		11.90**	
	(2.63)		(5.28)	
Meet Dummy		10.44***		9.50**
		(3.29)		(4.48)
Industry FEs	YES	YES	YES	YES
Commissioner FEs	YES	YES	YES	YES
Country FEs	YES	YES	YES	YES
Controls	NO	NO	YES	YES
Num. obs.	17450	17425	16050	16050
1st Stage F	4.61	5.41	3.89	5.04

Dependent variable 'Amount' is log(amount +1), where amount is the amount of grants, procurement, and prizes funding a company received from a commissioner. 'Meetings' is log(meetings+1) or a dummy that takes 1 if a firm had at least one lobbying meeting in a given year ('Meet Dummy'); these variables respectively are instrumented with a companies exposure to the 2018 Trump tariffs (at the NAICS-6 level). Control variables are assets, returns on assets, leverage, employees, market to book value, R&D intensity, and market share. All specifications include country, industry (at the NAICS-2 level), and commissioner fixed effects. Notice all independent variables are lagged by one year. Standard errors clustered on the industry and commissioner level. ***p<0.01, **p<0.05, *p<0.1.

9.4 Effects of Lobbying: Regulations Event Studies

Table 8: Lobbying and Regulation CARs

	Panel A: Regulation Event Study					
	CAR -1	CAR 0	CAR 1	CAR 3	CAR 5	CAR 10
Meetings dummy	0.001	0.001	0.002**	0.003*	0.003	0.005
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.003)
Num. obs.	437348	437348	437348	437348	437348	437348

	Panel B: Regulation Event Study by Quick vs Slow Adoption					
	CAR -1	CAR 0	CAR 1	CAR 3	CAR 5	CAR 10
Meetings dummy	0.003***	0.003***	0.004***	0.005***	0.006***	0.011***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.004)
Late Adoption	0.001	0.001	0.001**	0.002*	0.003**	0.005**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Late Adoption x Meetings	−0.002***	−0.002**	−0.003**	−0.003***	−0.004***	−0.009***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Num. obs.	437348	437348	437348	437348	437348	437348

	Panel C: Regulation Adoption (Full)					
	CAR -1	CAR 0	CAR 1	CAR 3	CAR 5	CAR 10
Meetings dummy	0.001***	0.002***	0.002**	0.001	0.004*	0.006**
	(0.000)	(0.001)	(0.001)	(0.001)	(0.002)	(0.003)
Num. obs.	336300	336300	336300	349682	336300	336300

	Panel D: Regulation Adoption (Most Affected)					
	CAR -1	CAR 0	CAR 1	CAR 3	CAR 5	CAR 10
Meetings dummy	0.003***	0.003**	0.006***	0.007***	0.010***	0.018***
	(0.001)	(0.001)	(0.002)	(0.002)	(0.003)	(0.004)
Num. obs.	80676	80676	80676	80676	80676	80676

Dependent variable CAR captures firms' cumulative abnormal returns with reference to the proposal dates of regulations (Panel A and Panel B) and with reference to the adoption date of regulations (Panel C and Panel D). CAR -1 therefore signifies the CARs a company experienced one day before a proposal was put forward by the EU Commission, CAR 0 signifies the cumulative abnormal returns on the proposal date, etc. 'Meetings dummy' takes on 1 if a company had at least one meeting with the proposing commissioner in the year before a regulation was proposed. Control variables are assets, returns on assets, leverage, employees, market to book value, R&D intensity, and market share. 'Late Adopt' (in Panel B) captures proposals that ended up being adopted in more than 25 days, which corresponds to the 75% of proposals that took longest to become law. All specifications include industry, commissioner, year, and country fixed effects. Standard errors clustered on the company and commissioner level. ***p<0.01, **p<0.05, *p<0.1.

9.5 Heterogeneous Effects

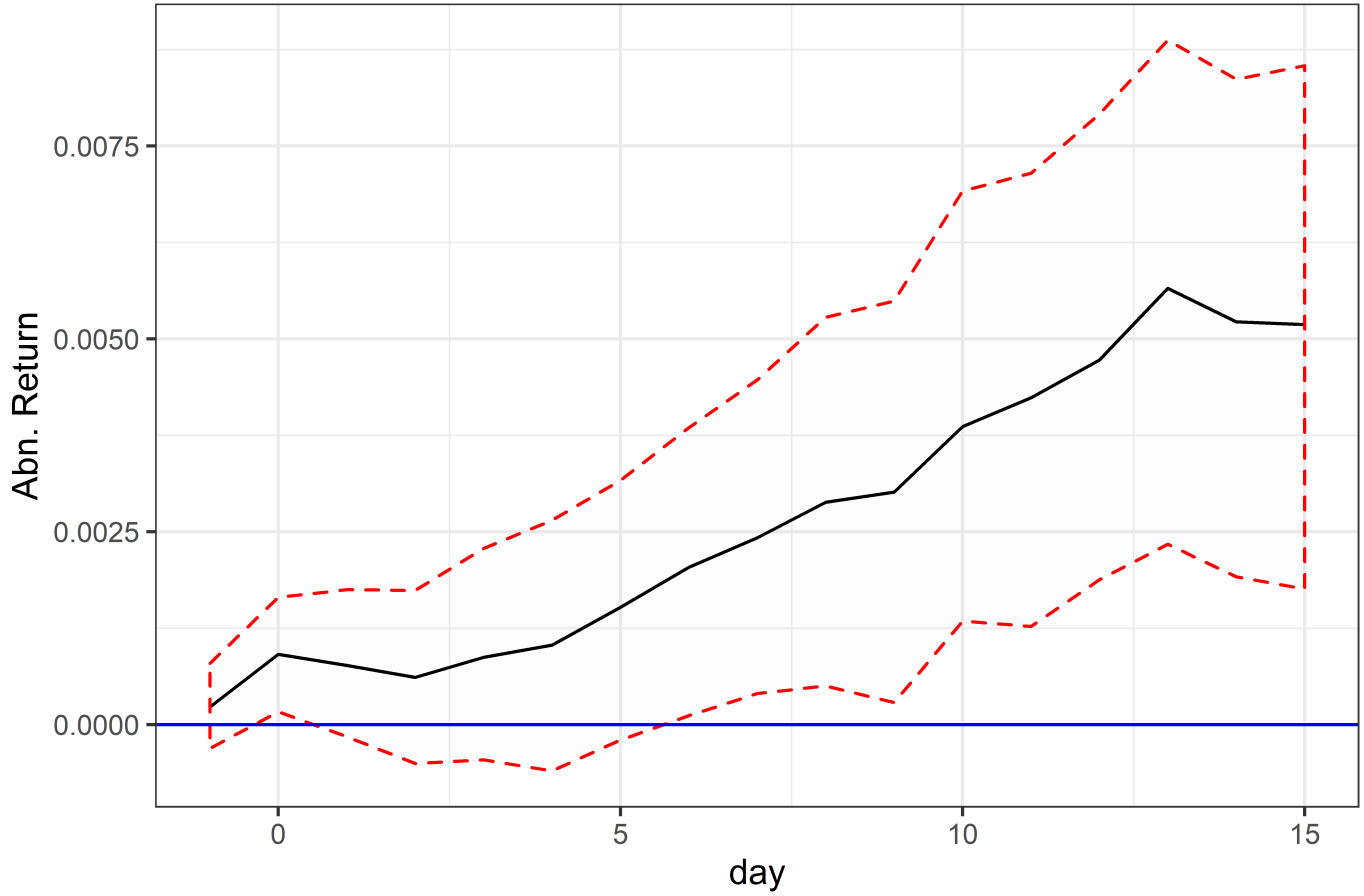
Table 9: Heterogeneous Effects of Meetings by Firm R&D Intensity

	Amount	Amount	Amount	Amount
Meetings	0.83**		0.89**	
	(0.41)		(0.44)	
RnD	−0.00	−0.00	−0.00	−0.01
	(0.00)	(0.00)	(0.01)	(0.01)
Meetings x RnD	0.18***		0.18***	
	(0.05)		(0.05)	
Meet Dummy		0.58**		0.63**
		(0.29)		(0.32)
Meet Dummy x RnD		0.17***		0.17***
		(0.06)		(0.06)
Firm FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Commissioner FEs	YES	YES	YES	YES
Controls	NO	NO	YES	YES
Num. obs.	93461	93461	84905	84905

Dependent variable 'Amount' is log(amount +1), where amount is the amount of grants, procurement, and prizes funding a company received from a commissioner. 'Meetings' is log(meetings+1) or a dummy that takes 1 if a firm had at least one lobbying meeting in a given year ('Meet Dummy'). 'RnD' captures R&D intensity, and 'Meetings x RnD' and 'Meet Dummy x RnD' respectively capture the interaction effects of meetings and R&D intensity. Control variables are assets, returns on assets, leverage, employees, market to book value, and market share. All specifications include firm, year, and commissioner fixed effects. Notice all independent variables are lagged by one year. Notice all independent variables are lagged by one year. Standard errors clustered on the company and commissioner level. ***p<0.01, **p<0.05, *p<0.1.

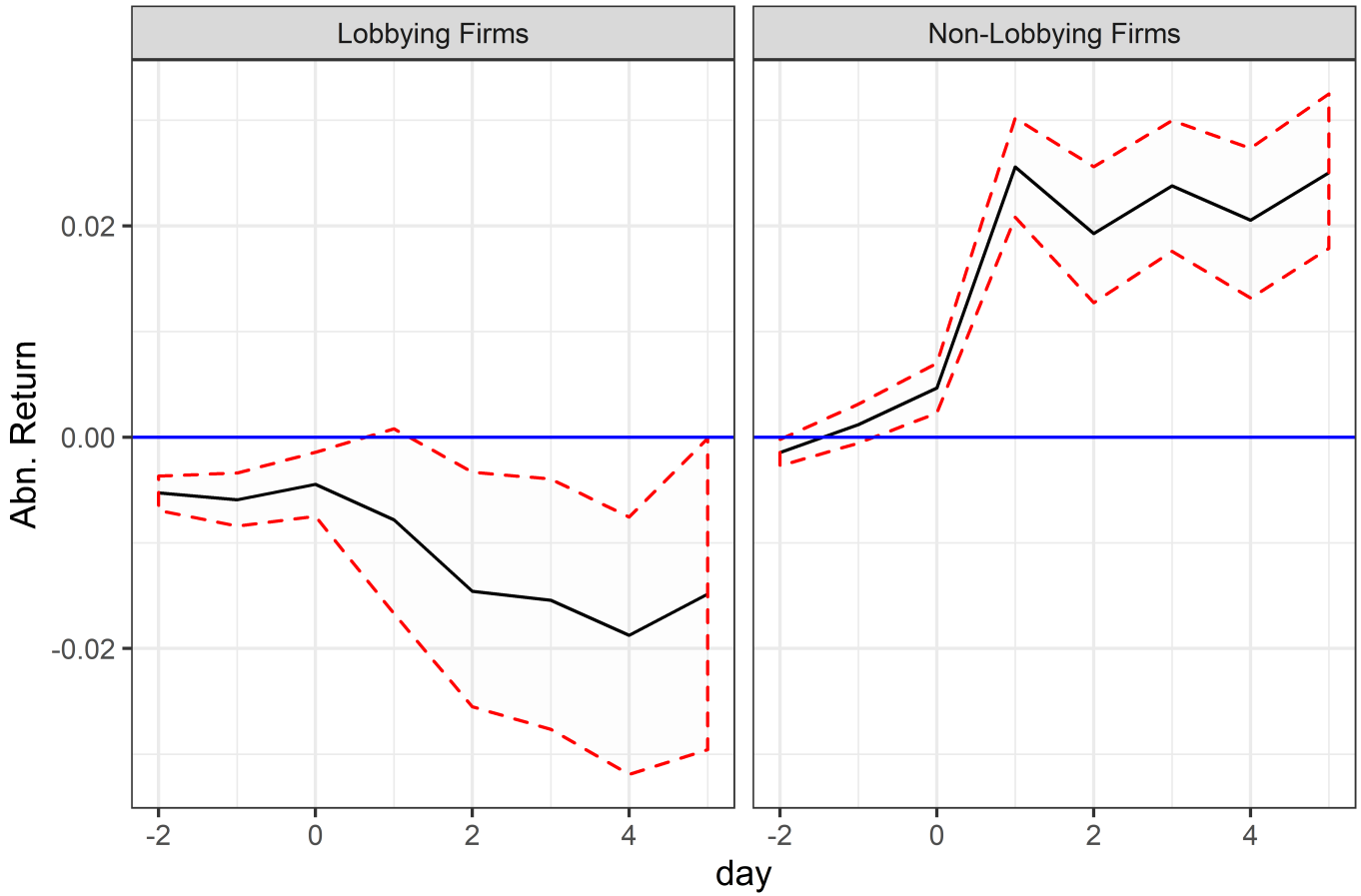
10 Figures

Figure 1: Event Study



Cumulative Abnormal Returns (CARs), where expected returns were calculate using Fama and French's three factor model, after companies' meetings with EU Commission officials, by day (x-axis). Red dashed lines indicate 95% bootstrapped confidence intervals.

Figure 2: Event Study Around Brexit



Cumulative Abnormal Returns (CARs) around Brexit referendum date by day (x-axis) and firm's lobbying status in 2015. Left panel shows CARs after Brexit referendum for companies that had at least one lobbying meeting with the EU Commission in 2015, right panel shows CARs after Brexit referendum for all other firms. Red dashed lines indicate 95% bootstrapped confidence intervals.

Figure 3: Regulations Results

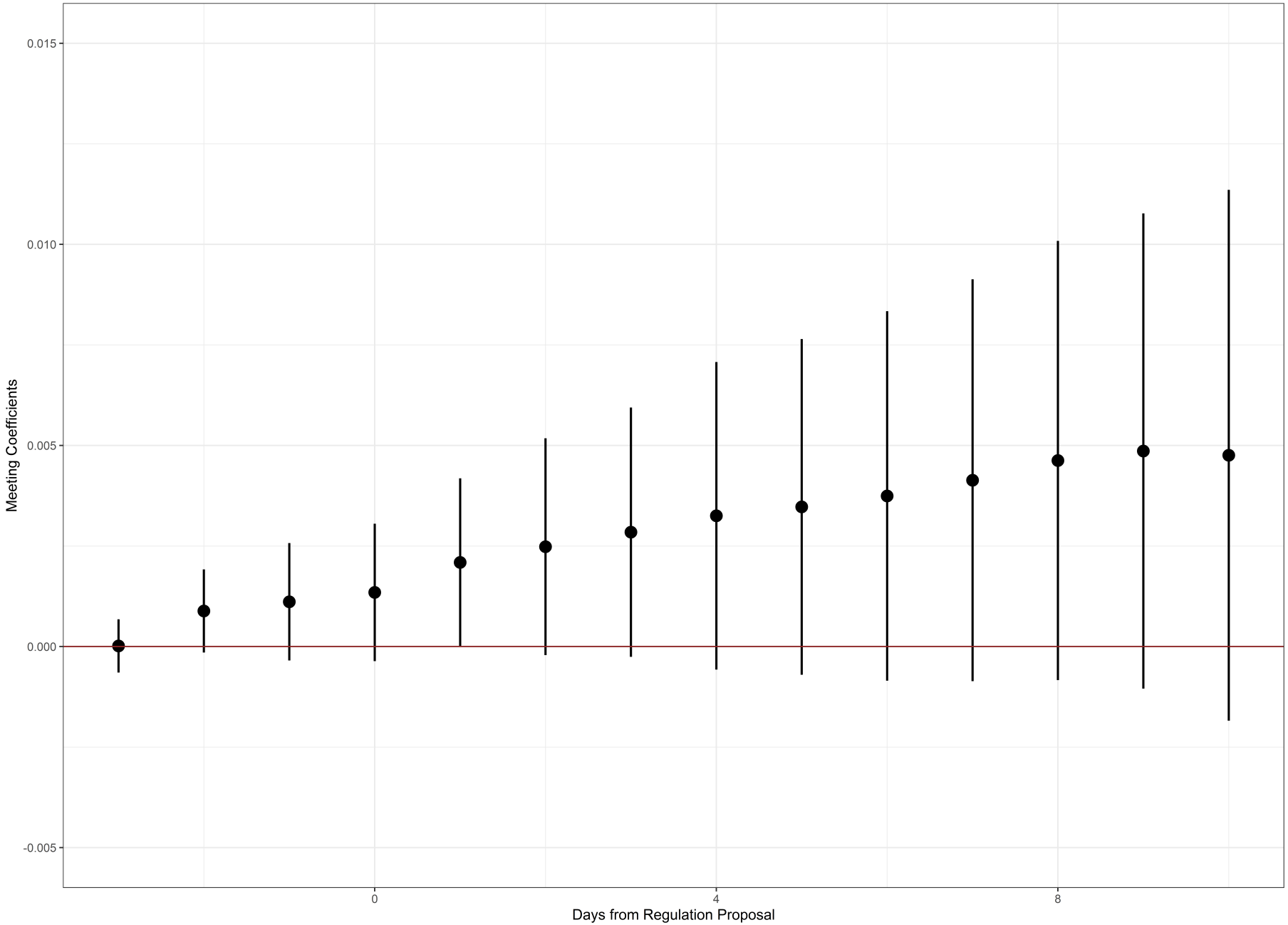


Illustration of the effects of firms having had at least one meeting with the proposing commissioner in the year preceding a regulation proposal on firm CARs around regulation proposal dates. Day zero corresponds to the regulation proposal date. Vertical lines around point estimates correspond to 95% confidence intervals.

Figure 4: Regulations Results

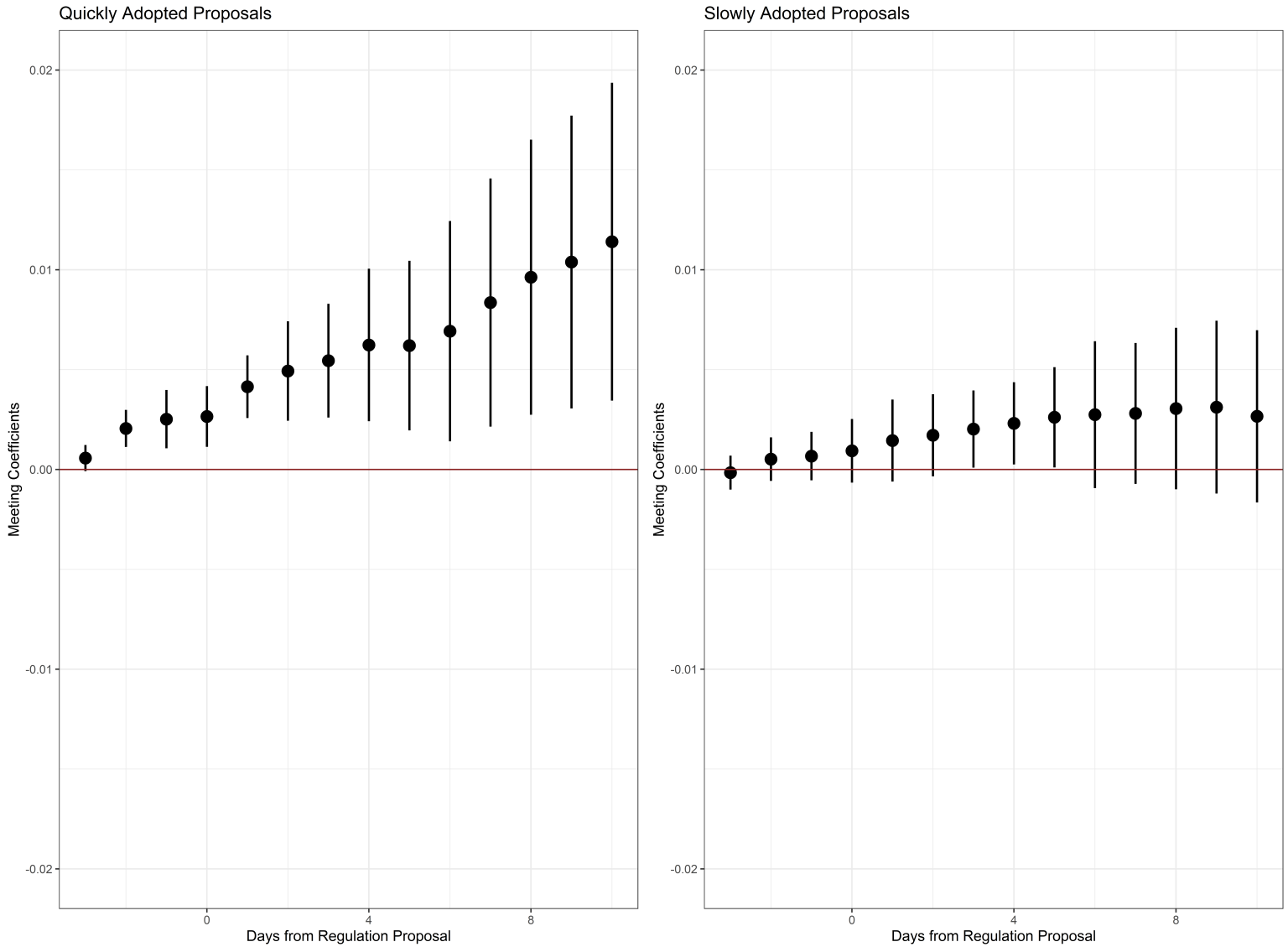


Illustration of the effects of firms having had at least one meeting with the proposing commissioner in the year preceding a regulation proposal on firm CARs around regulation proposal dates. Day zero corresponds to the regulation proposal date. The left panel illustrates these effects for proposals that ultimately were adopted quickly (within the first 25 days), while the right panel corresponds to regulation proposals that took longer to ultimately be adopted. Vertical lines around point estimates correspond to 95% confidence intervals.

Figure 5: Adoptions Results

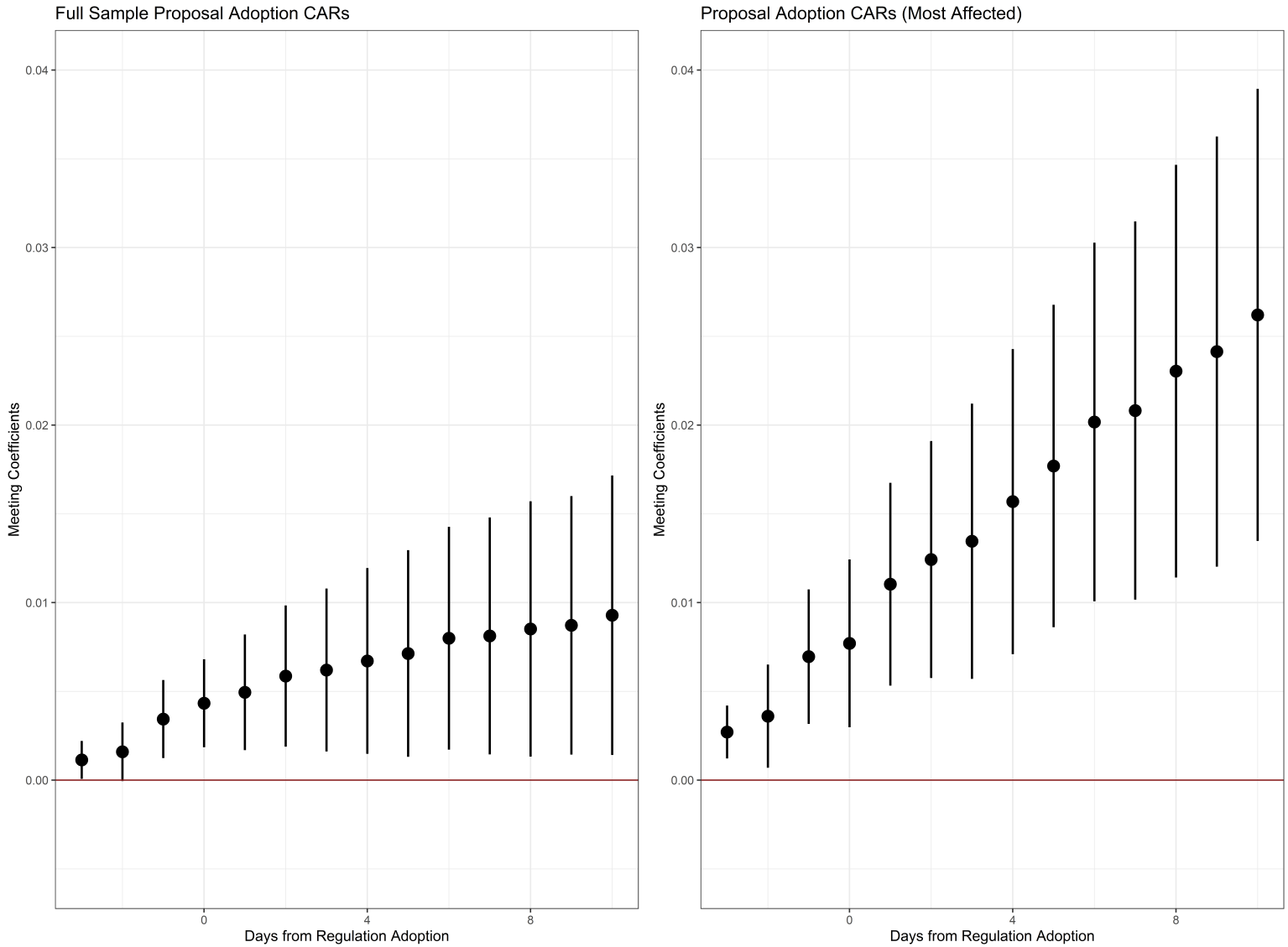


Illustration of the effects of firms having had at least one meeting with the proposing commissioner between proposal and adoption date on firm CARs around regulation adoption dates. Day zero corresponds to the regulation adoption date. The left panel illustrates the effects for the full sample, while the right panel captures the effects for the subset of firms that were most affected by regulation proposals, operationalized by the 25% of companies that experienced the lowest CARs around regulation proposal dates. Vertical lines around point estimates correspond to 95% confidence intervals.

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A Appendix Tables

Table 1: Summary Statistics by Firm and Year

Statistic	N	Mean	St. Dev.	Pctl(25)	Median	Pctl(75)
Meetings	3,679	0.965	2.898	0	0	0
Meetings Dummy	3,679	0.220	0.414	0	0	0
Amount (log)	3,679	3.176	5.752	0	0	0
Assets (log)	3,660	16.266	1.733	15.082	15.989	17.365
RoA	3,513	6.307	6.920	2.220	5.330	8.940
Leverage	3,570	112.036	172.887	28.832	63.730	129.210
Employees (log)	3,652	9.324	1.819	8.323	9.513	10.566
Market to Book	3,428	3.181	3.720	1.240	2.260	3.782
R and D Int.	3,679	1.972	4.500	0	0	1.6
Market Share	3,624	0.134	0.337	0.011	0.034	0.122

Summary Statistics with firm-year as unit of analysis. 'Meetings' is log(meetings+1), 'Meet Dummy' is a dummy that takes 1 if a firm had at least one lobbying meeting in a given year. 'Amount (log)' is the logged amount +1 of grants, procurement, and prize money a firm received from the EU Commission. 'Assets (log)' is operationalized as log(assets+1), RoA is net income scaled by total assets, Leverage is a firm's debt scaled by the firm's equity, 'Employees (log)' is captured by log(employees+1), Market to Book captures common shareholders equity scaled by market capitalization of the firm, 'R and D Int.' captures the firm's R&D intensity as measured by R&D expenditures scaled by sales, and Market Share stands for the proportion of the firm's sales in its industry.

Table 2: Summary Statistics by Firm and Year For Lobbying Firms Only

Statistic	N	Mean	St. Dev.	Pctl(25)	Median	Pctl(75)
Meetings	1,228	2.893	4.426	0	1	4
Meetings Dummy	1,228	0.659	0.474	0	1	1
Amount (log)	1,228	5.925	6.908	0	0	13.5
Assets (log)	1,223	17.533	1.704	16.200	17.402	18.694
RoA	1,168	4.960	5.223	1.270	4.220	7.015
Leverage	1,196	153.625	198.265	41.953	80.590	194.857
Employees (log)	1,222	10.344	1.384	9.436	10.358	11.438
Market to Book	1,141	2.586	2.578	1.120	1.910	3.200
R and D Int.	1,228	1.876	4.151	0	0.1	1.5
Market Share	1,207	0.215	0.450	0.031	0.079	0.237

Summary Statistics with firm-year as unit of analysis (conditional on firms having at least one lobbying meeting in my data). 'Meetings' is log(meetings+1), 'Meet Dummy' is a dummy that takes 1 if a firm had at least one lobbying meeting in a given year. 'Amount (log)' is the logged amount +1 of grants, procurement, and prize money a firm received from the EU Commission. 'Assets (log)' is operationalized as log(assets+1), RoA is net income scaled by total assets, Leverage is a firm's debt scaled by the firm's equity, 'Employees (log)' is captured by log(employees+1), Market to Book captures common shareholders equity scaled by market capitalization of the firm, 'R and D Int.' captures the firm's R&D intensity as measured by R&D expenditures scaled by sales, and Market Share stands for the proportion of the firm's sales in its industry.

Table 3: Summary Statistics by Firm, Year, and Commissioner

Statistic	N	Mean	St. Dev.	Pctl(25)	Median	Pctl(75)
Meetings	93,461	0.038	0.327	0	0	0
Meetings Dummy	93,461	0.023	0.150	0	0	0
Amount (log)	93,461	0.260	1.814	0	0	0
Assets (log)	92,975	16.265	1.733	15.081	15.988	17.367
RoA	89,249	6.307	6.920	2.210	5.330	8.940
Leverage	90,701	112.146	173.157	28.830	63.780	129.240
Employees (log)	92,770	9.324	1.819	8.323	9.513	10.566
Market to Book	87,054	3.182	3.716	1.240	2.260	3.790
R and D Int.	93,461	1.973	4.505	0	0	1.6
Market Share	92,069	0.134	0.337	0.011	0.034	0.122

Summary Statistics with firm-year-commissioner as unit of analysis. 'Meetings' is log(meetings+1), 'Meet Dummy' is a dummy that takes 1 if a firm had at least one lobbying meeting in a given year. 'Amount (log)' is the logged amount +1 of grants, procurement, and prize money a firm received from the EU Commission. 'Assets (log)' is operationalized as log(assets+1), RoA is net income scaled by total assets, Leverage is a firm's debt scaled by the firm's equity, 'Employees (log)' is captured by log(employees+1), Market to Book captures common shareholders equity scaled by market capitalization of the firm, 'R and D Int.' captures the firm's R&D intensity as measured by R&D expenditures scaled by sales, and Market Share stands for the proportion of the firm's sales in its industry.

Table 4: Summary Statistics by Firm, Year, and Commissioner For Lobbying Firms Only

Statistic	N	Mean	St. Dev.	Pctl(25)	Median	Pctl(75)
Meetings	31,192	0.114	0.559	0	0	0
Meetings Dummy	31,192	0.069	0.253	0	0	0
Amount (log)	31,192	0.495	2.519	0	0	0
Assets (log)	31,064	17.533	1.704	16.196	17.402	18.697
RoA	29,670	4.959	5.224	1.270	4.220	7.010
Leverage	30,380	153.680	198.361	41.960	80.600	195.390
Employees (log)	31,040	10.344	1.383	9.436	10.357	11.438
Market to Book	28,974	2.590	2.582	1.120	1.910	3.207
R and D Int.	31,192	1.877	4.151	0	0.1	1.5
Market Share	30,659	0.215	0.450	0.031	0.079	0.237

Summary Statistics with firm-year-commissioner as unit of analysis (conditional on firms having at least one lobbying meeting in my data). 'Meetings' is log(meetings+1), 'Meet Dummy' is a dummy that takes 1 if a firm had at least one lobbying meeting in a given year. 'Amount (log)' is the logged amount +1 of grants, procurement, and prize money a firm received from the EU Commission. 'Assets (log)' is operationalized as log(assets+1), RoA is net income scaled by total assets, Leverage is a firm's debt scaled by the firm's equity, 'Employees (log)' is captured by log(employees+1), Market to Book captures common shareholders equity scaled by market capitalization of the firm, 'R and D Int.' captures the firm's R&D intensity as measured by R&D expenditures scaled by sales, and Market Share stands for the proportion of the firm's sales in its industry.

Table 5: Determinants of Lobbying: Home Country Government

	Meetings	Meetings	Meet Dummy	Meet Dummy
LeftRight Gov	-0.02^{*}	-0.00	-0.01^{*}	0.01
	(0.01)	(0.02)	(0.01)	(0.01)
QMV		0.95		1.34^{*}
		(1.31)		(0.72)
QMV x LeftRight		-0.20		-0.25^{*}
		(0.24)		(0.15)
Industry FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Controls	YES	YES	YES	YES
Num. obs.	3167	2837	3167	2837

Dependent variable 'Meetings' is log(meetings+1) or a dummy that takes 1 if a firm had at least one lobbying meeting in a given year ('Meet Dummy'). LeftRight Gov captures how right-wing the government in the company's home country is in a given year. Assets is operationalized as log(assets+1), RoA is net income scaled by total assets, Leverage is a firm's debt scaled by the firm's equity, Employees is captured by log(employees+1), Market to Book captures common shareholders equity scaled by market capitalization of the firm, RnD captures the firm's R&D intensity as measured by R&D expenditures scaled by sales, and Market Share stands for the proportion of the firm's sales in its industry. Notice all independent variables are lagged by one year. Standard errors clustered on the country level. ***p<0.01, **p<0.05, *p<0.1.

Table 6: Event Study Effects Around Brexit: Excess Returns

	CAR	CAR
Lobbying	0.0010	0.0031
	(0.0025)	(0.0041)
Post	0.0171**	0.0169**
	(0.0077)	(0.0075)
Lobbying x Post	−0.0172***	−0.0150**
	(0.0063)	(0.0062)
Controls	NO	YES
Num. obs.	1362	1266

Dependent variable is cumulative abnormal returns (CARs), measured as Excess Returns. 'Lobbying' stands for companies that had at least one lobbying meeting in 2015, 'Post' captures the day after the Brexit referendum took place. The interaction effect of 'Lobbying' and 'Post' yields the difference-in-differences estimator. Standard errors clustered on the industry level. ***p<0.01, **p<0.05, *p<0.1.

Table 7: Meetings and Grant Amounts: Lag and Lead Structures

	Amount	Amount	Amount	Amount
Meetings	0.87***		0.91***	
	(0.32)		(0.33)	
Meetings Lag	0.70**		0.74**	
	(0.32)		(0.34)	
Meetings Lead	0.50*		0.50*	
	(0.28)		(0.29)	
Meet Dummy		0.65***		0.69***
		(0.25)		(0.27)
Meet Dummy Lag		0.65**		0.68**
		(0.27)		(0.29)
Meet Dummy Lead		0.57**		0.57**
		(0.26)		(0.26)
Firm FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Commissioner FEs	YES	YES	YES	YES
Controls	NO	NO	YES	YES
Num. obs.	56070	56070	51249	51249

Dependent variable 'Amount' is log(amount +1), where amount is the amount of grants, procurement, and prizes funding a company received from a commissioner. 'Meetings' is log(meetings+1) or a dummy that takes 1 if a firm had at least one lobbying meeting in a given year ('Meet Dummy'); Lag and Lead Meetings and Meet Dummy stand accordingly for meetings and meet dummies in t-1 or t+1 respectively. Assets is operationalized as log(assets+1), RoA is net income scaled by total assets, Leverage is a firm's debt scaled by the firm's equity, Employees is captured by log(employees+1), Market to Book captures common shareholders equity scaled by market capitalization of the firm, RnD captures the firm's R&D intensity as measured by R&D expenditures scaled by sales, and Market Share stands for the proportion of the firm's sales in its industry. Notice all independent variables are lagged by one year, if not specified otherwise. Standard errors clustered on the company and commissioner level. ***p<0.01, **p<0.05, *p<0.1.

Table 8: Effects of Lobbying: IV Meetings and Grant Amounts (Lobbying Firms Subset)

	Amount	Amount	Amount	Amount
Meetings	0.71**		0.79**	
	(0.31)		(0.33)	
Meet Dummy		0.74**		0.82**
		(0.34)		(0.36)
Firm FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Commissioner FEs	YES	YES	YES	YES
Controls	NO	NO	YES	YES
Num. obs.	19776	19776	18052	18052
1st Stage F	19.36	29.11	17.76	26.42

Results for the subset of companies that had at least one meeting with the EU Commission between 2014 and 2019. Dependent variable 'Amount' is log(amount +1), where amount is the amount of grants, procurement, and prizes funding a company received from a commissioner. 'Meetings' is log(meetings+1) or a dummy that takes 1 if a firm had at least one lobbying meeting in a given year ('Meet Dummy'); these variables respectively are instrumented with company-commissioner shared nationality. Assets is operationalized as log(assets+1), RoA is net income scaled by total assets, Leverage is a firm's debt scaled by the firm's equity, Employees is captured by log(employees+1), Market to Book captures common shareholders equity scaled by market capitalization of the firm, RnD captures the firm's R&D intensity as measured by R&D expenditures scaled by sales, and Market Share stands for the proportion of the firm's sales in its industry. Notice all independent variables are lagged by one year. Standard errors clustered on the country and commissioner level. ***p<0.01, **p<0.05, *p<0.1.

Table 9: Effects of Lobbying: Placebo Check Exclusion Restriction

	Lobbying Firms		Non-Lobbying Firms	
	Amount	Amount	Amount	Amount
Co Nationality	0.19**	0.22**	0.07**	0.08**
	(0.08)	(0.09)	(0.03)	(0.03)
Firm FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Commissioner FEs	YES	YES	YES	YES
Controls	NO	YES	NO	YES
Num. obs.	25652	23252	43088	38918

Dependent variable 'Amount' is log(amount +1), where amount is the amount of grants, procurement, and prizes funding a company received from a commissioner. 'Co Nationality' measures whether a company's home country is equivalent with a commissioner's country of origin. Assets is operationalized as log(assets+1), RoA is net income scaled by total assets, Leverage is a firm's debt scaled by the firm's equity, Employees is captured by log(employees+1), Market to Book captures common shareholders equity scaled by market capitalization of the firm, RnD captures the firm's R&D intensity as measured by R&D expenditures scaled by sales, and Market Share stands for the proportion of the firm's sales in its industry. Notice all independent variables are lagged by one year. Standard errors clustered on the country and commissioner level. 'Lobbying Firms' (columns 1-3) are companies that had at least one meeting throughout the period of my study, 'Non-Lobbying Firms' are all other firms. ***p<0.01, **p<0.05, *p<0.1.

Table 10: Effects of Lobbying: First Stage (Lobbying Firms Subset)

	Meetings	Meet Dummy	Meetings	Meet Dummy
Co Nationality	0.27***	0.26***	0.28***	0.26***
	(0.06)	(0.05)	(0.06)	(0.05)
Assets			−0.02	−0.04*
			(0.02)	(0.02)
Employees			0.03***	0.04***
			(0.01)	(0.01)
Firm FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Commissioner FEs	YES	YES	YES	YES
Controls	NO	NO	YES	YES
Num. obs.	19776	19776	16030	16030

Results for the subset of companies that had at least one meeting with the EU Commission between 2014 and 2019. Dependent variable 'Meetings' is log(meetings+1) or a dummy that takes 1 if a firm had at least one lobbying meeting in a given year ('Meet Dummy'). 'Co Nationality' measures whether a company's home country is equivalent with a commissioner's country of origin. Assets is operationalized as log(assets+1), RoA is net income scaled by total assets, Leverage is a firm's debt scaled by the firm's equity, Employees is captured by log(employees+1), Market to Book captures common shareholders equity scaled by market capitalization of the firm, RnD captures the firm's R&D intensity as measured by R&D expenditures scaled by sales, and Market Share stands for the proportion of the firm's sales in its industry. Notice all independent variables are lagged by one year. Standard errors clustered on the country and commissioner level. ***p<0.01, **p<0.05, *p<0.1.

Table 11: Effects of Lobbying: Trump Tariffs 1st Stage

	Meetings	Meet Dummy	Meetings	Meet Dummy
Exposure	0.15**	0.17**	0.12**	0.15**
	(0.08)	(0.08)	(0.06)	(0.07)
Industry FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Commissioner FEs	YES	YES	YES	YES
Controls	NO	NO	YES	YES
Num. obs.	17450	17425	16050	16050

Dependent variable 'Meetings' is log(meetings+1) or a dummy that takes 1 if a firm had at least one lobbying meeting in a given year ('Meet Dummy'). 'Exposure' measures the exposure of a company's industry (at the NAICS-6 level) to the 2018 Trump tariffs. Control variables are assets, returns on assets, leverage, employees, market to book value, R&D intensity, and market share. All specifications include country, industry (at the NAICS-2 level), and commissioner fixed effects. Notice all independent variables are lagged by one year. Standard errors clustered on the industry and commissioner level. ***p<0.01, **p<0.05, *p<0.1.

Table 12: Effects of Lobbying: Trump Tariffs Placebo Check

	Lobbying Firms		Non-Lobbying Firms	
	Amount	Amount	Amount	Amount
Exposure	0.56	0.86	0.29	0.21
	(1.86)	(2.72)	(0.25)	(0.23)
Industry FEs	YES	YES	YES	YES
Commissioner FEs	YES	YES	YES	YES
Country FEs	YES	YES	YES	YES
Controls	NO	YES	NO	YES
Num. obs.	5825	5300	11625	10750

Dependent variable 'Amount' is log(amount +1), where amount is the amount of grants, procurement, and prizes funding a company received from a commissioner. 'Exposure' measures the exposure of a company's industry (at the NAICS-6 level) to the 2018 Trump tariffs. Control variables are assets, returns on assets, leverage, employees, market to book value, R&D intensity, and market share. All specifications include country, industry (at the NAICS-2 level), and commissioner fixed effects. Notice all independent variables are lagged by one year. Standard errors clustered on the industry and commissioner level. ***p<0.01, **p<0.05, *p<0.1.

Table 13: Heterogeneous Effects of Meetings by Firm Profitability

	Amount	Amount	Amount	Amount
Meetings	1.01**		1.04**	
	(0.48)		(0.50)	
RoA	−0.00	−0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Meetings x RoA	0.06**		0.06**	
	(0.02)		(0.03)	
Meet Dummy		0.80**		0.83**
		(0.36)		(0.37)
Meet Dummy x RoA		0.04**		0.04**
		(0.02)		(0.02)
Firm FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Commissioner FEs	YES	YES	YES	YES
Controls	NO	NO	YES	YES
Num. obs.	89249	89249	84905	84905

Dependent variable 'Amount' is log(amount +1), where amount is the amount of grants, procurement, and prizes funding a company received from a commissioner. 'Meetings' is log(meetings+1) or a dummy that takes 1 if a firm had at least one lobbying meeting in a given year ('Meet Dummy'). Control variables are assets, returns on assets, leverage, employees, market to book value, R&D intensity, and market share. All specifications include firm, year, and commissioner fixed effects. Notice all independent variables are lagged by one year.Notice all independent variables are lagged by one year. Standard errors clustered on the company and commissioner level. ***p<0.01, **p<0.05, *p<0.1.

Table 14: Heterogeneous Effects by Firm Size

	Amount	Amount	Amount	Amount
Meetings	4.51**		4.28**	
	(1.87)		(1.97)	
Assets	0.08***	0.08***	0.01	0.02
	(0.03)	(0.03)	(0.02)	(0.02)
Meetings x Assets	−0.17*		−0.16	
	(0.10)		(0.11)	
Meet Dummy		3.43**		3.18*
		(1.52)		(1.68)
Meet Dummy x Assets		−0.13*		−0.11
		(0.08)		(0.09)
Industry FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Commissioner FEs	YES	YES	YES	YES
Controls	NO	NO	YES	YES
Num. obs.	89567	89567	81803	81803

Dependent variable 'Amount' is log(amount +1), where amount is the amount of grants, procurement, and prizes funding a company received from a commissioner. 'Meetings' is log(meetings+1) or a dummy that takes 1 if a firm had at least one lobbying meeting in a given year ('Meet Dummy'). Assets is operationalized as log(assets+1), RoA is net income scaled by total assets, Leverage is a firm's debt scaled by the firm's equity, Employees is captured by log(employees+1), Market to Book captures common shareholders equity scaled by market capitalization of the firm, RnD captures the firm's R&D intensity as measured by R&D expenditures scaled by sales, and Market Share stands for the proportion of the firm's sales in its industry. Notice all independent variables are lagged by one year. Standard errors clustered on the commissioner and company level. ***p<0.01, **p<0.05, *p<0.1.

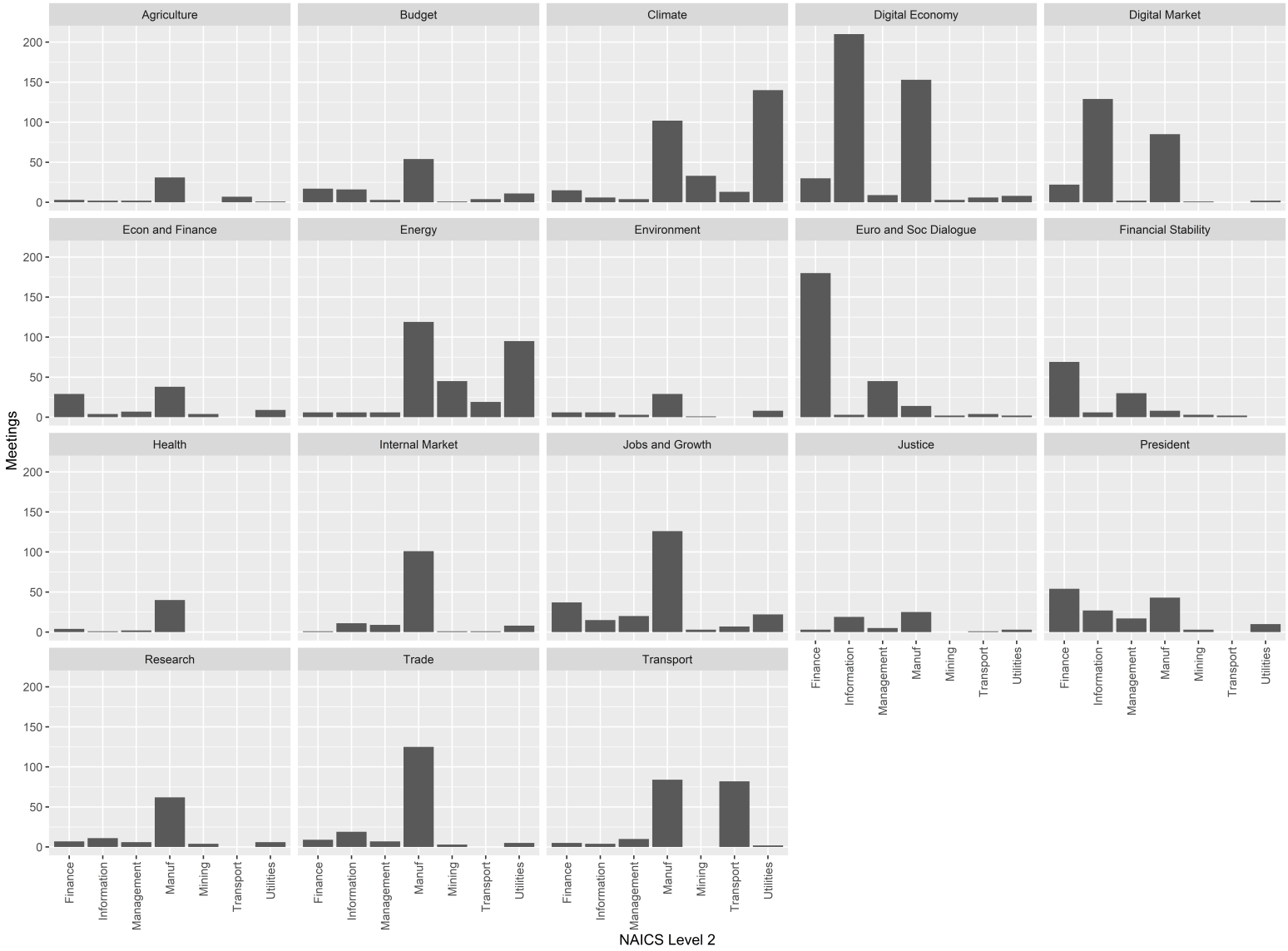
Table 15: Heterogeneous Effects by Product Differentiation

	Amount	Amount	Amount	Amount
Meetings	3.39***		3.02***	
	(0.75)		(0.65)	
Prod Diff	−0.75*	−0.77*	−0.68**	−0.70*
	(0.39)	(0.40)	(0.33)	(0.36)
Meetings x Prod Diff	−5.01***		−4.81***	
	(0.09)		(0.08)	
Meet Dummy		3.05***		2.66***
		(0.83)		(0.70)
Meet Dummy x Prod Diff		−4.61***		−4.31***
		(0.36)		(0.23)
Industry FEs	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES
Commissioner FEs	YES	YES	YES	YES
Country FEs	YES	YES	YES	YES
Controls	NO	NO	YES	YES
Num. obs.	27712	27712	25418	25418

Dependent variable 'Amount' is log(amount +1), where amount is the amount of grants, procurement, and prizes funding a company received from a commissioner. 'Meetings' is log(meetings+1) or a dummy that takes 1 if a firm had at least one lobbying meeting in a given year ('Meet Dummy'). 'Prod Diff' stands for product differentiation and was calculated on the industry-level. Assets is operationalized as log(assets+1), RoA is net income scaled by total assets, Leverage is a firm's debt scaled by the firm's equity, Employees is captured by log(employees+1), Market to Book captures common shareholders equity scaled by market capitalization of the firm, RnD captures the firm's R&D intensity as measured by R&D expenditures scaled by sales, and Market Share stands for the proportion of the firm's sales in its industry. Notice all independent variables are lagged by one year. Standard errors clustered on the commissioner and company level. ***p<0.01, **p<0.05, *p<0.1.

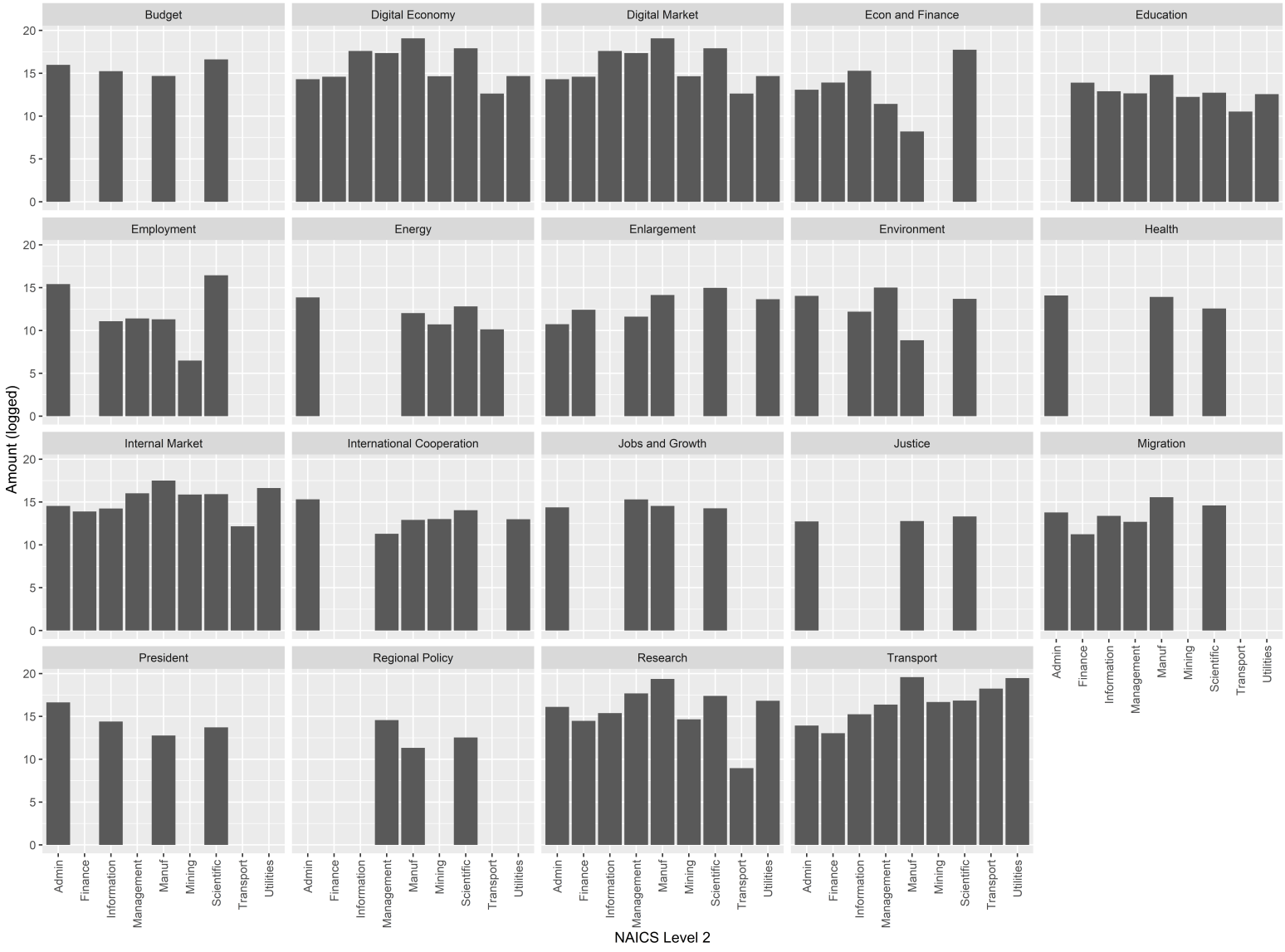
B Appendix Figures

Figure 1: Firm Meetings by Commissioner and Industry



Absolute numbers of meetings of companies with commissioners by commissioner (each panel), and companies' industries (x-axis). For easier readability, I only included commissioners and industries with at least 50 meetings in total throughout the time period of my study.

Figure 2: Firm Grant Amounts by Commissioner and Industry

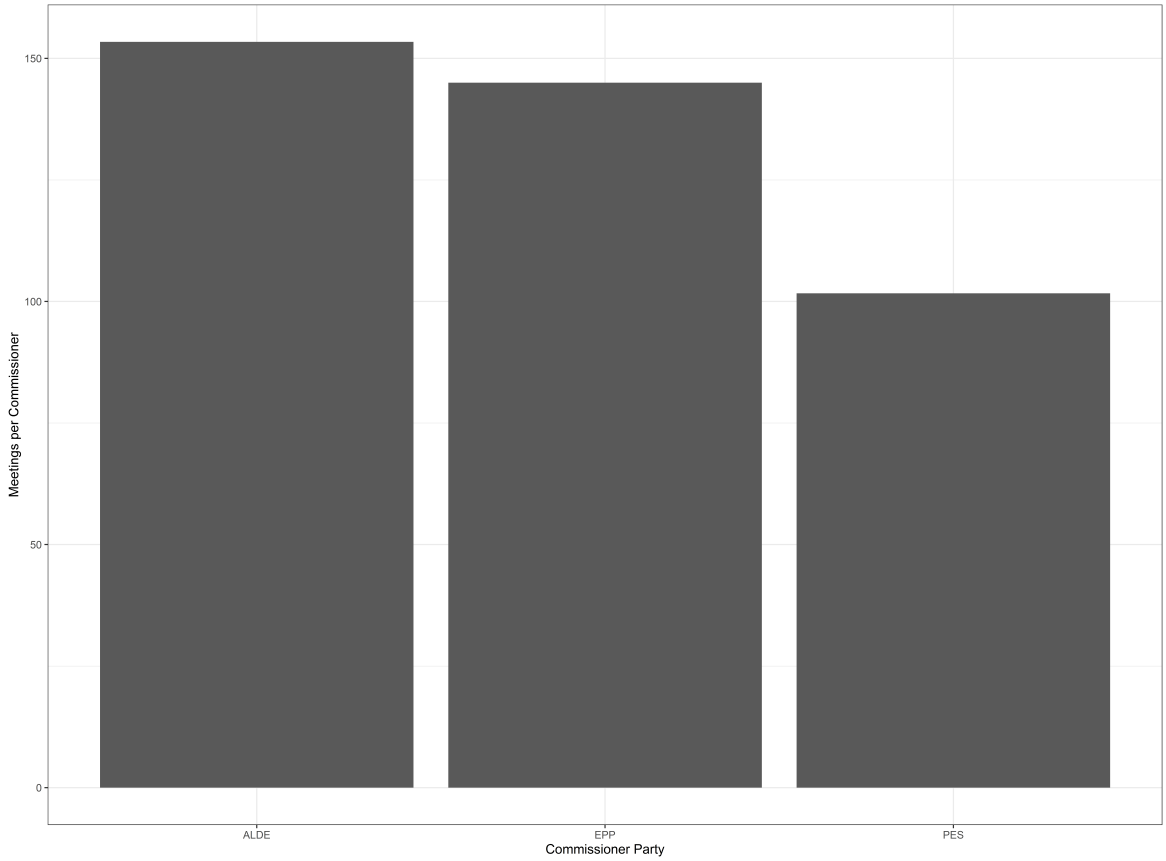


Log amount of grants, procurement, and prize money that companies received by by commissioner (each panel), and companies' industries (x-axis). For easier readability, I only included commissioners and industries with at least 10,000,000 Euros grants received/given.

Figure 3: Firm-Commissioner Meetings: Word Cloud

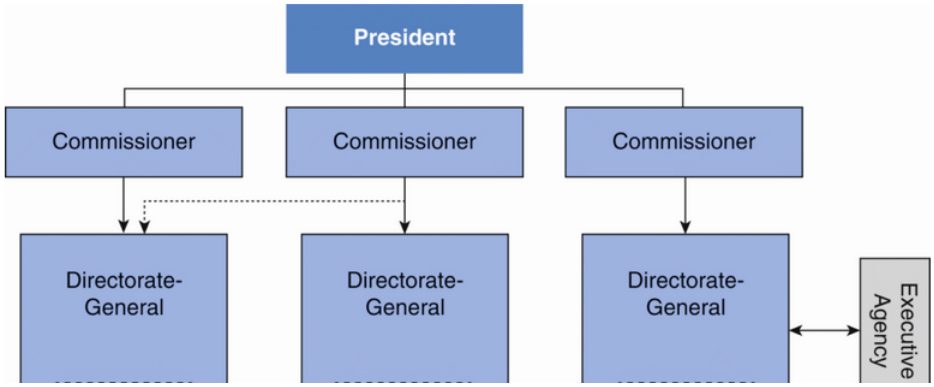
Word cloud constructed based on meeting contents of firm-commission meetings.

Figure 4: Meetings by Commissioner Party (Absolute)



Firm-Commission meetings by commissioner party. 'EPP' stands for 'European People's Party', which is the conservative party in the EU. 'PES' stands for 'Party of European Socialists', and 'ALDE' stands for 'Alliance of Liberals and Democrats for Europe Group', which is the liberal party in the EU.

Figure 5: EU Commission Hierarchy



Overview of EU Commission hierarchy.

Figure 6: Illustration of Lobbying and Grant Awards

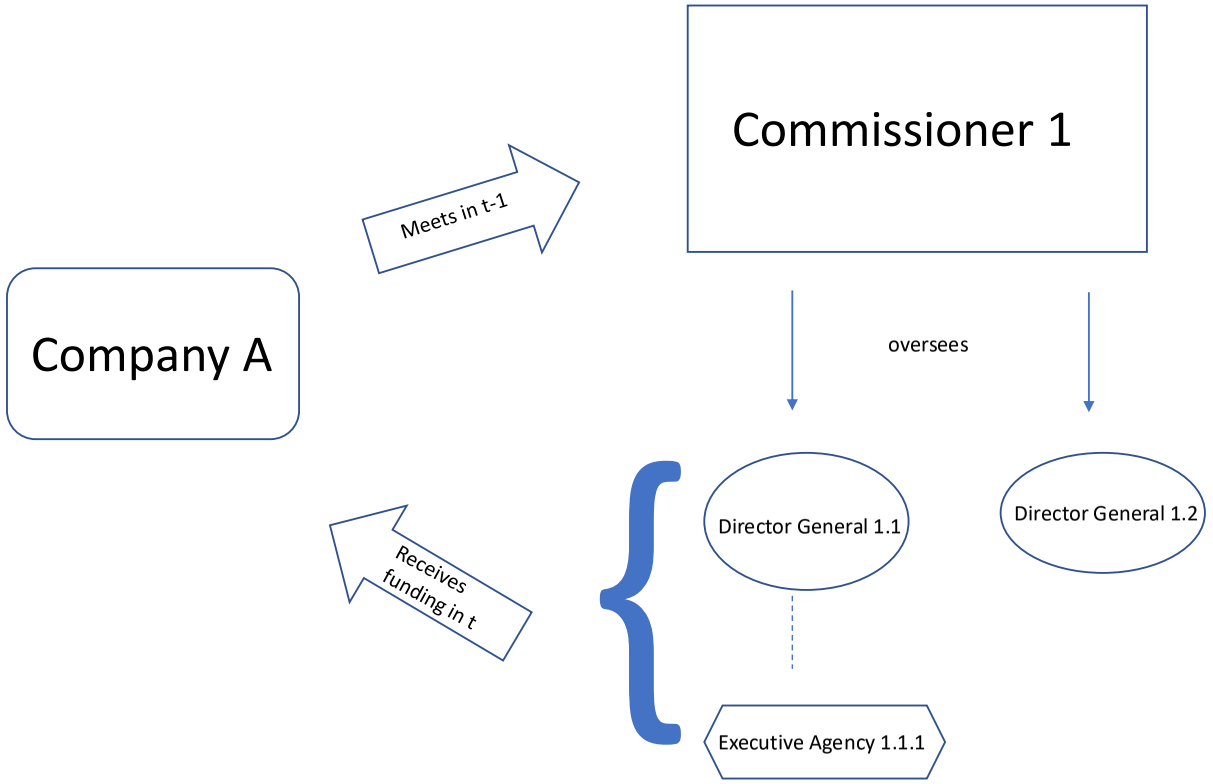
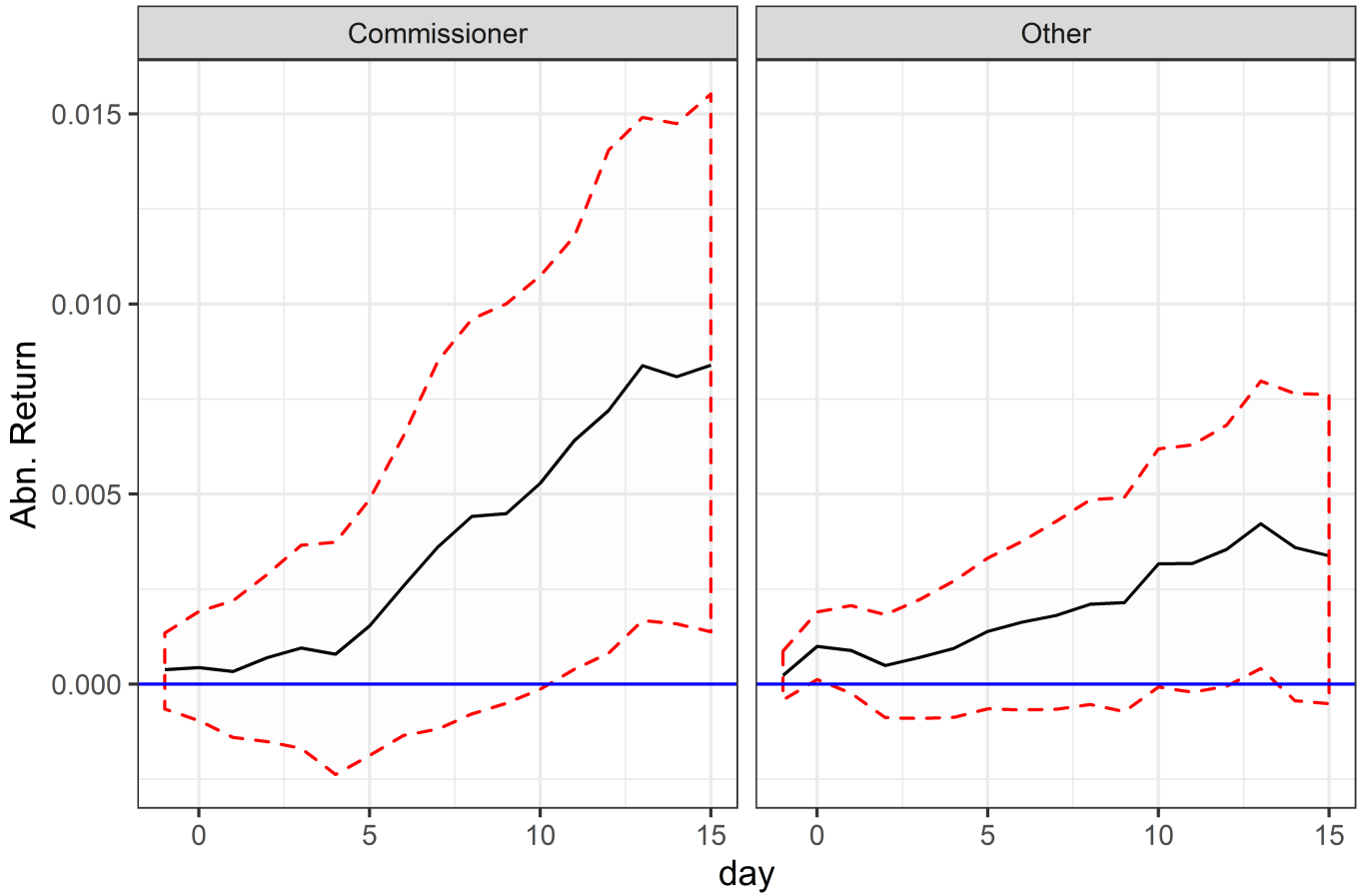
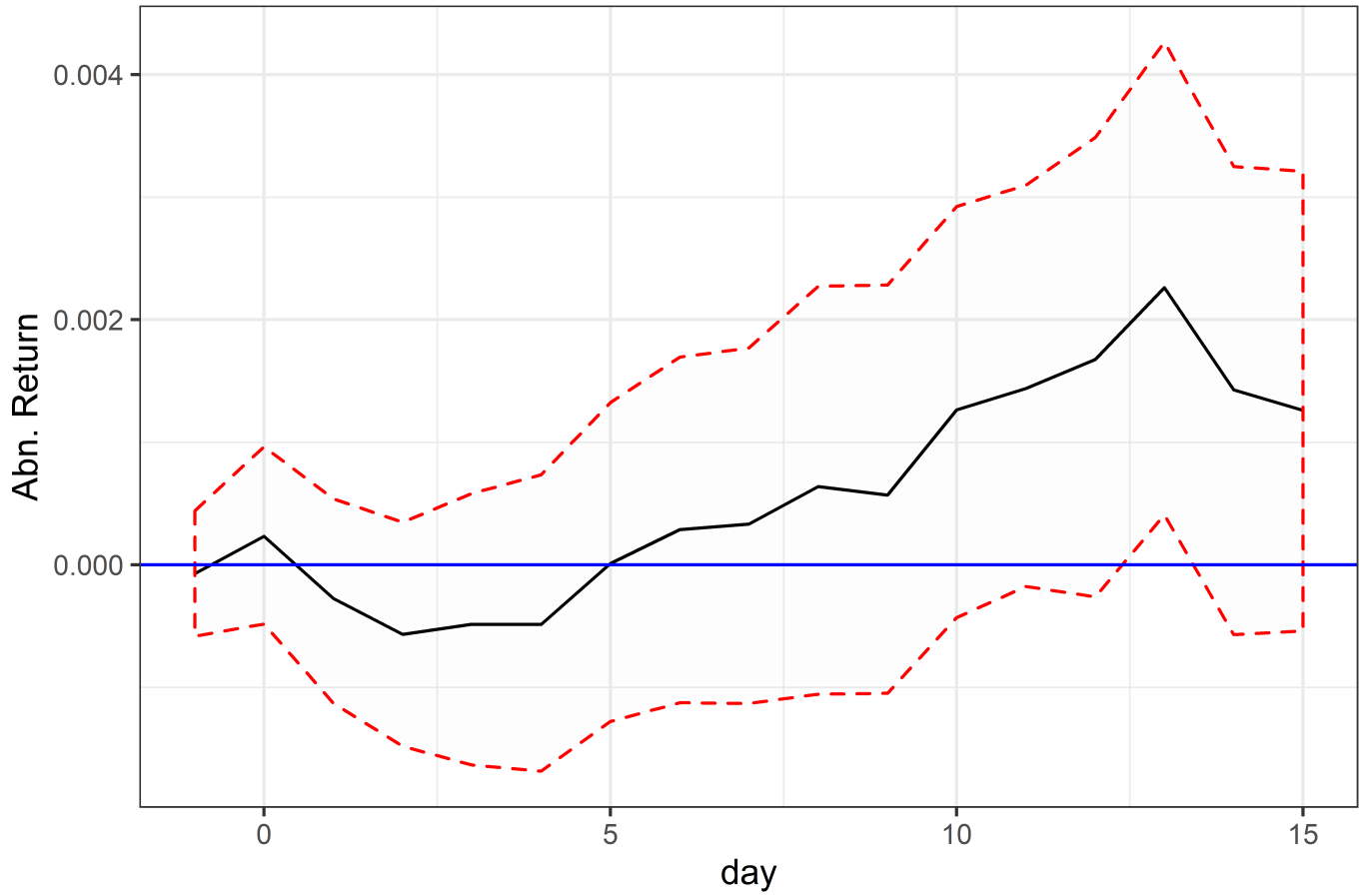


Figure 7: Event Study by Meeting Type



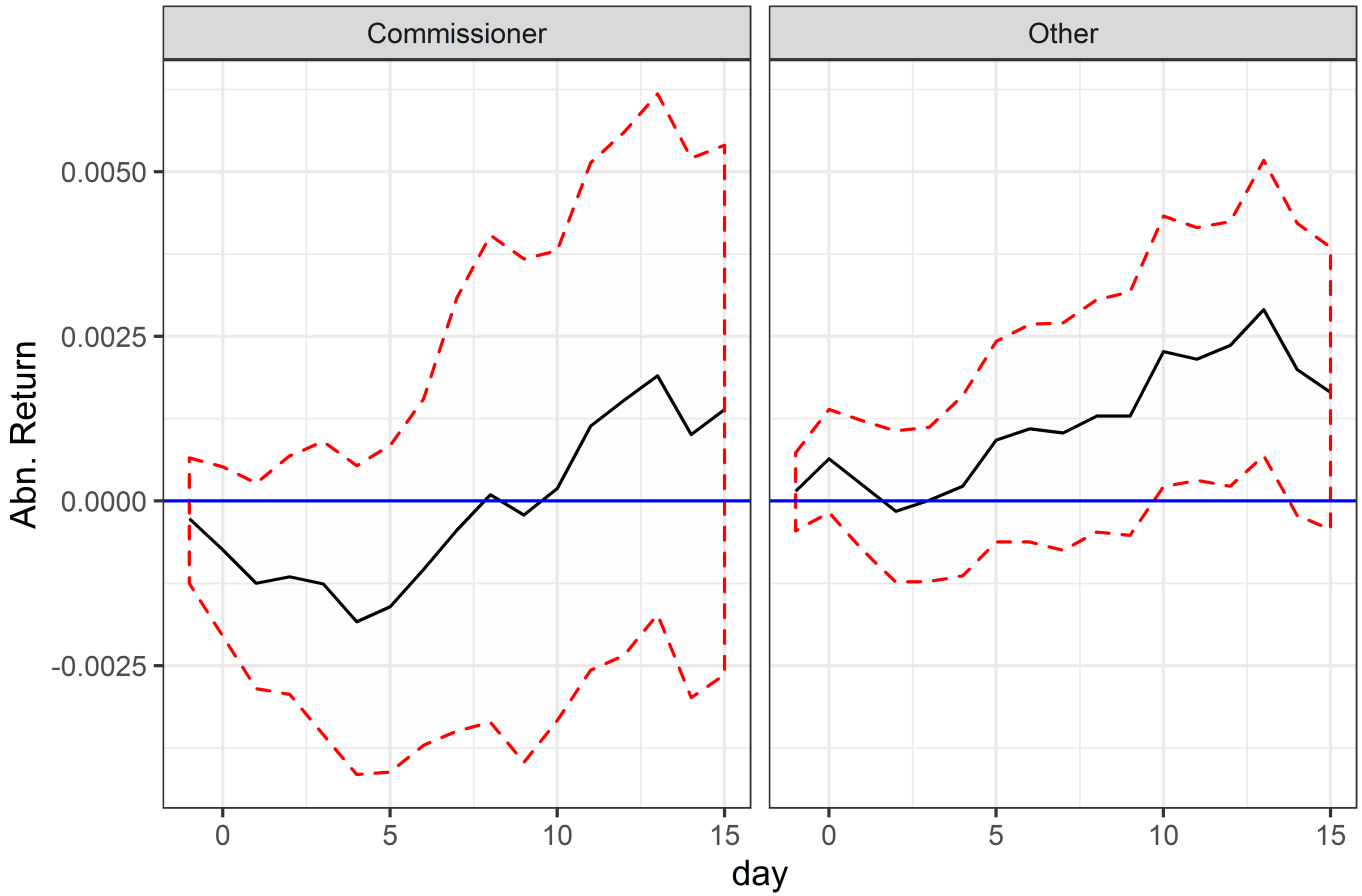
Cumulative Abnormal Returns (CARs) after companies' meetings with EU Commission officials, by day (x-axis) and meeting type (panel). Left panel shows CARs after meetings with commissioners (and presidents or vice-presidents), right panel shows CARs after all other meetings. Red lines indicate 95% bootstrapped confidence intervals.

Figure 8: Event Study (Excess Returns)



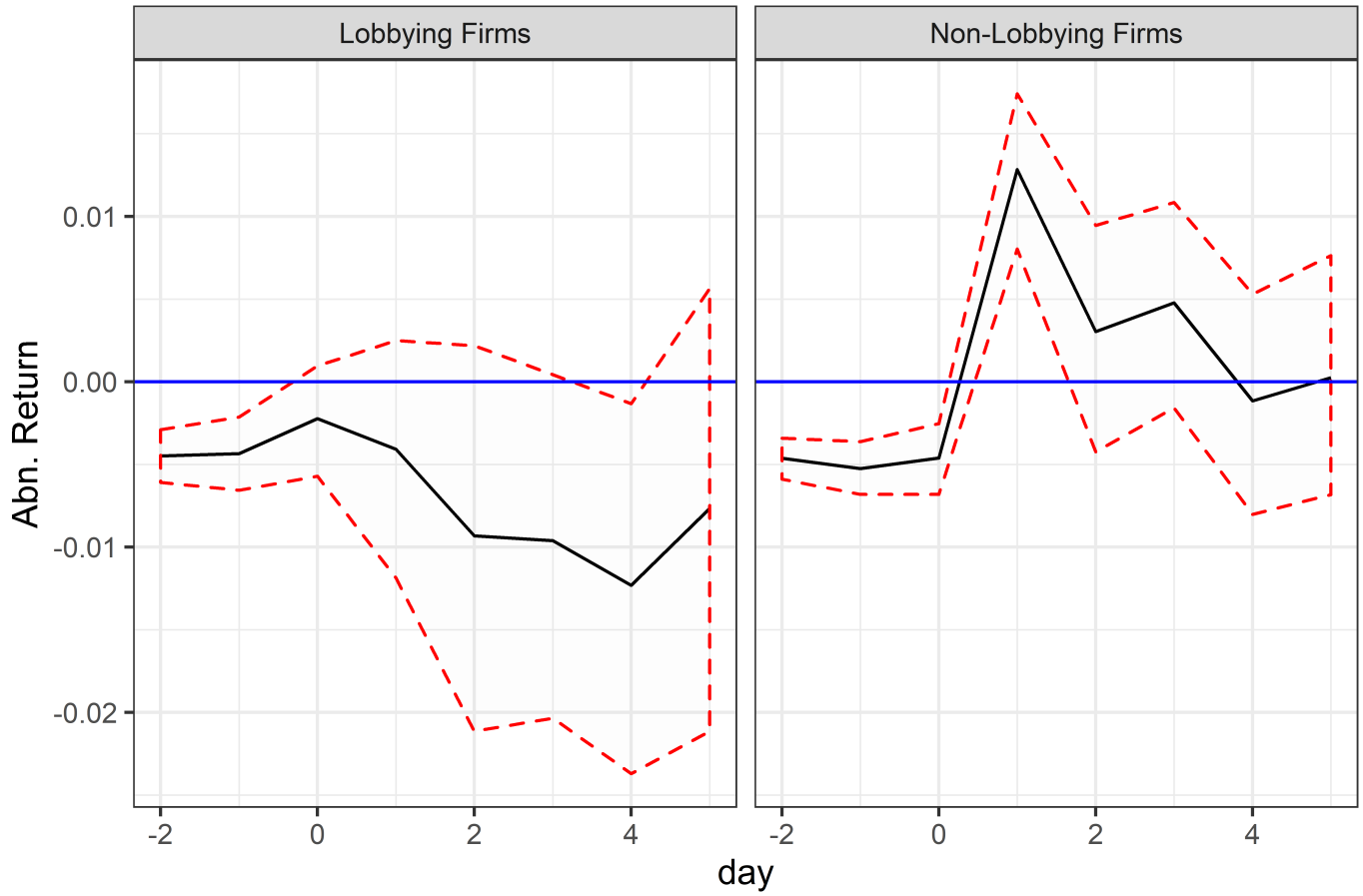
Cumulative Abnormal Returns (CARs; calculated as excess returns) after companies' meetings with EU Commission officials by day (x-axis). Red lines indicate 95% bootstrapped confidence intervals.

Figure 9: Event Study by Meeting Type (Excess Returns)



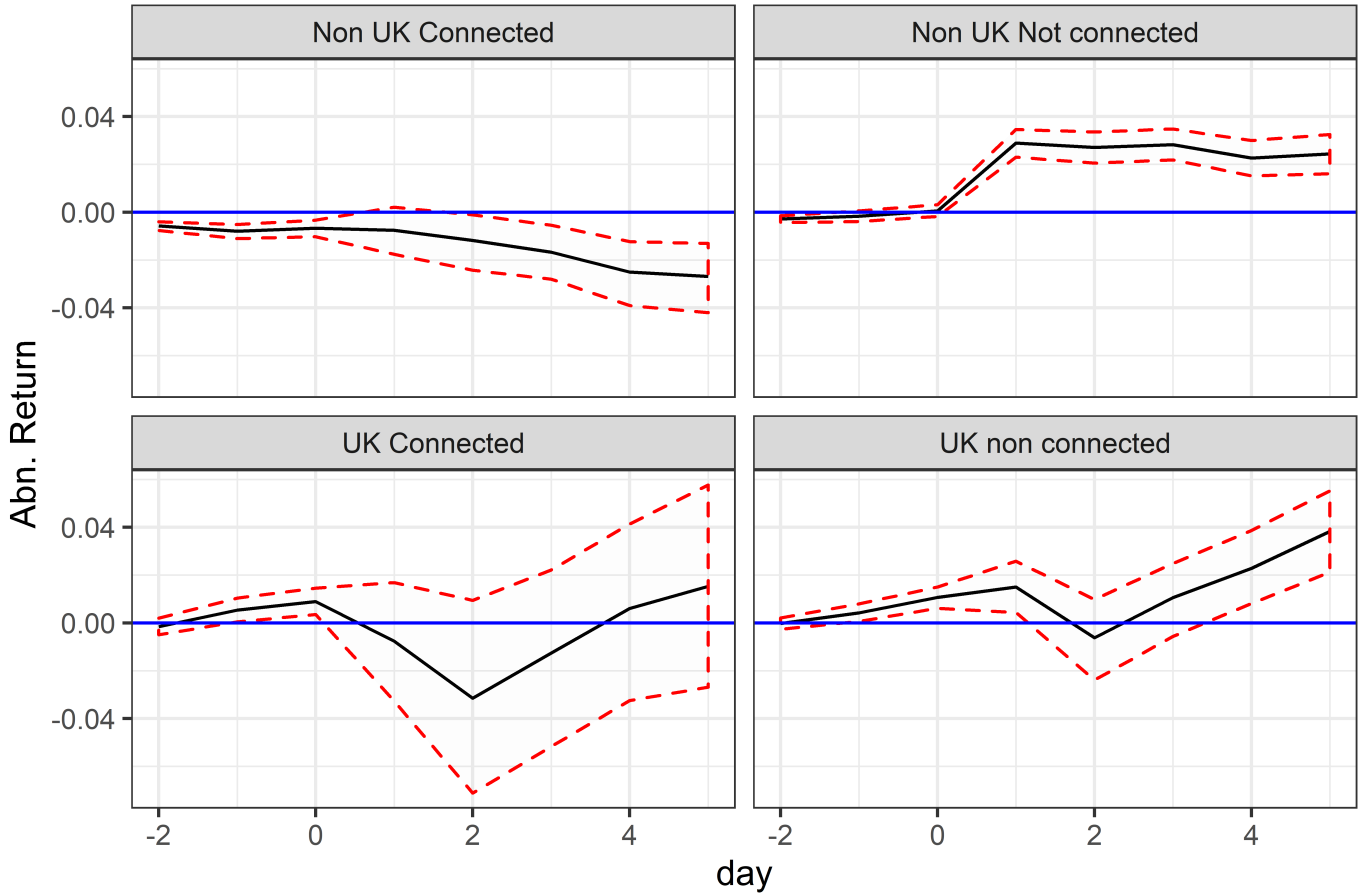
Cumulative Abnormal Returns (CARs; calculated as excess returns) after companies' meetings with EU Commission officials, by day (x-axis) and meeting type (panel). Left panel shows CARs after meetings with commissioners (and presidents or vice-presidents), right panel shows CARs after all other meetings. Red lines indicate 95% bootstrapped confidence intervals.

Figure 10: Event Study Around Brexit (Excess Returns)



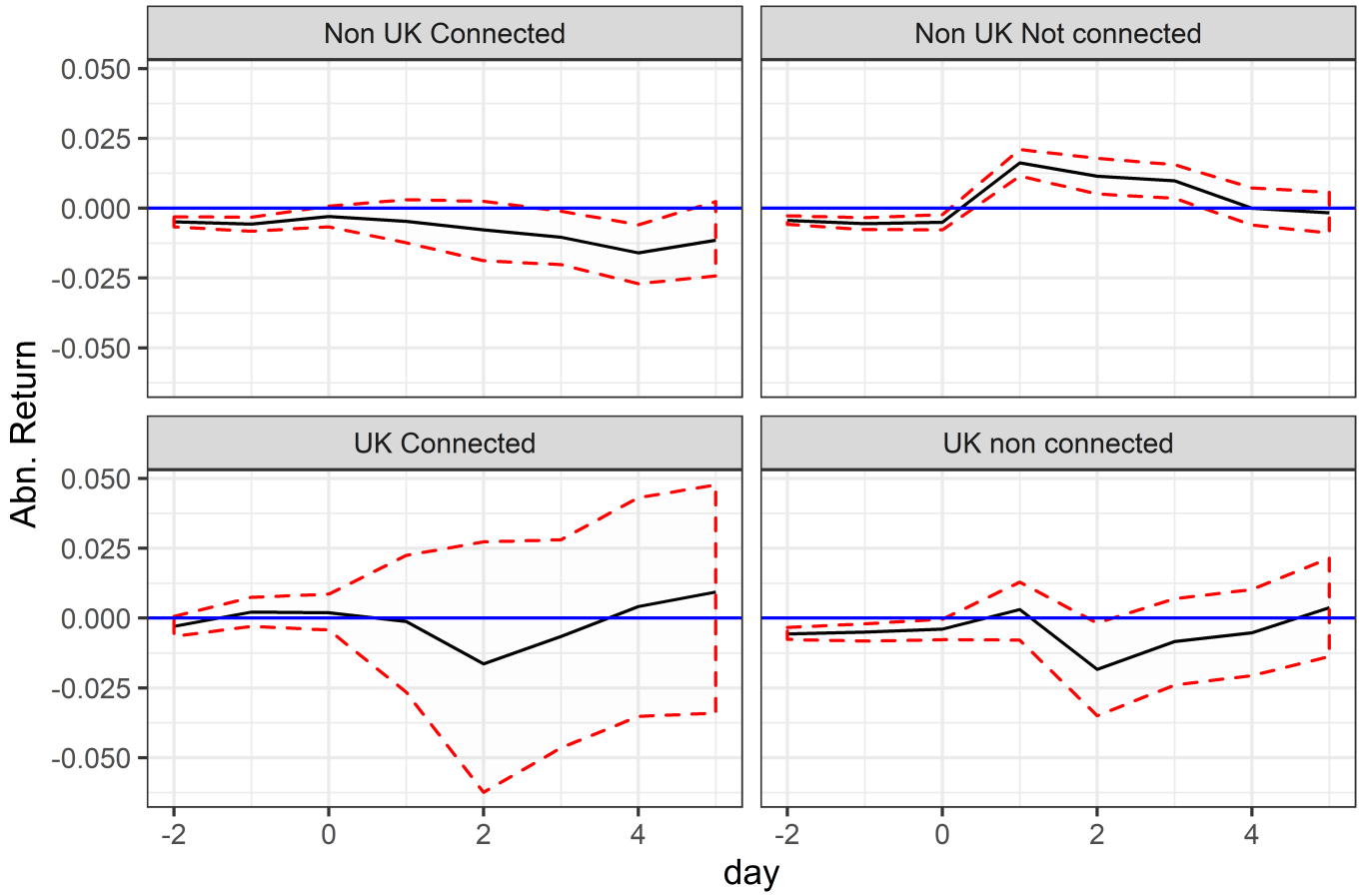
Brexit effect by whether whether company had lobbied the EU Commission in 2015. CARs calculated as excess returns. Red lines indicate 95% bootstrapped confidence intervals.

Figure 11: Event Study Around Brexit 2



Brexit effect by whether a company is from the UK, and whether company had lobbied the EU Commission in 2015. Red lines indicate 95% bootstrapped confidence intervals.

Figure 12: Event Study Around Brexit 2 (Excess Returns)



Brexit effect by whether a company is from the UK, and whether company had lobbied the EU Commission in 2015. CARs calculated as excess returns. Red lines indicate 95% bootstrapped confidence intervals.

C Appendix: Data Preparation and Merging

I give a brief overview of the data merging process here. As mentioned in the text, I utilize firm financial information from Refinitiv Eikon Worldscope (ThomsonReuters (2020)) and BvD ORBIS (BvD (2020)) for firms that were listed in the Stoxx Euro 600 index at any time between November 2014 and November 2019, i.e. at any time during the period of my study. I merged these data based on firm name - using the BvD ORBIS search function -, and double checked and resolved manually any remaining discrepancies. Information on daily stock prices for each companies are exclusively available through Refinitiv Eikon. For yearly firm variables such as assets or employees, the data from the two sources should technically be consistent. This is the case about 90 percent of the time. Where there were major discrepancies, I double checked manually and resolved the issue using my personal judgement. For cases of minor discrepancies, I relied on the Worldscope data as a default.

I then merge the firm data with the meetings data from Transparency International (TI (2020)), based on firm names. More specifically, I created a firm names correspondence table in the following manner: first, I dropped information on corporations organization forms, for example the terms 'holding', 'plc', 'llc', 'inc', 'group'. Next, I dropped spaces and non-informative words such as 'the' or 'and', and special characters such as '&', ',' ';'. I then joined the two thus created lists of firm names using stringdist_left_join from the fuzzyjoin R package with the Jaro-Winkler distance set to 0.2. That leaves me with 340 matches. However, many of these matches are actually incorrect. Therefore, I manually double checked all the these matches, and dropped 154 incorrectly defined matches. Note that setting the Jaro-Winkler distance to 0.2 is relatively generous, and it is thus to be expected that one would end up with many incorrectly matched pairs. At the same time, the fuzzy merging algorithm I used would not capture cases where a firm abbreviation name would be used in one dataset, and the full name in the other. An example is the German car manufacturer BMW: it is listed under 'BMW' in Worldscope, but under 'Bayerische Motoren Werke Aktiengesellschaft (BMW Group)' in the meetings data. Of course, the distance between these strings is very large, and it would never be detected by an algorithm.

I therefore manually went through all the firms in that were at any point in time part of the Stoxx Euro 600 index and searched for firm names and known firm abbreviations in the meetings dataset manually. This way, I added 62 matches to the dataset.

I proceeded in an analogous manner in order to merge EU Commission grant and procurement awards data (from EU (2020)) to the firm data. In general, working with the EU Commission fundings data was more involved as the company names are very detailed as they often mention the detailed subsidiary or branch of a corporation that received the funding. A fuzzy merging algorithm would miss many of such cases when merging based on string similarity of company names. I proceeded as above and dropped relatively generic information from the company names. I then joined the two firm name lists using the stringdist_left_join function from the fuzzyjoin package, again setting the Jaro-Winkler distance to 0.2. This way, I obtain 1937 matches pertaining to 500 unique companies; that means many companies listed on the Stoxx Euro 600 receive EU Commission funding through various subsidiaries and branches. However, manual inspection of each of these matches reveals that only 333 of them - pertaining to 205 unique firms - are actually correct matches. Again, given the relatively large distance specified for the merging process, false positives are to be expected. As above, I then searched the EU Commission funding data for each company that is part of the Stoxx Euro 600 at any point of my study, by using full names or common abbreviations. This way, I was able to add another 223 matches pertaining to 121 unique companies. An example of such a firm would be the Italian bank Unicredit (it shows up under this name in Worldscope): in the EU Commission grant and procurement data, it shows up as 'Unicredit Societa per Azioni', and was not matched initially due to the large dissimilarities between the two strings. Limiting the study to the Stoxx Euro 600 firms came with the advantage of being able to manually double check the outcomes of the merging process, which appears to have greatly improved data quality for the paper.

Lastly, one remark is in order as to how grants and procurement funds were attributed to each commissioner. These funds are usually disbursed by directorate generals or executive agencies. And while usually there is a clear and unambiguous mapping between these entities

and commissioners - i.e. it is clear which commissioner is superordinate to which directorate general or executive agency, there are cases where responsibilities overlap. In these cases, I assigned the funding to the commissioner that is primarily in charge. The most important example here would be the Research Executive Agency: multiple commissioners are indirectly involved in how these funds are distributed (e.g. agriculture commissioner, transport commissioner, energy commissioner); however, for the purposes of the analysis I assigned all the funds to the research commissioner, in order to minimize double counting.

D Appendix: Interviews

Here, I give a brief overview over the interviews I conducted in the European Union for my dissertation research. I conducted interviews in Brussels, Berlin, Frankfurt, London, Paris, and Munich at various times between 2018 and 2021. My research was kindly funded by the MacMillan Center at Yale University, and was granted an IRB exemption. Over the course of these years, I talked to trade association officials, EU Commission officials, German government officials, EU agency officials, academics and think tank members, NGOs, firm lobbyists, and professional lobbyists. The interviews were semi-structured. While they were more exploratory about lobbying in the complex European institutional setup inititally, I later more narrowly focused on meetings and its potential effects, including grants and procurement awards. I largely tried get at the contrast in lobbying styles between the US and the EU. The informational nature of lobbying has been a very prominent theme in my interviews, and I draw heavily on this qualitative knowledge in section 6.

E Appendix: Event Study: Cumulative Abnormal Returns Estimation Details

More specifically, CARs are estimated as follows: a firm i's stock returns on day t can be conceptualized as $R_{it} = K_{it} + e_{it}$, where K_{it} is the expected return, and e_{it} is captures the abnormal returns of firm i on day t (see Kothari and Warner (2007)). Rearranging implies that $e_{it} = R_{it} - K_{it}$. While R_{it} is observed based on a company's daily stock returns, K_{it} needs to be estimated. I estimate K_{it} based on Fama and French's three factor model (Fama and K. R. French (1993)), such that $K_{it} = a_i + b_i[RM_t - RF_t] + s_i SMB_t + h_i HML_t + RF_t$. Here, RF_t is the risk-free rate on day t, RM_t is the market return on day t, SMB_t is the difference between the returns on diversified portfolios of small stocks and big stocks, and HML_t is the difference between the returns on diversified portfolios of value stocks and growth stocks. While RM_t for the purposes of my paper is just the market return for the Stoxx Euro 600 on a given day, and RF_t, SMB_t, and HML_t can be observed (data taken from K. French (2020)), one needs to estimate the coefficients a_i, b_i, s_i, and h_i in order to calculate expected returns K_{it}. I estimate these coefficients based for the 250 trading days immediately preceding my analysis time frame, i.e. the period from October 2013 to October 2014).[118] Abnormal returns are then defined as follows: $AR_t = \frac{1}{N}\sum_i e_{it}$. Ultimately, I will be interested in analyzing cumulative abnormal returns after event dates of interest such as meetings with EU Commissioners. Cumulative abnormal returns are merely abnormal returns summed across a number of days after the event date, so $CAR(t_1, t_2) = \sum_{t_1}^{t_2} AR_t$.

[118]Note that the length of the estimation period of 250 trading days is standard in the literature. A fixed period rather than a rolling estimation window was chosen in order to avoid having estimation periods 'contaminated' by events. The results are robust to the use of the Euro Stoxx 600 index' return (i.e. to simly analyzing excess returns without estimating expected returns); however, the Fama and French three factor model appears to outperform the market model slightly in my data, based on out of sample data for the pre-period when EU Commission meetings were not publicized yet.

F Appendix: IV Estimator Decomposition

Conley et al. (2012) demonstrate that the IV estimator under endogeneity bias can be decomposed as follows: $\hat{\beta} = (Z'X)^{-1}(Z'Y) \rightarrow \beta + \frac{\gamma}{\Pi}$, where Z is a matrix of instruments, X is a matrix of endogenous regressors, and Y is a matrix of outcome variables. Π is a matrix of first stage coefficients, and γ captures endogeneity bias. Under the exclusion restriction, it is usually assumed that $\gamma = 0$. Kippersluis and Rietveld (2018) then show that γ can be estimated by regressing Y on Z (i.e. the ITT) for a subsample for which the first stage is zero, if one assumes that the ITT for that subsample is a plausible estimate for the full sample's ITT. Lastly, one plugs in the estimates for $\hat{\beta}$ (from Table 8), γ (from Table 9), and Π (from Table 10).