

# Master Thesis Strategic Management 2017/2018

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## Lobbying and its Implications on Organizational Performance

*A study in the European agricultural sector*

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## Abstract

This study aims to make sense of the inconclusive outcomes concerning the relation between lobbying and organizational performance. Yet, the existing literature is dominated by a focus on the American institutional context. By applying an exclusive focus on the European context, this study adds to this gap in the literature. Besides, this study focusses on the agricultural sector, as it is heavily being influenced by lobbyists, draining 38% of the entire European budget. In order to elicit the relationship between lobbying and performance, several hypotheses are composed which are based on three theoretical lenses: the social exchange theory, transaction cost theory and agency theory. These hypotheses will be tested with a multiple regression analysis. Until recently, homogenous datasets of firms' lobbying activities have been scarce and unreliable, leading to research which was mainly based on textual analysis. Now, thanks to the founding and evolution of the European transparency register, quantitative data on lobbying has become publicly available. This register serves as main source to gather data, together with Orbis. Yet, the findings of this study are mixed. In general, the return to lobbying does not seem to be statistically different from zero. The amount of hours that is used to lobby, does display a statistically significant negative relationship with organizational performance however. In order to get better insight into this relationship, future research will be necessary. This is, amongst others, due to the limitations of this study. This study has neglected to take a broad time horizon into account, only focusing on the year 2017. Moreover, it has only focused on in-house lobbyists. Besides, the operationalization of organizational performance does not cover the entire load and the dataset from the transparency register is subject to some pitfalls. Still, this study is useful for managers in a sense that they should take a closer look at the agency costs associated with lobbying. It may be worthwhile to spend more attention to the remuneration of lobbyists.

*Keywords:* Lobbying, Transaction cost, Agency costs, Social exchange, Organizational Performance, Transparency register, Agricultural sector

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## 1. Introduction

Most theories aimed at explaining the functioning of business firms, both in strategic management and economics, either ignore the political dimension of the organization or treat it as an aberration (Dörrenbächer & Geppert, 2011). However, political engagement by corporations has grown substantially over the past decades (Coen, 1997, 1998; Drutman, 2015; Mazey & Richardson, 1993). Whereas market strategies attempt to create value by increasing economic performance (Baron, 1995), political behaviour is considered to be strategic within the nonmarket domain (Hillman, Zardkoohi & Bierman, 1999). Such political engagement by corporations is undertaken in multiple manners. These practices include campaign contributions (Claessens, Feijen & Laeven, 2008), voluntary agreements (Delams & Montes-Sancho, 2010), bribery (Spiller, 1990), political action committees (Kroszner & Stratmann, 1998) and lobbying (Bernhagen & Mitchell, 2009). Yet, lobbying has been receiving most scientific attention (Brown, 2016; Dahan, 2005). It is undertaken to exert influence on a political basis and is carried out by a wide variety of parties, ranging from religious communities to in-house lobbyist. It is a process in which private interested parties (mostly corporations) serve the important purpose of providing policymakers with sectorial knowledge to enable informed policy decisions (Dellis & Sondermann, 2017). An uninformed policymaker is thus provided with strategic information, which helps him in deriving convenient legislation (Crombez, 2002).

Yet, the literature on lobbying is dominated by a focus on the American institutional context. However, this lobbying occurs more and more at the European level as well. It has grown substantially over the past years (Beyers, Eising & Maloney, 2008), having reached annual estimated expenses of €1.5 billion in Europe alone (Lundy, 2017). With the amount of staff employed by the European Commission almost equalling the amount of full-time employed lobbyists, the lobbying industry can for sure not be overseen. Deriving information from lobbyists has become more and more interesting for these policymakers because Europe has grown substantially over the past years as well (Coen & Richardson, 2009). The European institutions are thus eager to interact because they need close contacts with the private sector to fulfil their institutional role (Bouwen, 2002, p. 368). Now, it is rather clear in what sense these policymakers benefit from the lobbying practice. Yet, relatively little is known about the exact implications of these lobbying activities for corporations who in turn provide this valuable information (Mellahi, Frynas, Sun & Siegel, 2016).

Within the literature, there is yet no consensus with respect to these implications for corporations. Generally speaking, two opposing schools of thought exist. On the one hand, it is argued that lobbying activities are aimed at generating value for shareholders by attempts to influence policy decisions in favour of the contributing firm. On the other hand, it is pleaded that lobbying is a reflection of managerial perquisite consumption (Mathur & Singh, 2011, p. 254). The logical conclusion of the coexistence of these two schools of thought is that lobbying reflects either wasteful expenditures aimed at satisfying managerial personal preferences or valuable investments leading to superior performance and thus shareholder maximization. Therefore, it is argued that corporations engaging in lobbying are primarily driven by either self-interest or corporate profit (Bonardi, Holburn & Bergh, 2006; Frynas, Mellahi & Pigman, 2006; Yoffie & Bergenstein, 1985). Hence, the studies aimed at divulging the relationship between lobbying and performance are by no means unanimous. Contradicting results are not uncommon while examining this relationship. While Mahoney (2007) finds that outside lobbying may actually hurt the cause of lobbying, Alexander, Scholz and Mazza (2009) provide compelling evidence that lobbying expenditures have a positive and significant return on investment.

This lack of consensus may be explained by both the complex mixture of research on lobbying and the way performance is being made viable within these studies. The studies on lobbying have focused on different facets of the field. For instance, antecedents of lobbying are extensively being discussed at the firm level (Sadrieh & Annavarjulia, 2002), the industry level (Kim, 2017) and at the institutional level (Beyers & Kerremans, 2007; Eising, 2007). Then, prolix inquiries on the outcomes of lobbying have focussed on both firm performance (Shaffer, Quasney & Grimm, 2000) and policy outcomes (McKay, 2012). Yet, it is widely acknowledged that measuring the benefits from lobbying continues to be among the most defying duties (Bernhagen, Dür & Marshall, 2014). These vexing methodological difficulties are comprehensively discussed on a theoretical basis (Baron, 2006).

### 1.1 research question

The abovementioned complexity leaves practitioners uncharted. In what sense should they attempt to influence policymakers and should they even provide such strategic information at all? The literature with respect to the relation between lobbying and performance is by no means unanimous. This study aims to make sense of the nebulous results by applying a meticulous demarcation, thereby disclosing the performance implications of lobbying. On the basis of the above-mentioned, the following research question will be addressed:

## *To what extent does lobbying impact organizational performance?*

In answering this research question, it is essential to break this research question down. Firstly, it is imperative to understand what lobbying exactly comprises. A common understanding of what constitutes lobbying in general and how it is measured within this study allows for proper judgement and bolsters to put the results into both context and perspective. The other rudimentary aspect of the question concerns organizational performance. Organizational performance is a broad measure, which can be conceptualized in multiple ways. In practice, a plethora of performance measures is used within the scientific domain without its structure and definition rarely explicitly being justified (Richard, Devinney, Yip & Johnson, 2009). The practice of comparing company performance valuations is highly subjective and notably inaccurate. Explicating how performance is assessed within this study builds common understanding and allows for methodological criticism and reflection on the results. Therefore, two sub-questions are drawn in order to present a more sturdy answer to the main research question:

*1. What constitutes lobbying?*

*2. What composes organizational performance?*

In order to provide shrewd insights, this study will reason based on a theoretical lens. Within this study, this lens will constitute of the social exchange theory, transaction cost theory and agency theory. The social exchange theory provides the basic theoretical rationale for the existence of lobbying, by explaining lobbying as a process of negotiated exchanges between policymakers and corporations. Both the transaction cost theory and the agency theory provide sturdy argumentation which could explain the relationship between lobbying and performance. These three theories are elaborated upon in the theoretical framework.

### *1.2 Methodology*

The relationship between lobbying and organizational performance will be elicited by means of a quantitative approach. Where qualitative research is more focused at the interpretative naturalistic approach (Denzin & Lincoln, 2011, p. 3), quantitative research attempts to realise progression of our knowledge by rejecting hypotheses (Vennix, 2011, p. 89). Such hypotheses are also emplaced within this study. The relationship between lobbying and organizational performance will be elicited by means of a multiple regression. This choice of method requires quantitative data. Now, in 2011 a so-called transparency register was established. The transparency register is a database that lists organizations that try to influence the law-

making and policy implementation process of the European institutions. The objective of the register is to increase transparency of the European lobbying system by enabling public inspection of the lobbying process itself, including an insight on who the lobbyists are that try to shape European governance and whose interests they represent. For the last couple of years, this register has evolved from a praiseworthy initiative into a serviceable apparatus, allowing for access to quantified data with respect to lobbying. This transparency register directly marks the demarcation of this study. This study will namely cover exclusive focus on corporations whom have their headquarter within Europe, thereby fixating on companies and groups whom engage in the agricultural sector by means of in-house lobbyists. Such a lucid demarcation is required to allow for practical feasibility of the research. The focus on the European institutional context fills a gap in the literature, which is dominated by studies being performed in the American context when studying lobbying (e.g. Austen-Smith & Wright, 1996; Chen, Parsley & Yang, 2015; De Figueiredo & Silverman, 2006; Woll, 2007; Wright, 1990). Lawton, McGuire and Rajwani (2013) also emphasize that studies in the field of nonmarket strategy have traditionally focused on the United States. The reason for this focus on the United States is that hard data and ample material are available to develop and test hypotheses. Many emerging and developed economies (such as Europe) do not have the same degree of transparency as the United States (Voinea & Van Kranenburg, 2018, p. 3).

The agricultural sector is chosen, as it plays a dominant role within the policy of the European Union. This is mainly due to the fact that the European Union wants to meet strategic food requirements and to reduce poverty amongst food producers (Donald, Pisano, Rayment & Pain, 2002, p. 171). Besides, the agricultural sector drains 38% of the entire European budget. Furthermore, food multinationals, agri-traders and seed producers have had more encounters with the trade department of the European Commission than lobbyist from the pharmaceutical, chemical, financial and car industry put together (Cann, 2014). An extensive amplification with respect to the methodological aspect of this research can be found in the methodology section.

### 1.3 Relevance

This thesis aims to make sense of the inconclusive results concerning the relation between lobbying and organizational performance. The findings of Alexander et al. (2009), for instance, indicate a positive and significant effect, while Mahoney (2007) manages to find that lobbying may actually be harmful. In doing so, this thesis complements the existing literature that examines this relation. The extent of how performance is affected is not as developed as many



scholars have perhaps assumed. This in turn limits their ability to derive to practical insights to multiple stakeholders.

Besides, by applying a single focus on only one specific sector, in this study the agricultural sector, this study adds to the existing literature on lobbying. A comparison can be made between companies who share a certain amount of characteristics. Furthermore, this study focusses its attention on European companies only, thereby adding to the relative marginal quantity of studies which have been prosecuted in Europe (Bouwen, 2004). That only few studies focus on Europe may be explained by the fact that the United States of America has a way more advanced and transparent lobbying register which is mandatory, publicly accessible and was already introduced in 1946. Additional studies and insights with respect to lobbying in Europe adds to the general understanding and gives rise to more sophisticated studies aimed at disclosing the peculiar relationship between lobbying and performance.

#### 1.4 Structure

At first, the central concepts and theories will be clarified. On the basis of the theoretical foundation, hypotheses are composed. Then, all methodological aspects of this research are being discussed. Thereafter, an overview of the data and results of the analysis are being presented. Finally, the thesis is wrapped up with the discussion and conclusion.

## 2. Literature review

Two opposing schools of thought exist with respect to the rationale for employing lobbying activities. On the one hand, researchers argue that lobbying may be a manifestation of managerial consumption preferences. They thereby state that management engages in lobbying as a wasteful consumption which is financed by shareholders' money (Mathur & Singh, 2011, p. 254). The other paradigm views lobbying as a valuable investment that results in improved firm performance and greater wealth for the shareholders. In this latter rational value maximizing perspective, management faithfully pursues shareholder value maximization and the in-house lobbyist simply acts loyally to his superintended. This study considers this viewpoint as surreal, given the lack of transparency and divergence between objectives. Both the transaction cost theory and the agency theory include elements which support this view. These theories will extensively be elaborated upon below. However, before these two theories are elaborated upon, the social exchange theory will be discussed, as it serves as theoretical justification for the basic practice of lobbying.

Next to outlining relevant theories, this section also serves as a theoretical foundation for the different hypotheses which will be tested within this study. It is therefore imperative to elaborate on the literature of both organizational performance and lobbying. These two concepts namely serve as cornerstones of this study. Finally, a section is devoted to political systems, as this is also deemed apropos for this study.

### 2.1 Lobbying

Several studies in the field of European interest representation have yet been undertaken (Bennett, 1997; Greenwood et al., 1992; Mazey & Richardson, 1993; Van Schendelen, 1993). A key takeaway from these studies is the diversity and complexity which is inherent to lobbying in the Europe. This in turn limits the reliability of generalizations. Yet, lobbying is increasingly a part of the political decision-making process in Europe, thereby automatically being part of the legislative process. Given the complexity and increased importance of lobbying, the European Commission published an official definition of lobbying: ‘‘All activities carried out with the objective of influencing the policy formulations and decision-making processes of the European institutions’’ (European Commission, 2006). Lobbying is however not a new phenomenon. Interest representation has been part of the system ever since its foundation, as can be noted in figure 1. Throughout the last decades of the former century, a notable increase in lobbying activities can be remarked. It is now commonplace for large numbers of firms,

national associations, regions and political consultants to have Brussels offices. Many more firms are frequent commuters (Beyers et al., 2008, p. 1108).

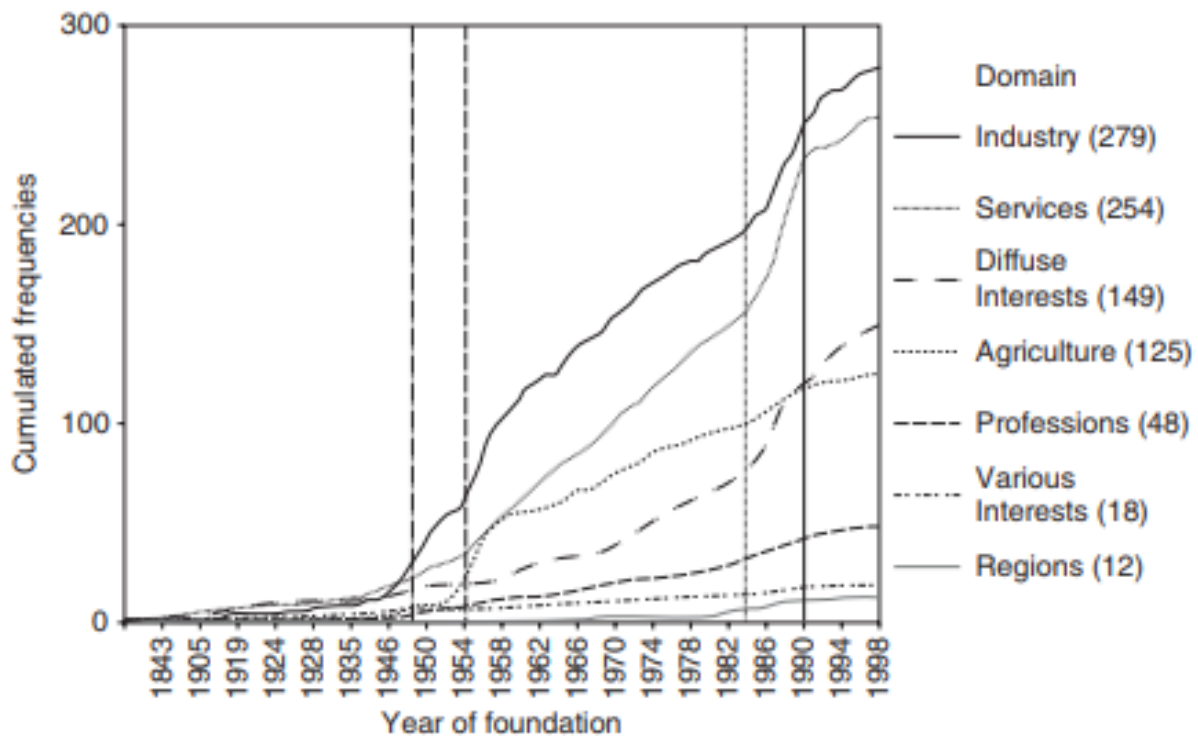


Figure 1: European interest groups according to domain and year of foundation from 1843 to 2001 (cumulated frequencies).

Note: Vertical lines denote the implementation of different treaties or treaty changes.

Source: Beyers et al. 2008. General Secretariat of the European Commission. CONNECS, May 2002.

However, size, range and types of interest representation has changed as time passed by. In the early days, interest representation was focused on both national representation and collective action via trade associations (Schmitter & Streeck, 1999). Since the 1990s, direct lobbying by businesses have been on the rise (Mazey & Richardson 1993; Coen 1997; Greenwood 2017). According to the Corporate Europe Observatory, a research and campaign group working to expose and challenge the privileged access and influence enjoyed by corporations and their lobby groups in the EU policy making, over 25,000 full-time lobbyist are working on the European quarter. Such lobbying practices are carried out not only by corporations, but also by industry lobby groups, NGOs, trade unions, lobby consultancies, law firms and think tanks.



*Figure 2: Lobby registrants by section*

According to Brown (2016), the different types of lobbying include ‘contract lobbying’, ‘internal lobbying’, and ‘collective lobbying’. These three different strategies are directly aimed at policymakers and these activities remain mostly invisible to a broader audience. Such strategies are labeled as quiet politics and are also known under the notion of ‘inside lobbying’ (Culpepper, 2010; Dür & Mateo, 2013). It is important to distinguish between these types of strategies, as they differ in both the severity of the principal-agent problems faced and in the efficacy of alternative mechanisms to control them (Lowery & Marchetti, 2012).

Internal lobbyists, also known as in-house lobbyists, are employees of the organisation they work for. They are paid in salary rather than a contracted fee and only have one client whom they work for. In-house lobbyists are the main and most obvious players, as can be seen in figure 2.

Contract lobbying, also known under the notion of external lobbying, is the process of hiring a firm or lobbyist whose expertise centers around government relationships (Gabel & Scott, 2011). A contract lobbyist is a person who provides lobbying services on contractual basis. They are not employees of the client-employers on whose behalf they work and may therefore have multiple employers. This is in stark contrast with in-house lobbyists. Contract lobbyist are represented by the yellow piece in figure 2.

Then, whenever lobbying activities are carried out at the industry level, as opposed to the individual firm level, it is known as collective lobbying. Collective lobbying complicates the assessment of influence or effectiveness of individual firms, as the outcomes of the collective process cannot be parsed out to participating individual firms (Ozer & Lee, 2009).

Next to an inside lobbying strategy, corporations can decide to pursue a so-called outside lobbying strategy. Where inside lobbying is directly aimed at policymakers, outside lobbyists raise the awareness of a broader audience by communicating their message through various sorts of public media, thereby generating visibility among a broader public. Such outside lobbying can expand the support among constituencies and signal to policymakers that a particular topic is highly salient (Hanegraaff, Beyers & De Bruycker, 2016). Binderkrantz (2012) states that outside lobbying requires a skillful use of media strategies which is highly demanding.

Besides varying actors and strategies, the rationale to engage in lobbying activities can also differ. The main distinction which is made within the literature is the difference between proactive and reactive lobbying. Proactive lobbying concerns the situation where lobbyists act in order to cause change. This may for instance be the case when corporations attempt to mold nascent policy in their own favor. Employing reactive lobbying, however, only reacts to certain changes which may hinder corporate strategy (Brown, 2016).

From all the disparities mentioned above, it should be clear that it is myopic to consider lobbying as a one-legged notion. It is a multidimensional construct including a wide variety of strategies, activities, contractual agreements and rationales. Lobbying thereby offers corporations challenging strategic considerations.

## 2.2 Organizational performance

Another multidimensional construct is organizational performance (Richard et al., 2009). Organizational performance is an important, if not the most important, construct in strategic management research (Rumelt, Schendel, & Teece, 1994). A key challenge in explaining organizational performance and making valuable managerial prescriptions, however, is the significant two-way interrelationship between theory development and construct measurement (Venkatraman & Grant, 1986). The need for conceptual clarity regarding construct's boundaries, dimensionality, and appropriate measures appears particularly important when the construct in question is central to an entire field of inquiry, such as organizational performance is for strategic management (Rumelt et al., 1994). Unfortunately, evidence thus far suggests that the validity of competing measures of organizational performance is quite low (Rowe & Morrow, 1999). Richard et al. (2009) reviewed performance measurement related publications in five of the leading journals and concluded that past studies reveal a multidimensional conceptualization of organizational performance with limited effectiveness. The strategic management literature is replete with different and frequently unrelated organizational

performance measures (Maltz, Shenhar & Reilly, 2003; Starbuck, 2004; Venkatraman & Ramanujam, 1986). When such measures are unspecified or their boundaries are vague, there is no way for researchers to reconcile the seemingly conflicting findings that result naturally (Boyd, Gove & Hitt, 2005). Venkatraman and Ramanujam (1986) attempted to narrow the measurement domain for strategic management researchers with a model consisting of three concentric circles; organizational effectiveness, operational performance and financial performance. They urged strategic management researchers to focus on the measurement domain identified by operational and financial performance. This suggestion is acknowledged and tightened further by the study of Combs, Crook and Shook (2005) whom suggest that organizational performance should be dimensionalized into accounting returns alone. However, the use of accounting measures alone, would give a limited view to performance as it is only concerned with hard numbers and financial statements. Organizational performance, as Venkatraman and Ramanujam (1986) stated, also consists of organizational effectiveness. This would give rise to non-financial performance measures as well.

Organizational effectiveness is a broader construct that captures organizational performance, but with grounding in organizational theory that entertains alternate performance goals (Cameron & Whetten, 2013). Within the review of Richard et al. (2009), specific attention has been paid to organizational effectiveness. They stated that ‘‘organizational effectiveness is broader and captures organizational performance plus the plethora of internal performance outcomes normally associated with more efficient or effective operations and other external measures that relate to considerations that are broader than those simply associated with economic valuation (either by shareholders, managers, or customers), such as corporate social responsibility’’ (p. 722). In the context of lobbying, three methods to assess its effectiveness have dominated the literature: process-tracing, assessing attributed influence and determining the degree of preference attainment (Dür, 2008). Process-tracing is a fundamental tool of qualitative analysis often invoked as a within-case analysis based on qualitative data (Collier, 2011). The attributed influence method is based on either self-evaluation or assessment by experts (Dür & Bièvre, 2007; Pappi & Henning, 1999). The preference attainment approach compares the preferred policy outcome with the true policy output, thereby measuring lobbying effectiveness as the convergence of outcomes and preferences (Klüver, 2011). Mahoney (2007) argues that it is of vital importance to consider advocates in their broader context and to reify that into manageable components in order to get a better understanding of the implications that

lobbying has. However hard performance measures dominate the literature when comparing companies mutually, as the soft measures are closely tailored to each individual firm.

Now, many studies in strategic management conceptualized financial performance on the basis of the return on investment or return on sales (e.g. Capon, Farley & Hoenig, 1990; Chakravarthy, 1986; Cool & Dierickx, 1993; Davis & Kay, 1990; Hansen & Wernerfelt, 1989; Lenz, 1981; Woo, Willard & Daellenbach, 1992). However, analysis of aggregate measures such as ROI or ROS are likely to not reveal the detailed dynamics (Banker, Chang & Majumdar, 1996, p. 693). However, it should be stressed that no single metric is considered to be perfect, encompassing all features of performance. With respect to other accounting-based measures, the return on assets (ROA) fosters a better view of the fundamentals of the business, including asset utilization (Hagel, Brown & Davison, 2010). Yet, the sole utilization of accounting-based measures is restricted to historical aspects of firm performance (McGuire, Schneeweis & Hill, 1986). Moreover, they are subject to managerial manipulation and differences in accounting procedures (Branch, 1983; Briloff, 1972, 1981). Such manipulation is also known under the notion of earnings management (Dechow & Sloan, 1995). Venkatraman and Ramanujam (1986) suggest that researchers should use an a-priori classification which recognizes the dimensionality issue (p. 807).

That organizational performance is multidimensional, is confirmed when digging into the literature of lobbying. Studies aimed at divulging the relationship between lobbying and performance are by no means in agreement with each other. One of the reasons for this is that performance is measured in a wide variety of manners, not only in financial terms, but also in non-financial ways. Alexander et al. (2009), for instance, looked at a particular lobbying case, namely the dividend repatriation provision. They provide compelling evidence that lobbying expenditures have a positive and significant return on investment. De Figueiredo and Silverman (2006) focused their study on universities lobbying for educational earmarks. They, however, find that the return to lobbying is not statistically different from zero. Chen et al. (2015) focus on data which is made available by the Lobbying Disclosure Act of 1995 (legislation aimed at bringing increased accountability to federal lobbying practices in the United States). They find that lobbying expenditures are on average positively correlated with financial performance. They thereby made use of multiple accounting and market measures of financial performance. Mahoney (2007), used a qualitative approach to identify lobbying success, gathering her data based on interviews with advocates in both Washington and Brussels. She found that most factors of lobbying are not relevant for the success, but that the issue context serves as a critical

success factor. Hill, Kelly, Lockhart and Van Ness (2013) focus their study on 425 unique S&P 500 firms and find that lobbying behaviour is related to size, investment opportunities, and industry affiliation. They thereby infer that lobbying may be lucrative, but not for all firms. Lux, Crook and Woehr (2011) finally used a meta-analysis aggregate findings with respect to the relation between corporate political activity and firm performance, measured in terms of accounting-based measures as well. Their findings suggest that corporate political activity is positively related to firm performance. They fail to gauge what factors affect corporate political activity.

### 2.3 Social exchange theory

Lobbying activities serve the important purpose of providing policy makers with sectoral knowledge to enable more informed policy decisions (Dellis & Sondermann, 2017). Lobbying is often conceived of as an exchange between policymakers and organized interests whereby the latter supply relevant information to policymakers and expect to obtain some desired policy outcome in return (Bouwen 2002; Dür & Mateo, 2013). Policymakers often lack sufficient technical expertise in order to account for all the specificities related to particular issues. It is through supplying access opportunities to such organized interest that policymakers try to reduce the information scarcity and uncertainty they face (Bernhagen & Bräuninger 2005).

This general process of lobbying can easily be explained by the social exchange theory, which is one the most influential conceptual paradigms in organizational behaviour (Cropanzano & Mitchell, 2005, p. 874). Organizational behaviour is an interdisciplinary field which is dedicated to better understanding of management of people at work (Waldstrøm, Sinding & Buelens, 2011, p. 730). Social exchange theory provides such a powerful framework to understanding workplace exchanges and relationships, as it is has been integrated into many organizational science theories (Molm, 2003). It views exchange as a social behaviour that may result in both economic and social outcomes, in which each individual weighs the perceived benefits against the perceived costs (Lambe, Wittmann & Spekman, 2001). The fundamental unit of analysis within the social exchange theory is the relational interdependence. Much of social life involves interactions between individuals or corporate actors in dyads, groups, organizations or networks that can be viewed as social exchanges. Likewise, the interaction between corporate actors and regulating actors are social exchanges (Cook, Cheshire, Rice & Nakagawa, 2013). The key to understanding the lobbying activities of business interests in the European institutions is to conceive the relation between private and public actors as an exchange relationship between two groups of interdependent organizations. It is a mistake to



regard business lobbying as a unidirectional activity of private actors vis-a-vis the EU institutions (Bouwen, 2002, p. 368). This is due to the fact that lobbying does not only serve the benefits of corporate actors. Lobbying is also an important lever for a productive government. Lobbying can improve government decisions by providing valuable insights and data. Hence, lobbying can be seen as a bidirectional transaction which involves both mutual and complementary arrangements. Such interdependence is considered a defining characteristic of social exchange (Molm, 1994).

The social exchange theory is highly relevant with respect to the practice of lobbying, as social exchange is a central research thrust in business relational exchange with a growing interest in non-contractual mechanisms governing the exchange process (Dwyer, Schurr & Oh, 1987). Multiple studies showed that relational control in the form of personal relationships is an effective means of governance (Morgan & Hunt, 1994; Wilson, 1995). With respect to lobbying, both parties tend to return the benefits they receive and thereby match goodwill and helpfulness towards the party with whom they have a social exchange relationship. The evidence for this contention is generally strong (e.g. Malatesta, 1997; Malatesta & Byrne, 1997; Masterson, Lewis, Goldman & Taylor, 2000).

Next to relational interdependence, self-interest is seen as the other central property of social exchange (Lawler & Thye, 1999, p. 219). These two properties serve as cornerstones of the theory in order to decide whether and how they would like to exchange their goods or services and to what extent they should do so (Lawler, 2001). Effectuating self-interest is common within the economic domain of the social exchange theory, as greed and competition are common within this realm (McDonell, Strom-Gottfried, Burton & Yaffe, 2006). Such pursuit of self-interest is not necessarily negative. Per contra, it serves as the guiding force of exchange relationships for the advancement of both parties' self-interest (Roloff, 1981). According to the social exchange theory, the practice of lobbying can be conceptualized as a series of interorganizational exchanges. Now, in the context of the European decision-making process, private and public actors are interdependent actors, because they both need resources from one another. They thereby both automatically act to their own interest. While lobbying improves the governmental decision-making process by providing valuable insights and data, the crucial resource required by private actors is access to the European institutions (Bouwen, 2002, p. 368). To understand the resource exchange process between private and public actors at the European level, it is important to study the resource that is actually being exchanged. In return for 'access' to the European agenda-setting and policy-making process, the basic good for

European institutions is information (Austen-Smith, 1995; Lohmann, 1995; Potters & Van Winden 1990). The practice of lobbying can thus be seen as a game of strategic information transmission from an informed lobbyist to uninformed policymakers (Crombez, 2002).

## 2.4 Transaction cost theory

While the social exchange theory explains relational exchange from a behavioural science perspective, it does not offer an assessment of whether the selected form of exchange is efficient. This is where the transaction cost theory comes into play. The formal statement of the theory is that minimizing the costs related to the transaction has the effect of maximizing the efficiency of the transaction (Williamson, 1981). Transaction cost economics has become an increasingly important anchor for the analysis of a wide range of strategic and organizational issues of considerable importance to managers (Ghoshal & Moran, 1996, p. 15). Within transaction cost economics, the unit of analysis is the transaction. Transaction cost economics emphasizes that transaction costs as well as traditional production costs should be taken into account when deciding on the governance of transactions (Douma & Schreuder, 2008). Transaction cost economics views firms and markets as alternative forms of governance, and suggests that exchange governance is driven by firms' desire to minimize the direct and opportunity costs of exchange (Rindfleisch & Heide, 1997). A decision with respect to the governance is dependent upon asset specificity, uncertainty and frequency (Williamson, 1981, p. 555). The efficient organization of economic activity entails matching governance structures with these transactional attributes in a discriminating manner (Williamson, 1979, p. 261). Rational choice models in politics have applied the basic assumptions of neoclassical economic theory to politics. These include instrumental rationality and the notion of efficient markets (North, 1990, p. 355).

However, the transaction cost theory puts emphasis on a more self-conscious attention to human nature in a sense that transaction cost analysis relies on behavioural assumptions which are distinct from neoclassical economics. At first, transaction cost theory recognizes that agents are subject to bounded rationality and that they may display opportunistic behaviour (Hill, 1990; Williamson, 1981). Opportunism is defined as 'self-interest seeking with guile' (Hill, 1990, p. 500). Such more realistic behavioural assumptions can substantially increase the explanatory power, thereby making more sense of political market we observe. Political markets are far more prone to inefficiencies, as it is of particular difficulty to measure what exactly is being exchanged and what should be enforced within agreements. This leads to the logical conclusion that political arenas are characterized by high transaction costs (North, 1990).

Drawing from research in institutional economics (Coase, 1937; Williamson, 1975), researchers utilized transaction cost analysis to examine relational exchanges. Guided by its goal of transaction cost minimization, researchers have used transaction cost economics to explain why firms choose to use certain exchange relationship governance mechanisms. One of the basic premises of transaction cost economics is that the risk of partner opportunism limits the effectiveness of relational governance in exchange relationships (Lambe et al., 2001, p. 2). Explanations of such opportunistic behaviour typically focus on the proclivity of exchange partners to engage in deceptive and self-serving behaviour (Hill, 1990; John, 1984).

In the context of lobbying, this implies that lobbyist may exhibit opportunistic behaviour. However, lobbyist have become rather invisible in the literature on interest representation, serving mostly as source of data. They are considered as servants who advise clients and execute their orders, without being considered as having a will of their own (Kersh, 2000). Such presumed fidelity of lobbyist is not justified, as is demonstrated in the study of Lowery and Marchetti (2012). One consequence of the self-fulfilling prophecy of opportunism is to increase governance costs, thus making these firms progressively uncompetitive (Ghoshal & Moran, 1996, p. 27). Moreover, the task of implementation and design of such controls is among the main causes for the buildup of ‘unneeded bureaucrats and wasteful bureaucratic practices’, which Williamson (1991) viewed as source of inefficiency (p. 78). Besides, it can also enhance risk-averse behavior, adversely affecting performance (Hoskisson & Hitt, 1988). This line of reasoning is followed by Ghoshal and Moran (1996), who argue that the utilization of transaction cost theory is likely to adversely affect the performance of organizations.

Yet, within the domain of lobbying, it is not uncommon to utilize lobbying costs as independent variable (e.g. Hersch, Netter & Pope, 2008; Mathur, Singh, Thompson & Nejadmalayeri, 2013; McKay, 2010). According to Brown (2016), lobbying expenditures are a crucial figure and a signal of the relative importance of political action. Based on the line of reasoning mentioned above, the following hypothesis will be tested:

*H1: Lobbying costs are negative related to organizational performance.*

Moreover, the European context of lobbying is inherently subject to multiple European countries, with each of these countries differing from one another. Within the literature, such differences are known under the notion of ‘psychic distance’. Psychic distance is one of the most commonly cited (Sivakumar & Nakata 2001), yet vaguely measured, constructs within the realm of international business research. Its definition has changed substantially since its

use in Beckerman's study (1956). Johanson and Wiedersheim-Paul (1975, p. 308) defined psychic distance as "factors preventing or disturbing the flows of information between firm and market". Vahlne and Nordström (1992, p. 42) subsequently redefined psychic distance as "factors preventing or disturbing firm's learning about and understanding a foreign environment". Evans and Mavondo (2002, p. 517) later redefined it as "the distance between the home market and a foreign market, resulting from the perception of both cultural and business differences". From these different definitions, it should be clear that psychic distance is concerned with differing factors between countries regardless of physical time and space. On the basis of the literature, it would appear to include several dimensions, such as differences in geography, culture, language, politics, the level of education, the economic situation, the level of industrial development and time zones (Dow & Karunaratna, 2006; Freeman, Giroud, Kalfadellis & Ghauri, 2012). Now, Evans and Mavondo (2002) split up each of the dimensions and assessed them on the basis of organizational performance. Their findings indicate that psychic distance does enhance organizational performance in general (p. 527). They implied that foreign markets with very different cultural and business environments to the home market offer strategic opportunities. Further, they suggest that the perception of distance between the home and foreign market prompts agents to take steps to ensure that they succeed in spite of any apparent differences. They also demonstrated, however, the negative effect that legal and political differences have on financial performance. They hint that this may be explained due to the difficulty of identifying these differences. Consequently, the implications of such differences will not have been taken into account when determining budgets, strategy and forecasting performance, which may adversely affect financial performance (p. 529). Moreover, differences on the dimensions of psychic distance are said to disturb the information flow between actors (Child, Rodrigues & Frynas, 2009; Johanson & Wiedersheim-Paul, 1975; Ojala, 2015). In the light of the relation between lobbying and performance, it can be said that these are very relevant findings. This is because information is deemed to be crucial. Disturbances in the information flows naturally limit the effectiveness of the lobbying process and lead to additional costs with respect to information transmission. Now, these disturbances are caused by increased psychic distance. In the light of transaction cost economics, it can be stated that increased political differences increases the complexity of the transaction and thereby leads to additional transaction costs which have been incurred. Given that the process of lobbying is mainly political in nature, it is therefore expected that the more political distance is observed between parties, the stronger the negative relationship is between lobbying and performance. This mediating relationship will be measured for the relationship between

lobbying expenditures and organizational performance because according to Brown (2016), lobbying expenditures are a crucial figure and a signal of the relative importance of political action in a cross-section of firms.

*H2: The negative relationship between lobbying costs and organizational performance is stronger for companies operating in countries who have bigger differences in political systems.*

## 2.5 Agency theory

Just like transaction cost theory, agency theory examines organizations from a transaction perspective. The basic transaction or relationship considered by agency theory is that of a principal and his or her agent. The principal-agent problem, also known as the agency dilemma, is a phenomenon which has its roots in political science and economics. It occurs when one person is able of making decisions on behalf of another person (Eisenhardt, 1989). The agency structure is applicable in a variety of settings, ranging from macro level issues such as regulatory policy to micro level dyad phenomena such as blame, impression management, lying, and other expressions of self-interest (Eisenhardt, 1989, p. 58). An agency perspective assumes the pursuit of self-interest at the individual level and goal conflict at the organizational level (March, 1962). In the context of lobbying, this means that lobbyists are assumed to pursue their own interests, instead of the interests of the organization. Lowery and Marchetti (2012) state that there are several potential agency problems bearing on those engaged to lobby on behalf of an organization. At the core of these agency problems lies an asymmetry of information between the principal and the agent (Miller, 2005).

Such information asymmetry often exists in the relationship between supervisor and lobbyist. Information asymmetry can lead to two main problems, classified into either 'moral hazard' or 'adverse selection' (Voinea & Van Kranenburg, 2017, p. 23). Moral hazard points out problems associated with one actor his inability to observe actions taken by the other actor or to know the intentions behind the action taken. The behaviour of one party may change to the detriment of the other after the transaction has taken place. Adverse selection is related to the concept of moral hazard. Where moral hazard describes a situation where there is a hidden action that results from a transaction, adverse selection describes a situation where the type of product is hidden from one party in a transaction. One of the actors is thus unable to observe the contingencies under which the other actor operates and thereby takes advantage of information asymmetry ex ante a particular exchange.

Next to adverse selection and moral hazard, Stephenson and Jackson (2010) noted that asymmetry in information also creates the opportunity for agency slack. This potential slacking behaviour calls for additional monitoring. However, such monitoring is of particular difficulty due to the ambiguity of outcomes (Godwin, Godwin & Ainsworth, 2007; Lowery, 2007). This is even more complicated when the technology of lobbying may be quite different from the core technology of the organization (Williamson, 1981, p. 555). This problem may vary with the organizations' core. Although lobbying is a central activity of many groups with members and a few policy-focused institutions, the vast majority of lobbying is done on behalf of institutions whose core business is not public policy (Salisbury, 1984). Monitoring is even more complicated, as the outcomes of lobbying are not solely dependent on the work of a single organization but rather on the collective efforts of all organizations lobbying on all sides of that issue (Baumgartner, Berry, Hojnacki, Leech & Kimball, 2009, p. 110). This means that any precise linkage between the efforts of individual lobbyist and the final outcome may be obscured by collective lobbying efforts. This calls for additional costs which are to be incurred. These are known as 'agency costs'.

Now, transaction cost theory and agency theory share several assumptions like self-interest and bounded rationality, as noted by Barney and Ouchi (1986). However, agency theory extends organizational thinking by pushing the ramifications of outcome uncertainty to their implications for creating risk. Although both theories share a parentage in economics, they have a unique focus. In agency theory, these are risk attitudes, outcome of uncertainty and information systems (Eisenhardt, 1989). The implication here is that outcome uncertainty coupled with differences in willingness to accept risk should influence contracts between lobbyist and manager.

Given the difficulties with respect to audit, lobbyist may be incentivized to pursue their self-serving behaviour at the cost of shareholders. Such pursuit of self-interest may be aimed towards fame, election to public office, personal wealth and enactment of policies of personal interest (Coen, Grant & Wilson, 2010, p. 177). Thus, political engagements motivated by personal interests might be a manifestation of agency problems resulting in poorer performance (Mathur & Singh, 2011).

*H3: The degree of involvement is negatively related to organizational performance.*

However, the agent-principle relationship does not solely exist between the lobbyist and its supervisor. It is also perceived between the corporation and the legislator. Within this relationship, the corporation provides sectorial knowledge to enable informed policy decisions (Dellis & Sondermann, 2017). In return, these corporations insist on influencing the policy formulations and decision-making processes of the European institutions. Just like in any agency relationship, information asymmetry is also elemental here. The corporation has strategic information which is needed by the legislator. However, the legislator does not know in advance whether the corporation is providing this information and the corporation does not know in advance how the legislator is going to utilize the information to form legislation. The agency relationship is thereby dependent upon a certain amount of trust (Beccerra & Gupta, 1999; Singh & Sirdeshmukh, 2000). In the context of lobbying, the agency style of Brussels policy-making has produced the emergence of a trust-based relationship between insider interest groups and European officials (Coen, 2007, p. 335). A high degree of involvement would then increase the level of trust amongst these agents (Hamada, 2007).

Empirical research has detected the benefits of trust in many contexts: it reduces conflict (McEvily, Perrone & Zaheer, 2003), improves individual performance (McAllister, 1995), promotes interorganizational cooperation (Ring & Van de Ven, 1994). As Barney and Hansen (1994) argued, trustworthiness can become a source of competitive advantage. The primary value of trust rests in the fact that it is a key ingredient of "social capital." Essential for the survival of an organization, social capital is embedded within networks of mutual acquaintance and recognitions providing the basis for trust, cooperation, and collective action (Nahapiet and Ghoshal, 2000). Thus, trust is desirable as long as it provides social value. Such mutual trust is said to be of crucial importance for an organization's success (Douma & Schreuder, 2008).

Thus, it is expected that an increase in involvement increases the trust between both agents and thereby leads to an increase in organizational performance. From this line of argumentation, a completely opposite hypothesis can be derived:

*H4: The degree of involvement is positively related to organizational performance.*

### 3. Methodological framework

The methodological framework presents the sequence of methods. It explicates and structures how this study is performed. At first, an elaboration on the case selection and research material will be explained. Thenceforth, the research variables will be examined. Then, the method of data collection is explained. Thereafter, the method of data analysis is deliberated. Finally, the research ethics of this study are discussed.

#### 3.1 Case selection & research material

In order to provide sensible insight into the performance implications of lobbying, it is essential to gather relevant data. Naturally, given the volume of the practice of lobbying, it is impracticable to gather all data of all firms who are all active in lobbying. Therefore, lucid demarcation has been required to allow for practical feasibility of the research.

This study will focus on companies operating within the agricultural sector in Europe. The decision to carry this study out in the European Union is because of the dominant focus on the United States when studying lobbying. A choice for the agricultural sector is explained by the fact that the agricultural sector plays a dominant role within the policy of the European Union. The major role of the sector is due to the fact that it is of vital importance to have a public policy for a sector which is responsible for ensuring our collective food security. This is unlike most other sectors of the economy for which the responsibility lies at the national level. The governments of many European countries felt the need to intervene in the agricultural sector to meet strategic food requirements and to reduce poverty amongst food producers (Donald et al., 2002, p. 171). As a share of the EU budget, farm spending still drains around 38%, indicating its gravity even more. Moreover, the agricultural sector is heavily being influenced by lobbyists. Food multinationals, agri-traders and seed producers have had more encounters with the trade department of the European Commission than lobbyist from the pharmaceutical, chemical, financial and car industry put together (Cann, 2014). Besides, the European Union is quite remarkable for its high degree of dependence on stakeholders, which can be explained by the need of consensus among all state members (Greenwood & Dreger, 2013). Given this eminence, this study focusses on lobbying activities by European companies whom operate within the agricultural sector.

Now that the case has accurately been demarcated, main sources for the gathering of data actually allow for the execution of the study. Yet, homogenous datasets of firms' lobbying activities have been scarce and unreliable, leading to research which was mainly based on



textual analysis (Klüver, 2013). Thanks to the founding of the transparency register, however, corporations have to provide objective data such as their annual lobbying expenses. This transparency register was founded in June 2011 in order to increase the transparency of the decision-making process in the European Union. It is a database that lists organizations that try to influence the law-making and policy implementation process of the European institutions. Increased transparency is required to allow for proper scrutiny and to ensure that the Union's institutions are accountable. The transparency register is not mandatory, but necessary to gain access to European institutions. It is estimated that around three-quarter of business-related lobbyists are already listed within the register. Now, with the existence of the transparency register, it is possible to assess lobbying practices on a quantitative manner. The transparency register therefore serves as a major source of data for this study. From this transparency register, a total of 187 companies have been extracted, which will serve as sample in this study. The transparency register permits to specify for 'in-house lobbyists and trade/business/professional associations'. Thereafter, it allows to solely select for 'Companies & Groups', having their locations of office throughout Europe. Then, several fields of interest can be selected. Given that this study is limited to agricultural sector, the only selected field of interest is, naturally, 'Agriculture'. The search tool provides a total amount of 288 companies which meet the mentioned criteria. Not all of these companies have been included in the sample, due to unavailability of performance related data. Within the register, many data is made available about these organisations, such as the estimated lobbying costs and the amount of people involved, both nominally and converted into FullTime Equivalents. Next to the transparency register, Orbis will serve as a major source of data as well. Orbis is a database containing financial and business information on about 200 million companies worldwide. From this database, data with respect to performance will be derived.

### 3.2 Research variables

As should be clear by now, this research aims to divulge the relationship between on the one side lobbying and on the other side organizational performance. It has yet been made clear that both these notions are subject to a relative high deal of multidimensionality, which does not make it obvious how these notions should be measured exactly. In line with the hypotheses and the data made available by the transparency register, lobbying will be operationalized on the basis of three different variables. These are 'Estimated lobbying costs', 'amount of meetings with the European Commission' and 'the FullTime Equivalent of people involved'. The latter two are operationalisations of the degree of involvement. These variables provide an adequate

indication of the degree to which an organization is active in lobbying, because they measure different levels of activity. The estimated lobbying costs provide an overview of the financial commitment to lobbying, while the number of meetings with the European Commission suggests the degree to which a lobbyist is active in Europe. The number of FullTime Equivalents which are involved in the lobbying process demonstrate the activity in terms of hours instead of deeds. Both the nominal hours and the amount of meetings will be taken into consideration when judging them on the degree of involvement. Political distance is also made explicit. Then, this research adds variables to control for other factors that can influence the financial performance of the sample firms. In doing so, this study is able to measure the relation between the dependent and independent variables in a more precise manner. One can imagine that lobbying is not solely the cause for organizational performance of firms. Other factors are also of influence, such as firm size and industry characteristics (Andres, 1985; Masters & Keim, 1985). These variables will thus also be used within this research.

### 3.2.1 Organizational performance

The analysis of Combs, Crook and Shook (2005) suggests that organizational performance should be dimensionalized into accounting-based returns. Now, it should be clear that no single metric is perfect, encompassing all features of performance. Relative to other accounting-based measures, the Return on Assets (ROA) fosters a better view of the fundamentals of the business, including asset utilization (Hagel, Brown & Davison, 2010). Moreover, ROA is most useful for comparing companies in the same industry, as different industries use assets differently. Other accounting-based measures do not seem as suitable as the ROA for this study. Return on sales, for instance, is more of a measure for operational efficiency and the return on investment is a performance measure used to evaluate the efficiency of an investment. Both measures are not in line with the aim of this study. The return on equity is a financial performance measure as well, but setting net income off against shareholder's equity. Not all companies in the sample have shareholders, which makes this measure unusable in this specific case. This research will therefore use the ROA as a measure of organizational performance.

### 3.2.2 Estimated lobbying costs

Lobbying expenditures are a crucial figure and a signal of the relative importance of political action in a cross-section of firms. Although lobbying expenditures is a key variable, they are not the only figure which matter (Brasher & Lowery, 2006). The lobby budget which is declared by an organization within the EU transparency register covers both direct and indirect costs. According to the official guidelines estimates include staff costs, office and administrative

expenses, in-house operational expenditures, representation costs, outsourced activity costs, memberships and related fees and other relevant costs (JTRS, 2015). These expenditures are either reported as an absolute number, or as an estimate with a certain margin.

### 3.2.3 Meetings with the European Commission

Since 1 December 2014, the European Commissioners and their closest advisors publish their meetings with lobbyists. Although a registrant may well have had other lobby meetings with lower-level officials in the Commission, the published data covers elite officials only. Despite this deficiency, in the view of LobbyFacts, whether or not a registrant has met with the elite official of the Commission, is one good indicator of lobby influence in Brussels.

### 3.2.4 FullTime Equivalent of people involved

FullTime Equivalent (FTE) is a standard accounting unit used to measure the number of persons working in areas covered by the register. It is the average number of hours worked by a given employee as a fraction of the average number of hours worked by a full-time employee. So, one FTE corresponds to one full-time employee (JTRS, 2015). The figure for the total number of fulltime equivalent (FTE) lobbyists is a self-declared figure which means that it may be subject to over- or underreporting.

### 3.2.5 Political distance

Finally, differences in the political systems amongst countries is measured by the degree of democracy (Beck, Clarke, Groff, Keefer & Walsh, 2001; Henisz, 2000). Dow and Karunaratna (2006) their dimension of the degree of democracy is measured using four scales, namely the difference in the (1) POLCON scale (2) Modified POLITY IV scale (3) Freedom House Political Rights scale (4) and the Freedom House Civil Liberties scale. The POLCON scale is a scale measuring the degree of political constraint within a country. Goerzen and Beamish (2003) used POLCON as one of their indicators of psychic distance as well. The POLITY IV instrument is a widely respected measure of democracy and autocracy (Gleditsch, 2003). The latter two democracy variables come from Freedom House (2000). The selected indicators respectively represent differences between countries in the political rights and civil liberties across nations. These are all measured between country x and country y, meaning that they represent a relative value instead of an absolute one. These four indicators of democracy have been reduced to one single factor, by utilization of confirmatory factor analysis. In order to make the relative number comparable between the different European countries, country x will serve as an anchor. For this study, Belgium is the anchor, as this study focuses on lobbying practices in Brussels.

### 3.3 Control variables

#### 3.3.1 Firm size

To control for the multidimensional influence of firm size, the natural log of the book value of total assets is utilized as a proxy for firm size. Firm size has been found to be of influence for the assessment of organizational performance (Drope & Hansen, 2006). Moreover, Kerr, Lincoln and Mishra (2011) demonstrated that lobbying is strongly associated with firm size and Hansen and Mitchell (2000) and Brasher and Lowery (2006) have shown that firm size is an important determinant of lobbying. Controlling for firm size is common in studies explaining performance in the context of lobbying (Chen et al., 2015; Mathur, Singh, 2011).

#### 3.3.2 Industry characteristics

The agricultural industry includes businesses that both directly and indirectly benefit from agricultural activities. This means that they either produce agricultural commodities or provide goods and/or services to firms in the agricultural industry. The main difference between manufacturing and servicing firms is the tangibility of their output. In order to make a distinction between sub-industries within the agricultural industry, so-called NACE codes will be utilised. NACE is the industry standard classification system used in the European Union. NACE codes are assigned by the European Union and its member states to a certain class of economic activities.

A complete list of all NACE codes utilized for this research and their coding as either servicing or manufacturing can be found in table 1.

<b>NACE code</b>	<b>Activity</b>	<b>Servicing / Manufacturing</b>
0111	Cultivation of grains	Manufacturing
0114	Cultivation of sugar cane	Manufacturing
0128	Cultivation of spice crops	Manufacturing
0142	Breeding of cattle and buffaloes	Manufacturing
0161	Support activities related to cultivation of crops	Manufacturing
0164	Seed treatment of nurseries for propagation	Manufacturing
0210	Forestry	Manufacturing
0220	Exploitation of forests	Manufacturing
0610	Extraction of petroleum	Manufacturing
0729	Extraction of other non-ferrous metal ores	Manufacturing

0812	Extraction of sand, gravel, clay and kaolin	Manufacturing
0892	Extraction of peat	Manufacturing
0899	Extraction of other minerals	Manufacturing
0910	Support activities related to oil and gas extraction	Manufacturing
1012	Processing and preservation of poultry	Manufacturing
1013	Manufacture of meat or poultry products	Manufacturing
1020	Manufacture and preservation of fish, crustaceans and molluscs	Manufacturing
1031	Manufacture and preservation of potatoes	Manufacturing
1051	Dairies and cheese factories	Manufacturing
1061	Manufacture of milling products	Manufacturing
1081	Manufacture of sugar	Manufacturing
1086	Manufacture of homogenised food preparations and dietetic foods	Manufacturing
1089	Manufacture of other foodstuffs	Manufacturing
1091	Manufacture of animal feed	Manufacturing
1101	Manufacture of spirits by distilling, rectifying and mixing	Manufacturing
1102	Manufacture of wine from grapes	Manufacturing
1105	Manufacture of beer	Manufacturing
1107	Manufacture of soft drinks; production of mineral water and other bottled water	Manufacturing
1200	Manufacture of tobacco products	Manufacturing
1711	Manufacture of pulp	Manufacturing
1812	Other printing	Manufacturing
2010	Manufacture of industrial gases	Manufacturing
2014	Manufacture of non-potable ethyl alcohol by fermentation	Manufacturing
2015	Manufacture of fertilizers and nitrogen compounds	Manufacturing
2016	Manufacture of plastics in primary forms	Manufacturing
2050	Manufacture of powder and explosives	Manufacturing
2059	Manufacture of other chemical products	Manufacturing
2060	Manufacture of man-made fibers	Manufacturing
2110	Manufacture of pharmaceutical raw materials	Manufacturing

2120	Manufacture of pharmaceutical products	Manufacturing
2630	Manufacture of communication equipment	Manufacturing
2651	Manufacture of measurement, control and navigation devices and equipment	Manufacturing
2711	Manufacture of electric motors and of electric generators and transformers	Manufacturing
2712	Manufacture of switching and distribution devices	Manufacturing
2830	Manufacture of machinery and equipment for agriculture and forestry	Manufacturing
3311	Repair of metal products	Manufacturing
3313	Repair of electronic and optical equipment	Manufacturing
3511	Electricity production	Manufacturing
3600	Extraction, treatment and distribution of water	Manufacturing
3832	Recovery of sorted material	Manufacturing
4249	Miscellaneous nondurable goods merchant wholesalers	Manufacturing
4312	Bouwrijp maken van terreinen	Manufacturing
4339	Other work related to the finishing of buildings	Manufacturing
4612	Commercial brokerage in fuels, ores, metals and chemical products	Manufacturing
4613	Trade mediation in wood and building materials	Manufacturing
4621	Wholesale of raw vegetable and animal oils and fats and oil-based raw materials	Manufacturing
4623	Wholesale of livestock	Manufacturing
4631	Wholesale of fruit and vegetables and ware potatoes	Manufacturing
4632	Wholesale of meat and meat products	Manufacturing
4633	Wholesale of dairy products, eggs and food oils and fats	Manufacturing
4634	Wholesale of beverages	Manufacturing
4636	Wholesale of sugar, chocolate and confectionery	Manufacturing
4638	Wholesale of other foodstuffs, including fish, crustaceans and molluscs	Manufacturing
4639	Non-specialized wholesale of food, beverages and tobacco	Manufacturing

4661	Wholesale of machinery, tools and accessories for agriculture	Manufacturing
4663	Wholesale of machines for mining, construction and road and hydraulic engineering	Manufacturing
4672	Wholesale of metal and metal ores	Manufacturing
4675	Wholesale of chemical products	Manufacturing
4690	Non-specialized wholesale	Manufacturing
4711	Retail trade in non-specialized stores where food and beverages predominate	Manufacturing
4719	Other retail sales in non-specialized stores	Manufacturing
4720	Retail	Manufacturing
4725	Retail sale of beverages in specialized stores	Manufacturing
4778	Retail sale of optical items	Manufacturing
5510	Hotels and similar accommodation	Manufacturing
5610	Restaurants and mobile eateries	Manufacturing
5814	Publishing of magazines	Manufacturing
5819	Other publishing houses	Manufacturing
5829	Other publishing houses of software	Manufacturing
6200	Information Technology	Servicing
6201	Writing computer programs	Servicing
6399	Other service activities in the field of information	Servicing
6419	Other money-creating financial institutions	Servicing
6420	Holdings	Servicing
6500	Financial services	Servicing
6611	Management of financial markets	Servicing
6629	Other services related to insurance and pension funds	Servicing
7010	Activities of head offices	Servicing
7022	Other consultancy in the field of business management	Servicing
7112	Technical design and consultancy firms for civil and non-residential construction	Servicing
7211	Research and development work in the biotechnological field	Servicing

7219	Other research and development work in the natural sciences	Servicing
7320	Market and opinion research offices	Servicing
7490	Other professional, scientific and technical activities	Servicing
7740	Lease of intellectual property and similar products	Servicing
8299	Auctions of furniture, art, antiques, machinery and similar movable goods	Servicing
9319	Supporters associations	Servicing
9601	Laundries and senders	Servicing
9609	Other personal services	Servicing

*Table 1: NACE codes*

### 3.4 Method of data collection

The amount of meetings with the European Commission are emanated from the LobbyFacts database. LobbyFacts gathers data from both the European transparency register and the Commission's published lists of its high-level meetings. These concern lobby meetings with commissioners, their cabinet members and directors-general. These meetings are thus extracted from the Commission's website, but due to perks with respect to user-friendliness of LobbyFacts relative to the transparency register, data is gathered here.

Orbis, as mentioned earlier as well, serves as a main source of data for this study. From Orbis, data with respect to both the ROA and the NACE codes is retrieved. With respect to these NACE codes, these consist of 4 levels, ranging from general to specific. The Dutch tax authorities has a table which lists each of the NACE codes and their associated. This table serves as point of departure for the assessment of the industry. A company may have multiple NACE codes, as they operate in multiple areas, but Orbis lists the NACE code of their core operations. The natural log of the book value can also be calculated from the ROA. For this study, all data will be gathered for the year of 2017, with is due to availability reasons with respect to lobbying data.

Finally, the degree of democracy are extracted from the study by Dow and Karunaratna (2006).

### 3.5 Method of data analysis

In line with the argumentation of Mahoney (2007), this research aims to divulge the relationship between lobbying and performance in a quantitative manner. More specifically, the relationship between lobbying characteristics and performance will be elicited by means of a multiple



regression analysis including an interaction term with the political system. A multiple regression analysis is used to fit a linear model to our data in order to predict values of a dependent variable (Field, 2013, p. 298). It is a statistical procedure to estimate relationships among variables. Regression analysis is by far the most widely used and versatile and powerful analytical tool which is designed to explore all types of dependence relationships. The technique is used to divulge the relationship between a single dependent variable and several independent variables (Hair, Black, Babin, Anderson & Tatham, 2014, p. 151). A multiple regression analysis is used to predict a continuous dependent variable based on multiple independent variables and as such is an extension of the simple linear regression. The technique allows the determination of the overall fit of the model and the relative contribution of each of the predictors to the total variance explained. Note, however, that these relations are not necessarily causal. A correlation is found instead of a causal relationship, which complicates the interpretative process. Armstrong (2011) warns that a regression analysis often leads to this false illusion.

The necessary starting point of a regression analysis, like in any multivariate statistical technique, is the research problem. With the broad applicability of multiple regression, the technique may be used for multiple purposes. The main distinction between these purposes which is often made is either 'prediction' or 'explanation'. These roughly correspond to two differing goals in research: being able to make valid projections concerning an outcome for a particular individual (prediction), or attempting to understand a phenomenon by examining a variable's correlation on a group level (explanation) (Osborne, 2000, p. 1). Note, however, that these purposes are not mutually exclusive. This study is executed based on explanatory purposes, thereby exploring relationships between multiple variables in order to shed light on the phenomenon by considering both the collective and the individual contribution of the independent variables to the variate and its predictions. This does not, however, mean that the predictive purpose should be neglected whatsoever. In all instances, predictive accuracy is always crucial to ensuring the validity of the set of independent variables (Hair et al., 2014, p. 165).

In order to perform a successful multiple regression analysis, it is of vital importance to have exactly one dependent variable and at least two independent variables, which are all measured on a metric scale. Given that both very basic requirements are met, the conclusion follows that the study design suits the data. Other assumptions relate to how the data fits the regression model. These include (1) independence of residuals, (2) a linear relationship between the

independent and dependent variables both individually and collectively, (3) equal error variances, (4) no multicollinearity, (5) no significant outliers, high leverage points or highly influential points and finally (6) the residuals should be approximately normally distributed (Berry, 1993). All of these assumptions will be elaborated upon in the results section. Once again, as mentioned above, given the explanatory purposes of this study, this study aims to assess the variation in the dependent variables which can be explained by the independent variables. Besides, this study aims to determine the relative contribution of each independent variable to the explanation of variance.

Carrying out a multiple regression analysis is a rather straightforward procedure. However, sometimes adjustments must be made to take the type of data into account which is being analysed. At first, all of the six assumptions should be tested for. The first assumption, independence of residuals, is designed to test for first-order autocorrelation. Autocorrelation means that the errors of adjacent observations are correlated. In order to run a successful regression analysis, autocorrelation may not occur. Such independence of observations will be checked using the Durbin-Watson statistic.

After assessing independence of observations, the assumption of linearity should be tested. This assumption includes two parts; (1) establishing a linear relationship between independent and dependent variables collectively and (2) establishing a linear relationship between the dependent and each of the independent variables individually. The first part of the assumption is tested by plotting a scatterplot of studentized residuals against the unstudentized predicted values. The second part of the assumption is tested by using partial regression plots between each independent and dependent variable.

The next assumption, that of homoscedasticity (constant variance of errors), can also be tested by using the plot of studentized residuals against the unstudentized predicted values. If this assumption is violated, a weighted least square regression will be run.

Thereafter, multicollinearity should be assessed. Multicollinearity occurs when any single independent variable is highly correlated with a set of other independent variables. Multicollinearity leads to problems with understanding which independent variable actually contributes to the variance explained in the dependent variable, as well as technical problems with respect to calculations within the regression model. In order to detect multicollinearity, an inspection of correlation coefficients and tolerance/VIF values will be carried out.

Then, detection of unusual points will take place. Outliers, leverage points and influential points are different terms used to represent observations in the data set that are in some way unusual when performing a multiple regression analysis. All of these points can, however, have a very negative effect on the regression equation which is used to predict the value of the dependent variable. Inclusion of such points reduce the predictive accuracy and negatively influence the statistical significance. Outliers will be detected using case wise diagnostics and studentized deleted residuals. Checking for leverage points will be done by looking at the 'Leverage value'. The influential points will be checked by using a measure of influence known as 'Cook's Distance'. Note that it is important to analyse unusual points collectively and that decisions concerning the correction for such unusual points should be made jointly.

In order to be able to run inferential statistics, the residuals needs to be normally distributed. In order to check for normality, a normal Q-Q Plot of the studentized residuals will be made. Moreover, the histogram with superimposed normal curve will also serve as point of departure for the assessment of normality.

Note that the process of checking all the assumptions is iterative. When a particular assumption is being violated, it may be necessary to transform the data, re-run the multiple regression procedure and re-test all the earlier tested assumptions again.

### 3.6 Research ethics & integrity

Research ethics is a world-wide set of principles governing the way any research involving interaction between researcher and other humans or human tissue or data relating humans is designed, managed and conducted. Because research exercises considerable power at the level of individuals, society and global development, it is essential that research is undertaken in ways that are ethically sound. The objective of research ethics is twofold. Firstly, the protection of human participants is a crucial aspect. Secondly, it must be ensured that research is conducted in a way that serves interests of individuals, groups and the society as a whole.

Researchers concern themselves with the issues engaging their interest in a more serious and self-reflective manner than is normally the case when we are conducting an investigation designed to cast light on some more mundane state of affairs. It is therefore imperative to reflect carefully on the implications of the research and on the findings of this study. Besides, limitations should carefully be stressed as well. Naturally, this study is also subject to several shortcomings. These are extensively discussed in the results section of this study.

Further, this research has gathered data on the basis of open sources, mainly Orbis and the transparency register. This implies that in the process of data collection no harm is done to any individual whatsoever. The utilization and application of data gathered with these open sources does not automatically imply that ethical behaviour is ensured. Individuals or institutions may not be aware of the existence of the transparency register and can be pointed to the existence as a consequence of this study. This gives ethics a completely new dimension, as lobbying itself is subject to some discussion whether the practice itself is ethical at all (Hamilton & Hoch, 1997). Although this research has crossed no boundaries when gathering data, it may thus create additional awareness among readers. Such awareness may result into resistance against companies whom are active in lobbying. Yet, this study has no intention whatsoever to harm any company and therefore would like to stress once again that these companies truly provide practical and pragmatic information which legislators require to make well-informed judgements and decisions.

Next to research ethics, it is essential to behave in an integer manner. An increased attention has been paid to the issue of research integrity in recent years. Research integrity is concerned with conducting research in a way which allows others to have trust and confidence in the methods used and the findings that result from this. Values of objectivity, honesty, openness, accountability and stewardship underlie the effective functioning of research. In order to yield trust in the practice and findings of this research, each of the steps of data collection and analysis are voluminously elucidated. Researchers who wish to repeat this study, should quite easily be able to gather the exact same dataset and output, as the steps are exemplified in detail. This study has made use of honest and verifiable methods in proposing, performing and evaluating research. Not only with respect to the data, but also regarding the theoretical foundation. Within this study, I have taken my role as researcher seriously, thereby trying to be attentive to making assumptions. All of the statements in this research have a theoretical support with corresponding reference to other studies. The extensive use of arguments and references is supposed to provide the reader with my line of reasoning which again is verifiable due to the references. Although most of the research can be validated, the restraints with respect to the validity of the study deserves at least the same amount of attention. It should be stressed that the transparency register does not yet function in optima forma. Although the register allows for public scrutiny, it is not a mandatory register which implies that relevant data may not be made accessible within the register. Moreover, the current voluntary register highlights dodgy data, underreported spending, missing entries and a lack of enforcement. These flaws have reduced over the past

years, but have not vanished completely. Interpretation of the results thus require a certain amount of care, given the imperfection of the database. Such care is also covered within the discussion part of this study.

## 4. Results

This section will discuss both the descriptive and inferential statistics of this study.

### 4.1 General descriptive statistics

As was mentioned earlier as well, this study has made use of the transparency register to gather the entire sample. At first, the whole sample size consisted of a total of 288 companies. These companies were all registered in the transparency register as companies who were active in lobbying within the agricultural sector. From this sample, 187 firms were used as the total sample size for this study, due to availability of data with respect to the performance measure. All of these companies have their headquarter in European countries. The database is very diversified, encompassing corporations from Finland and Romania to Italy and the United Kingdom. Not only is it a diversified set of companies with respect to geographical spread, but also regarding their core operations. The database includes wholesalers, but also corporations focussed on R&D work in the biotechnological field. They also differ considerably in size, with the biggest company having a book value of €955,675,058,000.- and the smallest company a book value of only €54,906.-. They also differ along the intensity of lobbying characteristics. This database thus represents a set of companies who vary along multiple variables, but share the commonality of operating within the agricultural sector. In total, the agricultural sector has had 531 (registered) meetings with elite officials of the European Commission during 2017. Almost 360 FullTime Equivalents have been busy with the lobbying, thereby making total estimated expenditures of €44,335,400.-. In table 2, a summary of the data can be found specified for particular countries.

<b>Country</b>	<b>n</b>	<b>FTE's</b>	<b>Meetings EC</b>	<b>Costs in €</b>	<b>Average cost</b>
Austria	6	5.25	5	767,500	127,916
Belgium	12	13	33	2,852,500	237,708
Bulgaria	1	7.25	0	150,000	150,000
Croatia	1	1.5	0	150,000	150,000
Czech Rep.	2	0.5	0	10,000	5,000
Denmark	5	7.25	27	1,030,000	206,000
Estonia	1	0.25	0	5,000	5,000
Finland	6	11.75	67	730,000	121,667
France	32	44.5	95	6,069,000	189,656

Germany	20	67	97	13,519,000	675,950
Greece	1	3.5	0	150,000	150,000
Hungary	3	3.75	4	450,000	150,000
Ireland	7	10.25	19	1,285,000	183,571
Italy	21	41.5	42	2,470,000	117,619
Lithuania	1	0.5	1	5,000	5,000
Luxembourg	2	7.25	20	325,000	162,500
The Netherlands	17	24.25	48	3,850,000	226,471
Poland	2	3.5	0	355,000	177,500
Portugal	6	5.75	5	257,500	42,917
Romania	3	3.25	0	305,000	101,667
Slovakia	1	4.75	0	5,000	5,000
Slovenia	1	0.5	0	5,000	5,000
Spain	8	37.5	13	1,557,900	194,738
Sweden	3	2	6	360,000	120,000
United Kingdom	25	56.75	49	7,672,000	306,880
<b>Total</b>	<b>187</b>	<b>358.25</b>	<b>531</b>	<b>44,335,400</b>	<b>237,088</b>

*Table 2: Lobbying per country*

From this table can be drawn that in terms of expenses, the UK, Germany and France are leading in a nominal sense. The same holds for the amount of meetings, with The Netherlands and Italy closely following. In nominal terms, France has the most registered corporations. The hours of work put into it, according to the dataset, is topped by the UK. It can be affirmed that the lobbying scene is being dominated by the larger European economies such as France, Italy, Germany and the UK. Bulgaria, Croatia, Slovakia and other eastern European countries are underrepresented in the dataset. This inference may be relevant when drawing conclusions from the analysis. When looking at the average spending per corporation per country, it is noted that German corporations spend substantially more than any country on lobbying. French firms, who have a high expenditures in a nominal sense, spend less than average per corporation. The British companies still spend above average, but do not dominate in a relative sense.

#### 4.2 Assumptions

When analysing your data running a multiple regression analysis, a critical part of the process involves checking that the data can actually be analysed using a multiple regression. You need

to do this because it is only possible to make generalizations using multiple regression if your data passes these necessary assumptions. Note that before deciding how to cope with eventual violations of assumptions, all other assumptions will be tested first. This is due to the fact that the choice of options is also dependent upon other outcomes of assumptions, particularly the assumption of homoscedasticity (Field, 2013). Violation of the assumptions requires to make corrections and re-test the assumptions. All of the assumptions will be elaborated upon below. Assumptions will not only be tested for the variate itself, but also for each bivariate relationship.

As was mentioned earlier, the first two assumptions of a multiple regression relate to your study design: having a continuous dependent variable and having multiple independent variables. These first assumptions are already met and will for sure not cause in problems in the utilization of a multiple regression.

#### 4.2.1 Linearity

The linearity of the relationship represents the degree to which the change in the dependent variable is associated with the independent variables. Linearity of any bivariate relation can easily be examined using residual plots and establishing a linear relationship for the variate as a whole is assessed by a scatterplot which plots studentized residuals against unstandardized predicted values (Field, 2013, p. 192) (Appendix 1A). By examining the scatterplot of standardized residuals (SRE) against unstandardized predicted values (PRE), linearity can be assessed. The dots should be symmetrically distributed around the horizontal line with a roughly constant variance (Norušis, 2006, p. 507). Visual inspection indicates that the assumption of linearity was met for the variate as a whole, as the residuals form a horizontal band having a slight negative inclination.

Each partial regression plot between each independent and dependent variable (ignoring the categorical variables ‘meetings with the European Commission’ and ‘Industry characteristics’) is displayed in appendix 1B. A visual inspection of these partial regression plots does not indicate a violation of the assumption of linearity, although the slope coefficients do not seem to have a strong direction.

#### 4.2.2 Homoscedasticity

The assumption of homoscedasticity is that the residuals are equal for all values of the predicted dependent variable. Checking for heteroscedasticity is done by plotting the studentized residuals (SRE) against the unstandardized predicted values (PRE) resulting in the scatterplot in Appendix 2. Note that this scatterplot is identical to the one used for assessing linearity, but



the analysis differs. Homoscedasticity is indicated when the spread of the residuals will not increase or decrease as you move across the predicted values (i.e. the points of the plot above will exhibit no pattern and will be approximately constantly spread). If the assumption of homoscedasticity is violated, it is difficult to gauge the true standard deviation of the forecast errors, resulting in confidence intervals which are either too wide or too narrow. Now, given that residuals do not seem to funnel out in any way, it is concluded that the assumption of homoscedasticity is not being violated.

#### 4.2.3 Multicollinearity

Multicollinearity is a situation in which two or more variables are very closely linearly related. Problems with respect to multicollinearity arise when the Variation Inflation Factor (VIF) is greater than 10 (Cohen, West & Aiken, 2014). The VIF provides an index which measures how much the variance of an estimated regression coefficient is increased due to collinearity. The VIF thus indicates whether a predictor has a strong linear relationship with other predictors. As can be seen in Appendix 3A, the VIF-values do not exceed the maximum value of 10 (highest is 2.081), the assumption of multicollinearity is met. Another method to assess multicollinearity is by looking at the correlation table (appendix 3B). None of the independent variables should have a correlation  $> 0.7$ , which is the case in this study.

#### 4.2.4 Independence of error terms

Within regression, it is assumed that each predicted value is independent, meaning that the predicted value is not related to any other prediction. I.e. they are not sequenced by any variable (Hair et al., 2014, p. 181). A large part of the rationale for testing independence of observations is the study design. Within this study design, it seems highly unlikely that observations will be related due to the absence of time differences while measuring. Still, in order to test for non-times-series violations of independence, the plots of residuals versus independent variables should be looked at (Appendix 1A). The residuals should be randomly and symmetrically distributed around zero. Given that the plot meets the requirements, the conclusion follows that exists independence of residuals. Another method to assess independence of error terms is to look at the Durbin-Watson statistic. The Durbin-Watson statistic is a test for serial correlations between errors in regression models and tests whether adjacent residuals are correlated. The test can vary between values from 0 to 4, with a value of 2 meaning that the residuals are uncorrelated (Field, 2013, p. 311). As can be seen in Appendix 4, the Durbin-Watson value of 2.051 strongly supports the assumption of independence of residuals.

#### 4.2.5 Unusual points

There may be certain data points that are classified as unusual from the perspective of fitting the multiple regression model. Such data points are generally detrimental to both the fit or statistical inference of the regression equation. Unusual points are being divided into outliers, high leverage points and highly influential points. Each of these will be considered below.

##### *Outliers*

An outlier is a data point that does not follow the usual pattern of points. According to Field (2013, p. 165), outliers are cases where the observed value of the dependent variable is very different to its predicted value. Cohen et al. (2014) state that when the studentized deleted residuals (SDR) are greater than  $\pm 3$  standard deviations, they can be classified as outliers. Looking at these values, we see several cases which exceed this threshold:

ViroVet NV

GLOBAL BIOENERGIES

DeHavilland Information Services Limited

Kellogg Company

EchoStar Mobile Limited

Aviagen EPI

##### *Leverage points*

Leverage points are observations that are distinct from the remaining observations based on their independent variable values (Hair et al., 2014, p. 191). Looking at LEV\_1, which stores the leverage values for each case, it is made visible that the highest leverage value is 0.455 by Viro tvornica secera. Given that leverage values above 0.50 are considered to be dangerous, there is no particular reason to take corrective action.

##### *Highly influential points*

An influential observation is an observation for a statistical calculation whose deletion from the dataset would noticeably change the result of the calculation (Everitt, 1995). Cook's distance is a commonly used estimate of the influence of a data point in regression analysis (Mendenhall, Sincich & Boudreau, 1996). A simple operational guideline of a Cook's value  $>1$  is suggested as a suitable cut-off value (Bollen & Jackman, 1985). By looking at the values of COO\_1, it is found that the highest value for Cook's Distance is 0.462 by Viro tvornica secera, which means that there is no need for corrective action.

Now, after checking the six outliers mentioned above, it is noted that these six cases show exceptional values in its combination of characteristics. However, they seem ordinary in their individual observations. These cases depict observations which lack reasons for deletion and should be retained within the regression model (Hair et al, 2014, p. 192). It is, however, examined whether the enforced assumptions still hold in the case of deletion of the outliers. This can be confirmed.

#### 4.2.6 Normality

One of the least important assumptions in regression, is the assumption of normality (Weisberg, 2005). The misconception that people often have is that the data themselves should be normally distributed. This is, however, not what this assumption is about. It is assumed that the residuals in the model are random, normally distributed variables with a mean of zero (Field, 2013, p. 311). Normality can be assumed regardless of the shape of the sample data, due to the central limit theorem (Lumley, Diehr, Emerson & Chen, 2002). However, in order to test for normality, a Normal Q-Q Plot of the studentized residuals is plotted (Appendix 5). As can be seen in the plot, the points are approximately aligned along the diagonal line. Even though the distribution is somewhat peaked, these results are acceptable as multiple regression analysis is fairly robust against deviations from normality.

#### 4.3 Interpreting results

Now that it is assured that the data meets all the assumptions of a multiple regression, the next step within the process is to interpret the results. The interpretation is divided into three distinct parts: (1) determine whether the multiple regression model is good fit for the data; (2) understand the coefficients of the regression model; (3) and finally make predictions of the dependent variable based on values of the independent variables. These will be elaborated upon below.

##### 4.3.1 Determining model fit

There are a number of measures which can be used to determine the fit of the multiple regression model. These are (1) the multiple correlation coefficient; (2) the proportion of variance explained; and (3) the statistical significance of the overall model. These will be elaborated upon below.

##### *Multiple correlation coefficient*

The multiple correlation coefficient, abbreviated as R, is simply the correlation coefficient between the scores predicted by the regression model and the actual values of the dependent

variable. This value ranges from 0 to 1, with a value of 1 indicating a perfect linear association. Within this research,  $R$  equals 0.288 (Appendix 4). However,  $R$  is not a common measure used to assess goodness of fit. A more popular method is the coefficient of determination ( $R^2$  and adjusted  $R^2$ ).

#### *Total variation explained*

The coefficient of determination, more commonly known as  $R^2$ , is a measure of the proportion of variance in the dependent variable that is explained by the independent variables. As can be seen in appendix 4,  $R^2$  equals 0.083. This means that the addition of all the independent variables explained 8.3% of the variability of the ROA of the companies within the sample (compared to the mean model).  $R^2$ , however, is based on the sample and is considered a positively-biased estimate of the proportion of the variance accounted for by the regression model. Even though this criticism, it is still considered to be a good measure to understanding your results (Draper & Smith, 2014). That said, the adjusted  $R^2$  value corrects for this positive bias and provides a value that would be expected within the population instead of the sample. The adjusted  $R^2$  can also be found in appendix 4, having a value of 0.047. This value is also an estimate of the effect size, which at 4.7%, is indicative of a small effect size according to Cohen's (1988) classification. Although it was anticipated that this number would be low, it is lower than I had expected. It was already expected that the adjusted  $R^2$  would be a rather low number, because organizational performance (measured by ROA) is such a broad dependent variable which is influenced by many more aspects than firm size and lobbying alone. By adding both industry characteristics and firm size as control variables, the aim was to drastically increase the total variation explained. When looking at the coefficient of determination, adding (useless) variables would increase this number, but the adjusted  $R^2$  includes a discount for the number of variables, thereby preventing useless overfitting of the model.

#### *Statistical significance of the model*

The statistical significance of the overall model is presented in appendix 6. From this table, it can be extracted that the "Sig" value equals 0.028, which actually means that  $p < .05$  thereby confirming a statistical significant result. This means that addition of all our independent variables leads to a model that is both statistically significantly better at predicting the dependent variable than the mean model and is a statistically significantly better fit to the data than the mean model. The null hypothesis of this test is that the multiple correlation coefficient,  $R$ , equals zero. Given that this null hypothesis is rejected, a logical deduction is that at least one

regression coefficient is statistically significantly different from zero. Hence, the independent variables significantly predicted the ROA ,  $F(7,179) = 2.315$ ,  $p < .05$ . This finding is in line with the expectations of this research. The theoretical foundation of the research served as basis to derive this expectation. However, it is only found that at least one of the regression coefficients is different from zero. This could also imply that one of them has a significant positive relationship with ROA, rather than a negative one. This would be contrary to the initial expectations.

#### 4.3.2 Interpreting the coefficients

Before the final interpretation of the coefficients of the full model, it is interesting to look at the model without inclusion of any independent variable. Then, each hypothesis will be tested individually and finally multiple hypotheses will be included simultaneously. This allows for better insight into the dynamics of the findings.

Variable	$B$	$SE_B$	$\beta$	p-value
Intercept	-10.323	6.338		.105
Firm_Size	.534	.309	.127	.085
Manufacturing	4.030	2.537	.116	.114

Table 3: Bare model

**Note.** \*  $p < .05$ ;  $B$  = unstandardized regression coefficient;  $SE_B$  = Standard error of the coefficient;  $\beta$  = standardized coefficient

From this bare model, it can be noted that both slope coefficients for the control variables are positive, although not significantly different from zero. When utilizing this model, 2.3% of the total variance in the dependent variable is being explained (Appendix 7A).

Variable	$B$	$SE_B$	$\beta$	p-value
Intercept	-8.840	8.011		.271
Log_Costs	-.472	1.553	-.025	.762
Firm_Size	.579	.343	.137	.093
Manufacturing	3.913	2.572	.113	.130

Table 4: Including lobbying costs

**Note.** \*  $p < .05$ ;  $B$  = unstandardized regression coefficient;  $SE_B$  = Standard error of the coefficient;  $\beta$  = standardized coefficient

Adding lobbying costs to this model, reduces the total variance which is explained for in the dependent variable to 1.8%. On its own, lobbying costs thus does not add to the model, displaying a slightly negative coefficient slope which is far from being significantly different from zero (Appendix 7B).

Variable	$B$	$SE_B$	$\beta$	p-value
Intercept	-9.683	8.341		.247
Log_Costs	-.467	1.556	-.024	.765
Dem_F	3.545	9.489	.028	.709
Firm_Size	.599	.347	.142	.086
Manufacturing	3.928	2.578	.113	.129

*Table 5: Including political distance*

**Note.** \*  $p < .05$ ;  $B$  = unstandardized regression coefficient;  $SE_B$  = Standard error of the coefficient;  $\beta$  = standardized coefficient

Political distance in itself is not considered to be an independent variable in this research. Adding it to the model is required to examine the interaction effect. Adding the political distance to the model further decreases the total variance in the dependent variable explained to only 1.3% (Appendix 7C).

Variable	$B$	$SE_B$	$\beta$	p-value
Intercept	-6.667	10.186	.	.514
Log_Costs	-1.011	1.880	-.053	.592
Dem_F	1.251	10.490	.010	.905
Costs_x_Pol	1.519E-5	.000	.051	.605
Firm_Size	.577	.351	.137	.101
Manufacturing	3.877	2.585	.112	.135

*Table 6: Including interaction effect*

**Note.** \*  $p < .05$ ;  $B$  = unstandardized regression coefficient;  $SE_B$  = Standard error of the coefficient;  $\beta$  = standardized coefficient

Inclusion of the interaction term does again reduce the total variance which is explained for in the dependent variable to 0.9%. R-square, however, increases with 0.1%. This increase in the coefficient of determination is not significantly different from zero, having a p-value of 0.605 (Appendix 7C). Even though the interaction term is insignificant, it will still be included within

the multiple regression model. The rationale for this is that the interaction term has theoretical importance (Aiken, West & Reno, 1991).

Variable	$B$	$SE_B$	$\beta$	p-value
Intercept	-8.757	6.323		.168
FTE	-.644	.306	-.154	.037*
Firm_Size	.554	.306	.131	.072
Manufacturing	3.092	2.552	.089	.227

*Table 7: Including FullTime Equivalents*

**Note.** \*  $p < .05$ ;  $B$  = unstandardized regression coefficient;  $SE_B$  = Standard error of the coefficient;  $\beta$  = standardized coefficient

When solely looking at the effect of FTE on the ROA controlled for both firm size and industry characteristics, a statistically significant relationship is found. This means that the slope coefficient, which is -.644, is statistically different from zero. Moreover, with the inclusion of FTE in the model the total variance which is explained for in the dependent variable increased from 2.3% (bare model) to 4.1%.

Variable	$B$	$SE_B$	$\beta$	p-value
Intercept	-13.202	6.673		.049*
EC_Dum	-3.230	2.390	-.110	.178
Firm_Size	.746	.345	.177	.032*
Manufacturing	4.122	2.532	.119	.105

*Table 8: Including meetings with the European Commission*

**Note.** \*  $p < .05$ ;  $B$  = unstandardized regression coefficient;  $SE_B$  = Standard error of the coefficient;  $\beta$  = standardized coefficient

With the exclusive inclusion of the meeting with the European Commission, the total variance which is explained for in the dependent variable increases from 2.3% (bare model) to 2.7% (Appendix 7E). The number of meetings with the Commission displays a negative slope coefficient of -3.230, which is not statistically significant different from zero. Both the intercept and firm size become statistically significant, both having p-values  $< .05$ . The significance of the intercept is not of much interest, as it does not have any real-world meaning.

From the models with partial inclusion of relevant variables, it seems that both the FullTime Equivalent and the amount of meetings with the European Commission add the most to the

explanatory power of the total variance in the dependent variable. These are therefore both included within another model, next to both control variables. The outcome of the analysis can be found in table 9 and Appendix 7F

Variable	$B$	$SE_B$	$\beta$	p-value
Intercept	-11.626	6.654		.082
FTE	-.643	.305	-.153	.037*
EC_Dum	-3.214	2.368	-.110	.176
Firm_Size	.765	.342	.181	.027*
Manufacturing	3.186	2.548	.092	.213

*Table 9: Including meetings with EC and FTE*

**Note.** \*  $p < .05$ ;  $B$  = unstandardized regression coefficient;  $SE_B$  = Standard error of the coefficient;  $\beta$  = standardized coefficient

When including both FTE and meetings with the Commission within a model, the total variance which is explained for in the dependent variable is 4.5%. This is more than is explained for in each individual model. Both variables have a negative slope coefficient, with FTE being deemed statistically significant. Firm size is also statistically significant in the model. In search for maximum explanatory power with respect to the variance within the dependent variable, a model consisting of FTE, Commission meetings and the interaction term is constructed. This models explains the most variance within the dependent variable possible with the variables utilized within this study. The findings are presented in table 10 and Appendix 7G.

Variable	$B$	$SE_B$	$\beta$	p-value
Intercept	-8.952	6.790		.189
FTE	-.940	.348	-.224	.008**
EC_Dum	-3.562	2.363	-.121	.134
Costs_x_Pol	4,462E-5	.000	.149	.082
Firm_Size	.620	.350	.147	.079
Manufacturing	3.034	2.535	.087	.233

*Table 10: Including meetings with EC, FTE and interaction.*

**Note.** \*\*  $p < .01$ ;  $B$  = unstandardized regression coefficient;  $SE_B$  = Standard error of the coefficient;  $\beta$  = standardized coefficient



Variable	$B$	$SE_B$	$\beta$	p-value
Intercept	-8.958	10.172		.380
Log_Costs	.405	1.907	.021	.832
Costs_x_Pol	4.825E-5	.000	.161	.120
FTE	-.997	.368	-.238	.007**
EC_Dum	-3.869	2.432	-.132	.113
Dem_F	-5.218	10.554	-.041	.622
Firm_Size	.559	.374	.132	.137
Manufacturing	3.062	2.562	.088	.234

Table 10: full model

**Note.** \*\*  $p < .01$ ;  $B$  = unstandardized regression coefficient;  $SE_B$  = Standard error of the coefficient;  $\beta$  = standardized coefficient

Table 10 (appendix 3A) allows us to interpret each of the coefficients of the regression equation. Firstly, the intercept (the constant) is usually not of much interest. It is the value of the dependent variable when all the values of the independent variables are held at zero. The value of the intercept usually does not have a real-world meaning either. Within this study, the intercept is not statistically significant (i.e.  $p > .05$ ), meaning that it is not different from zero. Of much greater interest are the slope coefficients. It is made visible that the coefficient for FTE equals -0.997. This value represents the change in the ROA for a one unit change in the independent variable. The slope coefficient is negative, meaning that an increase in FTE would result in a decrease of ROA and vice versa. The p-value equals .007; meaning that the slope coefficient is statistically significant. This means that the slope coefficient is statistically different from zero. This is in line with the expectations of the study. The same line of reasoning holds for the other continuous variables (Dem\_F, Firm size & Log\_Costs), although these variables do not have a statistically significant relationship, having slope coefficients of -5.218; .559 and .405 and p-values of .622; .137 and .832 respectively.

The ordinal variables, however, have different interpretations than continuous variables. The ordinal variables, EC\_Dum & Manufacturing, respectively show a slope coefficient of -3.869 and 3.062. This means that firms who have had encounters with the European Commission display a ROA of 3.869 less than firms who have not. Likewise, firms who perform manufacturing operations have a RAO of 3.062 higher than firms whose focus lies on servicing.

However, given that the p-values are .113 (EC\_Dum) and .234 (Manufacturing), it cannot be concluded that these slope coefficients are statistically different from zero.

Lastly, the interaction term shows a very marginal slope coefficient of  $4.825 \times 10^{-5}$  with a p-value of 0.120. Given that  $p > .05$  the conclusion follows that there is not sufficient evidence in the dataset to conclude that this effect occurs within the population.

On the basis of these findings, the hypotheses which were formulated in chapter two can be considered.

*H1: Lobbying costs are negative related to organizational performance.*

This cannot be accepted given the findings of this study. The unstandardized regression coefficient of the lobbying costs has a positive value of .405. Besides, this coefficient is far from being statistically significant, given the p-value of .832. The data does not give any reason to assume that lobbying costs are negatively related to organizational performance. The hypothesis is not accepted.

*H2: The negative relationship between lobbying costs and organizational performance is stronger for companies operating in countries who have bigger differences in political systems.*

The same line of reasoning holds for the second hypothesis. With a very marginal unstandardized regression coefficient which is insignificant, there is no logic in assuming that this hypothesis should be accepted.

The last two hypotheses can be discussed simultaneously, because they are antagonistic.

*H3: The degree of involvement is negatively related to organizational performance.*

*H4: The degree of involvement is positively related to organizational performance.*

The contrariety between these hypotheses is derived from a different theoretical rationalization. The degree of involvement has been operationalized as involvement both with respect to hours of work put into it and the amount of meetings with elite officials of the European Commission. Now the line of reasoning is such that the agency relationship between the lobbyist and the organization gives rise to agency slack which results in additional agency costs and a poorer performance (H3) and that increased interaction with European representatives fosters trust between both agents and decreases the agency costs from the relationship resulting in better performance (H4). The third hypothesis will therefore be assessed on the basis of FullTime

Equivalents where the fourth is determined based on the amount of meetings with the European Commission. Looking at the unstandardized regression coefficient of the FullTime Equivalent tells us that it has a slope of  $-.997$ . This negative slope is also deemed to be significant. On the basis of the data and the analysis which are used in this research, it can be concluded that the third hypothesis is accepted. The fourth hypothesis is far from being accepted. The slope also displays a negative relation with an unstandardized regression coefficient of  $-3.869$ , although not significant. The data does not support the hypothesis and it is therefore not accepted.

## 5. Discussion

The purpose of this research was to make sense of the inconclusive and ambiguous results with respect to the implications which lobbying brings along. There seems to be a lack of studies focusing on the quantitative aspects of lobbying, especially within Europe. In order to provide a deeper insight, this study focussed on the performance implications within the agricultural sector in Europe. From this followed the research question: *‘To what extent does lobbying impact organizational performance?’*. In the section below, the central results will be scrutinized. Besides, the implications of this study will be elaborated upon, both practically and theoretically.

### 5.1 Central results

As was demonstrated in the results section, statistical significance of the overall model is confirmed. This essentially means that the fit of the intercept-only model is significantly reduced compared to the specified model. The value of  $R^2$  is thus deemed significantly different from zero. Yet, assessing statistical significance of the overall model is highly dependent upon the sample size. With a growing sample size, the significance of the model is deemed to be significance due to an increase of power. Now, this study utilizes a sample of 187 units, which is not considered to be particularly high. Still, it is important to consider the practical significance of the model as well, which should be theory-driven. Now, given the risk of in-house lobbyists to act opportunistically and the difficulties with respect to auditing and monitoring of the behaviour of lobbyists, this theoretical support is ensured, finding its roots in the agency theory and the transaction cost theory.

Looking at the adjusted R-square learns us that the total explained variance in the dependent variable equals only 4.7%. Cohen (1988) considers this value as being small. Still, this relatively low value does not come as a surprise, as the dependent variable (ROA) is dependent upon many factors, with many of them not included within this model. Assessing performance implications still remains a challenging task (Bhagat & Bolton, 2008). Again, sample size also plays a role in anticipating the statistical power of a proposed analysis (Hair et al., 2014, p. 170). With the interpretation of the adjusted-  $R^2$ , it is important to note that the coefficient only shows the magnitude of the association, not whether it is statistically significant. The latter is already evinced above.

Then, looking at the t-values of the individual coefficients within in the model, we find mixed results. The t-values represent individual relationships of each independent variable with the

dependent variable. The independent variables 'EC\_Dum', 'FTE' and 'Dem\_F' display negative t-values, while the others exhibit positive values. These t-values, however, should not be interpreted in isolation. The p-value indicates whether these variables have a statistically significant relationship. As was mentioned in the results section, only the variable 'FTE' shows a significant value. Now, it is important to note that the impact of each independent variable should be interpreted relative to other variables in the model.

## 5.2 Theoretical implications

Lobbying is one of many activities under the umbrella-term of corporate political activity. Other such activities include campaign contributions, voluntary agreements and so forth. Most of the scientific studies focus on lobbying however, with equivocal findings. Alexander et al. (2009) provide compelling evidence that lobbying expenditures have a positive and significant return on investment. Chen et al. (2015) support this finding as they find that portfolios of firms with the highest lobbying intensities significantly outperform their benchmarks. Yet, De Figueiredo, and Silverman (2006) focus on lobbying by universities and find no significant results. Mahoney (2007) manages to find that outside lobbying may actually hurt the cause of lobbying. This study supplements existing studies in two ways. Firstly, it adds to the existing literature by focussing specifically on only one sector, the agricultural sector. Now, studies on one specific sector are not uncommon when conducted in the United States. Kang (2015) has, for instance, carried out a study in the energy sector of America. This may be caused by the fact that the USA has a way more advanced and transparent lobbying register which is mandatory, publicly accessible and was already introduced in 1946 with the Lobbying act. That this study focusses on one specific sector in Europe definitely adds to the relative marginal quantity of studies which have been prosecuted in Europe. Secondly, the utilization of the European lobbying transparency register as main source of data is also unique. Now, this research acknowledges that the transparency register truly has great potential in improving the accessibility of the decision-making process with respect to legislation. Looking at the extent to which the register places information in the public domain, it is clear that it is effective. However, given that some numbers are self-declared and that it is being considered as a 'de-facto mandatory' register, influencing the extent of public disclosure from this constituency. Furthermore, within this research lobbying has been examined as being unilateral, only having looked at in-house lobbyists. Given that lobbying occurs in different contexts, such as internal, external and collective, this study adds knowledge and empirical findings with respect to internal lobbyists alone. However, something which this research fails to address, is the

difference between proactive and counteractive lobbying. Such failures and possible remedies are discussed in the section below.

Now, this research has made use of multiple theoretical lenses, namely the social exchange theory, transaction cost theory and the agency theory. The social exchange theory is often utilized in business-related settings to explain and analyse commercial transactions. In the context of lobbying, this theory may also grant explanatory power given the nature of the relationship between private and public actors. The European Union is namely quite remarkable for its high degree of dependence on stakeholders (Greenwood & Dreger, 2013). From this study, this degree of involvement was elicited by means of the amount of meetings lobbyists had with elite officials. Within the social exchange theory, one would weigh the costs versus the benefits of the relation. The personal valuation of this relationship should determine whether both parties are willing to continue the social association. Given the substantial growth of the lobbying industry over the past years (Beyers et al., 2008), one would expect on the basis of the social exchange theory that the benefits would outweigh the perceived costs. The data and analysis of this study, however, does not display a positive return on the return on assets. This would imply that stopping with lobbying would result in more costs. Still, one of the basic tenets of SET is that relationships evolve over time into trusting, loyal, and mutual commitments. This has common ground with the agency theory, which views the relationship between agents as dependent upon a certain amount of trust (Beccerra & Gupta, 1999; Singh & Sirdeshmukh, 2000). One would who like to take a closer look at the evolution of trust in lobbying relationships, should handle a longer time view than has been applied within this study. This data does not provide results which support the view of the SET and an increased trusting relationship between agents. This does not, however, mean that both theories are useless within this study. They may be perceived as individual positive forces, all being of influence on the process and outcome of lobbying. Negative forces may also arise from the perspective of the agency theory. Lowery and Marchetti (2012) state that there are several potential agency problems bearing on those engaged to lobby on behalf of an organization. The pursuit of self-interest and the inherent information asymmetry may give rise to agency slack. This was examined on the basis of FullTime Equivalents who have been busy within the lobbying process. This study has found a significant negative relationship between the hours of work put into it and the return measured as ROA. Of course, many other factors are of influence on the ROA of companies, which is demonstrated by the relative low value of the adjusted  $R^2$ . The analysis, however, supports the expected negative relationship and is indicative that such

agency costs may dominate the relationship between agents in the lobbying process. Yet, future research has to support the findings, thereby strengthening the findings. These additional agency costs have common ground with the transaction cost theory. The potential of opportunistic behaviour of lobbyists and the resulting increased measurement and enforcement costs did, however, not demonstrate a negative nor significant relationship with organizational performance. All in all, the context of lobbying may be subject to multiple forces, some included within this study. In order to draw stronger theoretical inferences, more research with comparable theoretical lenses is required. Still, several practical implications can be drawn from this study, which are explicated next.

### 5.3 Managerial implications

Based on this study alone, it is difficult to provide managers with sound advice. This study has tried to disclose the relationship between lobbying on the one hand and organizational performance on the other hand. Now, this study is not the first and certainly not the last to do so. Yet, this study has not managed to remove the ambiguity within the literature which is inherently connected to this subject. However, it is a glimmer of light in the darkness. Still, recommendations to managers should be taken with a grain of salt. The results of this study indicate that lobbying is not necessarily correlated with better performance. My advice for managers would be to truly take a closer look at the costs associated with this lobbying. Although it is rather difficult to monitor the behaviour of lobbyists, it may be worthwhile to spend more attention to the remuneration of lobbyists. Acknowledging the deep-rooted issues may be considered to be a good first step in the right direction. Managers can thereby make a comparison between both the advantages and pitfalls of in-house lobbyists versus external lobbyists. It should, moreover, be clear that this study is conducted in the agricultural sector alone, thereby making comparisons across other industries difficult.

### 5.4 Policy implications

Next to managerial implications, this study may also be germane for the provision of policy suggestions. Although this study has focussed on the relation between lobbying and performance from a point of view of corporations, policymakers can still deduct useful information from this study. Now that there is growing attention for transparency with regard to the influence of lobbyists, policymakers should be aware that this may have influence on the way they gather their information. With the transparency register growing, more and more information will become disclosed. Whenever corporations become aware that lobbying may not be so lucrative as is sometimes presumed, these companies may decide to quit with

lobbying, thereby leaving policymakers in vagueness. Policymakers should be aware of this threat and can proactively act by for instance providing the public more insight into the process of making legislation. Whenever there is a better understanding and insight into this process, lobbying will be seen as a double-edged sword. I would advise policymakers to adhere to increased transparency and disclose the benefits they enjoy from lobbying.

### 5.5 Methodological discussion

For this study, a multiple regression analysis was used. This study is chosen as it was aimed to disclose the relationship between a single dependent variable and multiple independent variables. The main disadvantage of using a regression analysis is the fact that the relations found are by no means causal (Armstrong, 2011). This implies that a correlation rather than a relation can be concluded. Now, in order to perform a regression analysis, it is necessary to gather data. The transparency register has served as a major data source, alongside Orbis. The transparency register, however, acknowledges that it does not function optimally yet. Some of the meetings that lobbyists have with EU representatives are omitted in the database, while others may appear twice. Such caveats are exceptional and by no means normative. This reduced the reliability of the study. Another pitfall in the database is that the total number of Fulltime Equivalents is a self-declared figure rather than a purely objectively obtained number. Then, the variable 'EC\_Dum' was transformed into a dummy variable because it was extremely skewed. Many of the investigated companies did not have (or indicated that) they had had meetings with the European Commission. This leads to a poorer analysis with respect to that variable, as it is not only possible to draw inferences about the differences between the groups. Furthermore, the ROA is a raw accounting measure which neither accounts for the cost of capital nor for the accounting policies that may distort the true value of underlying measures (Hawawini, Subramanian & Verdin, 2003, p. 1). The ROA, therefore, does not cover the entire load of organizational performance. It does, however, make easy comparison and is by far the best ratio available. Moreover, this study focusses solely on the ROA in the year of 2017 alone. On the one hand, this makes sure that every individual company is being assessed under the same macro-economic conditions. On the other hand, it gives very limited insight into the performance of a company as this measure is a one-off measurement which may strongly be influenced by incidental incurrences of costs for example. Besides, the ROA focusses on past performance and does not include future anticipations as market capitalization does.

Another limitation relates to the generalizability of the study to a wider context. This study is focussed entirely on the agricultural industry, as this is by far the biggest lobbying industry in



Europe (Cann, 2014). Yet, this makes it hard to draw generalizable conclusion which hold in other industries as well. To some extent, lobbying is inherent to difficulties with respect to generalizability as lobbying may be aimed towards rather specific regulations. Such specific cases are unique and may therefore include elements which are hard to generalize. Finally, the goal of this research was to have a rather strict demarcation. This scientific boundary served as a handle to compare companies who would share resemblances. This goal was reached, partially. Naturally, organisations operating within the agricultural sector do have similarities, but they may also exhibit quite a degree of differences as well. The agricultural sector is broad, encompassing various facets of business. For instance, the sector includes Agricultural services, crop production and food processing and sales, but also tobacco and dairy.

### 5.6 Future research

As was already mentioned in the reading above, this study does have several shortcomings. Now, the aim for future research should be to minimize these deficiencies by applying alternative approaches. Firstly, this study has neglected to take different forms and goals of lobbying tactics into account. This would, however, be highly recommended for future research, as it allows for a more qualitative facet to be contemplated, which should definitely not be bypassed. With the inclusion of qualitative aspects, the data may benefit from an enhanced level of detail, which provides more opportunities to glean insights from it during examination. The utilization of a triangulated approach allows data complexities to be incorporated into the generated conclusions. Personally, I would not advise the sole use of qualitative methodological sources, as this would not be considered to be statistically significant and is subject to a high degree of subjectivity.

Now, this inquiry has focussed on a rather broad measure of performance. As the profitability of a company is dependent upon many more factors than lobbying practices alone, I would suggest future research to utilize more direct measures of lobbying performance or to include many more control variables. This study has only accounted for 4.7% of the variability in the ROA, which is deemed very low. By looking at the goals of lobbying activities and incorporating these into the analysis, a more objective and reliable figure should be found. Besides, it is paramount that the European transparency register improves both qualitative and quantitative. A sweeping improvement of the register allows for more reliable data-gathering, which should in turn improve the research opportunities for lobbying. Then, comparable studies could be prosecuted, all in different sectors or even within sectors. In fact, an uncharted domain which can be delved into.

## 5.7 Conclusion

All in all, within the scientific domain there does not seem to be consensus with regard to the performance implications of lobbying activities. This research adds to this debate and can therefore be perceived as a valuable contribution. Unfortunately, this study fails to add clarity to the discordance of the implications of lobbying. Notwithstanding, some circumspect inferences can be drawn. The results from this inquiry may not be equivocal, they do still allow to approximate a negative correlation between in-house lobbying and performance within the agricultural sector. Note that this does not imply a direct relationship, as this has not been proven by this study. Given a multitude of contextual components, it is also difficult to generalize this to other sectors than the agricultural sector in Europe. The findings suggest that the hours put into the lobbying work (FTE's) significantly influence the return on assets in a negative way. In order to empower this finding, more research is requisite.

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